September 21, 2011

TSTF-11-15
PROJ0753

Attn: Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: Transmittal of TSTF-529, Revision 0, "Clarify Use and Application Rules"

Enclosed for NRC review is Revision 0 of TSTF-529, "Clarify Use and Application Rules." TSTF-529 is applicable to all plant types.

The TSTF requests that the NRC bill the Boiling Water Reactor Owners' Group and the Pressurized Water Reactor Owners Group for the review of this Traveler.

Should you have any questions, please do not hesitate to contact us.

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Enclosure

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Technical Specifications Task Force
Improved Standard Technical Specifications Change Traveler

Clarify Use and Application Rules

NUREGs Affected: ☑ 1430 ☑ 1431 ☑ 1432 ☑ 1433 ☑ 1434

Classification 1) Technical Change

Recommended for CLIIP?: Yes

Correction or Improvement: Improvement

NRC Fee Status: Not Exempt

Benefit: Increases Operator Understanding

See attached.

Revision History

OG Revision 0 Revision Status: Active

Revision Proposed by: TSTF

Revision Description:
Original Issue

Owners Group Review Information

Date Originated by OG: 27-May-10

Owners Group Comments
(No Comments)

Owners Group Resolution: Approved Date: 17-Jun-11

TSTF Review Information

TSTF Received Date: 25-Aug-11 Date Distributed for Review 25-Aug-11

OG Review Completed: ☑ BWOG ☑ WOG ☑ CEOG ☑ BWROG

TSTF Comments:
(No Comments)

TSTF Resolution: Approved Date: 21-Sep-11

NRC Review Information

NRC Received Date: 21-Sep-11

Affected Technical Specifications

1.3 Completion Times

LCO 3.0 Bases	LCO Applicability
SR 3.0 Bases	LCO Applicability
LCO 3.0.2 Bases	LCO Applicability
SR 3.0.2 Bases	LCO Applicability
LCO 3.0.3 Bases	LCO Applicability
SR 3.0.3 Bases	LCO Applicability
LCO 3.0.4	LCO Applicability
LCO 3.0.4 Bases	LCO Applicability
LCO 3.0.5	LCO Applicability
LCO 3.0.5 Bases	LCO Applicability

1.0 Description

The proposed change will revise Sections 1.3, "Completion Times," and Section 3.0, "LCO Applicability" of the Technical Specifications (TS) and the TS Bases for Section 3.0, "LCO Applicability" and "SR Applicability," to clarify the use and application of the TS usage rules.

2.0 Proposed Change

The following changes to the Technical Specifications are proposed:

1. Section 1.3 and the Bases of LCO 3.0.2 are modified to clarify and provide an example of "time of discovery."

2. An addition is made to Section 1.3 for Westinghouse plants (NUREG-1431) to discuss the Westinghouse-specific instrumentation Notes that allow entering a Condition and not starting the Completion Time until expiration of a time allowance in a Note.

3. LCO 3.0.4.a is modified to clarify that Required Actions must be followed after entry into the Modes and other specified conditions in the Applicability. An example is added to the Bases.

4. An editorial change is made to LCO 3.0.4.b to clarify that LCO 3.0.4.a, LCO 3.0.4.b, and LCO 3.0.4.c are independent options. The LCO 3.0.4.a Bases are revised.

5. LCO 3.0.5 is reworded to be consistent with the other LCO 3.0 specifications and to eliminate unnecessary restrictions.

In addition to TS Bases changes that reflect the proposed changes to the TS, the following TS Bases changes are proposed:

6. The introductory paragraphs of the LCO 3.0 and SR 3.0 Bases, and the SR 3.0.2 Bases are modified to state that the usage rules are applicable to Chapter 3 of the TS and to clarify their use when invoked from Chapter 5.

7. The Bases of LCO 3.0.2, LCO 3.03, SR 3.0.2, and SR 3.0.3 are revised to replace the term "Operational Convenience," with the intention from Generic Letter 87-09 of "voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant systems or components being inoperable."

8. Changes are made to the Bases of LCO 3.0.3 and SR 3.0.3 to use consistent terminology.

9. The LCO 3.0.3 Bases are corrected to state that a unit shutdown may be terminated and LCO 3.0.3 exited if the LCO is no longer applicable.

10. The LCO 3.0.4.c Bases are modified to replace a misleading TS reference.

11. The LCO 3.0.5 Bases are modified to clarify that LCO 3.0.5 should not be used if there are other alternatives to demonstrate Operability that maintain compliance with Actions. An inaccurate example in the LCO 3.0.5 Bases is replaced.

12. The SR 3.0.3 Bases are modified to clarify when SR 3.0.3 may be applied and to state expectations for applying SR 3.0.3 when an SR has not been performed for an extended period.

A model application is included in the proposed change. The model may be used by licensees desiring to adopt TSTF-529 following publication by the NRC of the Notice of Availability in the Federal Register.

3.0 Background

In January and February 2009, the Technical Specifications Task Force (TSTF) and NRC met to discuss questions and possible ambiguities on the application of the Improved Standard Technical Specifications (ISTS). The topics for discussion were gathered from both the NRC and the industry. In all, ten areas of ambiguity were discussed. In almost all cases, the TSTF and the NRC reached agreement on the application of the ISTS or agreed on a process to reach agreement.

The TSTF agreed to prepare a TSTF Traveler for NRC review to clarify the TS use and application rules in LCO 3.0 and SR 3.0, to document areas of agreement in the TS and Bases, and present proposed resolutions for the remaining areas under question. The TSTF queried the industry and identified several areas in Section 1.3, LCO 3.0 and SR 3.0 that would benefit from clarification. These clarifications are generally minor or editorial, but routinely generate questions from licensee and NRC staff and are, therefore, worthy of correction.

4.0 Technical Analysis

4.1 Revise Section 1.3 and the Bases of LCO 3.0.2 to Clarify and to Provide an Example of "Time of Discovery"

Section 1.3 states that the Completion Time is "referenced to the time of discovery of a situation (e.g., inoperable equipment or variable not within limits)." LCO 3.0.2 states, "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." The LCO 3.0.2 Bases state, "LCO 3.0.2 establishes that upon discovery of a failure to meet an LCO, the associated ACTIONS shall be met." Understanding "time of discovery" is fundamental in applying Required Actions and associated Completion Times.

There occasionally is confusion by both NRC and industry staff on the meaning of "time of discovery." Much of this confusion results from differing guidance depending on whether one is considering Technical Specification compliance or reportability.

Therefore, it is worthwhile to provide additional information in the Bases on "time of discovery" as it relates to Technical Specification compliance.

The proposed change makes the following revision to the "Description" section of Section 1.3:

> "The Completion Time is the amount of time allowed for completing a Required Action. It is referenced to the time of discovery of a situation ~~(e.g., inoperable equipment or variable not within limits)~~ that requires entering an ACTIONS Condition unless otherwise specified, providing the unit is in a MODE or specified condition stated in the Applicability of the LCO. *The time of discovery is when the LCO is declared not met. The time of discovery is subsequent to both the time of occurrence of a degraded or nonconforming condition and the time of identification and evaluation of the degraded or nonconforming condition. For example, it may be established that a component is inoperable following improper maintenance performed in the past. The time of discovery (when the LCO is declared not met) is subsequent to both the time of occurrence (the improper maintenance), the time when it is identified that the component is degraded or nonconforming, and the time required to determine that the degraded or nonconforming component is inoperable.*" (The struck-out text is removed. The text in italics is added.)

The proposed change adds the following to the LCO 3.0.2 Bases:

> "The time of discovery is when the LCO is declared not met. The time of discovery is subsequent to both the time of occurrence of a degraded or nonconforming condition and the time of identification and evaluation of the degraded or nonconforming condition."

This position is consistent with the historical NRC position. For example, in a memorandum from H. L. Thompson, Director, Division of Licensing, to R. Starostecki, Director, Division of Reactor Projects, Region 1, dated August 9, 1985, Mr. Thompson stated, "It is NRR's position that the time limitation of action requirements are applicable from the point in time that it is recognized that the requirements of a limiting condition of operation are not met. This is as noted by your example and proposed interpretation. It was also noted in your memo that this issue is further complicated by recent trends in NRC enforcement which cite the historical inoperability of equipment as a factor in determining the significance of loss of function violations."

This position is also consistent with recent NRC guidance in NRC Inspection Manual, Part 9900: Technical Guidance, "Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety." Section 4.8, "Operator Awareness and Responsibilities," states:

> "A senior licensed operator on the operating shift crew with responsibility for plant operations makes the declaration of operability, i.e., 'makes the call' on whether an SSC described in TSs is operable or inoperable."

The Part 9900 guidance in conjunction with the LCO 3.0.2 Bases make clear that discovery is when a senior licensed operator on the operating shift crew with responsibility for plant operations declares an LCO not met.

To our knowledge, the proposed change does not represent a point of disagreement between the NRC and the industry.

In addition, the Bases of LCO 3.0.2 are revised to eliminate a minor discrepancy between the Technical Specifications (Section 1.3) and the Bases. Section 1.3 states that a Completion Time is referenced to the time of discovery of a situation that requires entering an ACTIONS Condition unless otherwise specified. LCO 3.0.2 makes a similar statement but without the qualifier, "unless otherwise specified." The LCO 3.0.2 Bases are revised to state:

> "The Completion Time of each Required Action for an ACTIONS Condition is applicable from the point in time that an ACTIONS Condition is entered *unless otherwise specified*."

This change to the LCO 3.0.2 Bases is also related to the proposed change to Section 1.3 discussed in the following section.

4.2 Revise Section 1.3 to Discuss Instrumentation Required Action Notes in NUREG-1431 (Westinghouse plants)

A paragraph is added to Section 1.3 for Westinghouse plants (NUREG-1431) to discuss the Westinghouse-specific instrumentation Notes that allow entering a Condition and not starting the Completion Time until after expiration of a time allowance in the Note.

The LCO 3.0.2 Bases state, "The Completion Time of each Required Action for an ACTIONS Condition is applicable from the point in time that an ACTIONS Condition is entered." In the vast majority of cases, this is true. However, in NUREG-1431, Specification 3.3.1, " Reactor Trip System," and Specification 3.3.2, "Engineered Safety Feature Actuation System Instrumentation," some Required Actions contain Notes which defer the start of the Completion Time. These Notes are similar to, "One channel may be bypassed for up to 12 hours for surveillance testing and setpoint adjustment." It is recognized that placing the train in bypass renders the train inoperable, but starting the Completion Time is deferred in accordance with the Notes.

The addition of these Notes was justified in NRC-approved Topical Reports (for example, WCAP-14333-P-A, Rev. 1, October 1998). It is not the intention of the proposed change to justify the addition of the Notes. The only proposed change is to describe the exception to the typical application of Completion Times.

The proposed change will add the following to Section 1.3 in NUREG-1431:

> "The Completion Time is referenced to the time of entering an ACTIONS Condition unless otherwise specified. One of the "otherwise specified" cases is a Required Action modified by a Note which provides an alternative time to

perform specific tasks (i.e., "One channel may be bypassed for up to 12 hours for surveillance testing and setpoint adjustment.") Starting the Completion Time is deferred in accordance with the Note. While utilizing the Note, should the Condition be applicable for any reason not addressed by the Note, the Completion Time begins. Should the time allowance in the Note be exceeded, the Completion Time begins."

4.3 Clarifications to LCO 3.0.4.a

In the memorandum "Final Task Interface Agreement - Reevaluation of Implementation of Limiting Condition for Operation 3.0.4a, 'Mode Change Limitations,' At Palisades Nuclear Plant (TIA2009-005)," dated September 17, 2009 (ADAMS Accession Number ML092540032), the NRC issued a response to a Task Interface Agreement (TIA) request documenting the Staff position regarding the application of Technical Specification LCO 3.0.4. The NRC's stated position in the response to TIA 2008-002, was " ...while…completing the TS required actions to be entered before conducting a mode transition with inoperable equipment establishes the basis for continued operation, the completion of those actions is not a requirement for compliance with LCO 3.0.4a."

The proposed change modifies LCO 3.0.4, which currently states:

> "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; ..."

LCO 3.0.4.a is clarified to state:

> "a. When the associated ACTIONS to be entered *following entry into the MODE or other specified condition in the Applicability will* permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time" (Added text is in italics).

In a complementary change, the Bases of LCO 3.0.4.a are revised to reflect the wording change to LCO 3.0.4.a and to add an example of the application of LCO 3.0.4. The example addresses a frequent question by clarifying that it is not necessary that every possible set of Required Actions allow continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time, only that a set of Required Actions allow continued operation. For example, it is not necessary to assume that the licensee does not perform the Required Actions, such as placing a channel in trip or starting a piece of equipment. The proposed Bases state:

> "For example, LCO 3.0.4.a may be used when the Required Action states that an inoperable [train-PWR][subsystem-BWR] be restored to OPERABLE status within the Completion Time, and the subsequent default ACTION ("Required Action and associated Completion Time not met") allows the OPERABLE [train][subsystem] to be placed in operation. Use of LCO 3.0.4.a is acceptable because the associated

ACTIONS to be entered following entry into the MODE include ACTIONS (place the OPERABLE [train][subsystem] in operation) that permit plant operation for an unlimited period of time in the MODE or other specified condition to be entered."

4.4 Editorial Clarification to LCO 3.0.4.b

LCO 3.0.4 contains three options, labeled paragraphs a, b, and c. Paragraph a ends with a semicolon and Paragraph b ends with ", or". This presentation is consistent with the ordered list format as described TSTF-GG-05-01, "Writers Guide for Plant-Specific Improved Technical Specifications," except that Paragraph b should end with a semicolon, such as "; or".

LCO 3.0.4.b states:

> "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"

The separation of the majority of the text from the "or" conjunction by the phrase regarding exceptions has misled some readers to interpret the "or" statement to only apply to the phrase regarding exceptions and to believe that LCO 3.0.4.a, b, and c apply concurrently. The sentence is clarified by placing the statement regarding exceptions in parenthesis and to replace the ending comma with a semicolon:

> "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".

The Bases are also revised to clarify this point. The introductory paragraph of LCO 3.0.4 is revised to insert the word "either" as follows:

> "in accordance with *either* LCO 3.0.4.a, LCO 3.0.4.b, or LCO 3.0.4.c" (Added text is in italics).

4.5 Reword LCO 3.0.5 to be Consistent with the Other LCO 3.0 Specifications and Eliminate Unnecessary Restrictions

LCO 3.0.5 states:

> "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 3.0.5 provides a necessary flexibility to facilitate restoring equipment to Operability (or to perform Surveillances required to verify Operability).

LCO 3.0.5 is an exception to LCO 3.0.2, but it currently is not consistent with LCO 3.0.2 and the other LCO 3.0 usage rules. LCO 3.0.2 addresses when the LCO is not met, but LCO 3.0.5 discusses only demonstrating Operability. Not all LCOs require demonstrating Operability, such as LCOs on variables. LCO 3.0.5 is revised to be consistent with LCO 3.0.2 by referring to "demonstrating the LCO is met" versus "demonstrating OPERABILITY."

The proposed change revises LCO 3.0.5 to state:

> "*The Required Actions of Conditions are not required to be met* under administrative control solely to perform testing required to demonstrate *that the LCO is met* or *that other LCOs are met*. This is an exception to LCO 3.0.2 to perform the testing required *to demonstrate the LCO is met or that other LCOs are met*." (Additions are in italics).

The LCO 3.0.5 Bases are revised to be consistent with this change to the LCO.

The revised LCO 3.0.5 wording will also allow LCO 3.0.5 to be used in some additional situations. The existing LCO 3.0.5 wording only allows equipment removed from service to be returned to service. This addresses the majority of situations, however, it does not address all situations in which LCO 3.0.5 could be used. In some Technical Specifications, ACTIONS involve the placement of redundant or alternate equipment or trains into service, or the repositioning (opening or closing) of components. Allowing LCO 3.0.5 to be used in these situations does not change the intent of the allowance.

An example is the Pressurizer Power Operated Relief Valves (PORVs) for Pressurized Water Reactors (PWRs). If a PORV is inoperable, the Required Action is to close the associated block valve in order to isolate the inoperable PORV. Once the PORV is repaired, it may be necessary to stroke the PORV in order to demonstrate its Operability. The closed block valve must be opened so that system pressure is restored to the PORV, allowing the PORV to be stroked. As currently written, the Required Action to close the block valve does not fall under the LCO 3.0.5 allowance because it does not involve "equipment removed from service or declared inoperable."

While the proposed change will allow LCO 3.0.5 to be applied in additional situations, the proposed change does not alter the intent of LCO 3.0.5. The purpose of LCO 3.0.5 remains to provide an exception to LCO 3.0.2, to allow required testing to demonstrate the LCO is met or that other LCOs are met. The required testing in all cases will continue to be conducted under administrative controls to ensure the time when the system is not in compliance with the ACTIONS is limited to the time necessary to perform the required testing.

4.6 LCO 3.0 and SR 3.0 Applicability Clarified in Bases

The LCO 3.0 and SR 3.0 Applicability specifications apply to Chapter 3 of the Technical Specifications and apply to specifications in Chapter 5, "Administrative Controls," only when explicitly stated in the Chapter 5 Specification. This issue was questioned and resolved with the NRC during the development of TSTF-52-A, "Implement 10 CFR 50, Appendix J, Option B." In response to an NRC comment that the Administrative Controls Containment Leakage Rate Testing Program should contain a statement that SR 3.0.2 does not apply, the TSTF responded,

> "The proposed change is addressed with revised wording. It has long been the NRC and Industry position that Section 3.0 does not apply to Chapter 5. A review of the Revision 2 ITS reveals that there are no instances in which ITS 5.0 programs have been made which state that Section 3.0 provisions do not apply, only that it does apply. To avoid confusion by stating in one location that SR 3.0.2 does not apply (thereby implying that it does apply in other locations), the statement 'Nothing in these Technical Specifications shall be construed to modify the testing Frequencies required by 10 CFR 50, Appendix J.' This addresses the issue of licensee's misconstruing the SR 3.0.2 allowance and applying it to the 10 CFR 50, Appendix J, testing frequencies."

The NRC accepted this resolution and approved TSTF-52 on April 14, 2000. Note that there are no Administrative Controls programs that state that LCO 3.0 or SR 3.0 specifications do not apply, only notations that specific LCO 3.0 or SR 3.0 specifications do apply.

The introductory paragraph of the Bases to LCO 3.0, "LCO Applicability," states, "LCO 3.0.1 through LCO 3.0.8 establish the general requirements applicable to all Specifications and apply at all times, unless otherwise stated." The introductory paragraph of the Bases to SR 3.0, "SR Applicability," states, "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." These statements have sometimes led to confusion on whether the LCO 3.0 and SR 3.0 applicability specifications apply to Chapter 5 when not specifically referenced in a Chapter 5 Specification.

To clarify this issue and avoid future questions, the LCO 3.0 introductory paragraph is proposed to be revised to state:

> "LCO 3.0.1 through LCO 3.0.8 establish the general requirements applicable to all Specifications *in Section 3.1 through [PWR: 3.9 / BWR: 3.10]* and apply at all times, unless otherwise stated."

The SR 3.0 introductory paragraph is revised to state,

> "SR 3.0.1 through SR 3.0.4 establish the general requirements applicable to all Specifications *in Section 3.1 through [PWR: 3.9 / BWR: 3.10]* and apply at all times, unless otherwise stated. *SR 3.0.1 through SR 3.0.4 apply in Chapter 5 only when invoked by a Chapter 5 Specification*." (Added words are in italics).

In a complementary change, the Bases of SR 3.0.2 are revised. The Bases currently state:

> "The exceptions to SR 3.0.2 are those Surveillances for which the 25% extension of the interval specified in the Frequency does not apply. These exceptions are stated in the individual Specifications. The requirements of regulations take precedence over the TS. An example of where SR 3.0.2 does not apply is in the Containment Leakage Rate Testing Program. This program establishes testing requirements and Frequencies in accordance with the requirements of regulations. The TS cannot in and of themselves extend a test interval specified in the regulations. "

As stated in the introductory paragraph, SR 3.0.2 does not apply to Programs in Chapter 5 of TS unless specifically stated and the Containment Leakage Rate Testing Program does not state that SR 3.0.2 applies. However, in a number of Surveillances in Chapter 3 of the TS, the Containment Leakage Rate Testing Program is referenced in the Frequency Column, thereby directing the reader to the Program to find the applicable Frequencies. Therefore, the SR 3.0.2 Bases paragraph shown above is proposed to be replaced with:

> "There are exceptions to SR 3.0.2 for certain Surveillances to which the 25% extension of the interval specified in the Frequency may not be applied. These exceptions are stated in the individual Specifications. For those Surveillances in Chapter 3 whose Frequency refers to a Program in Section 5.5, the referenced Program specification must be examined to determine if SR 3.0.2 applies. For example, the Diesel Fuel Oil Testing Program is referenced in Specification 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," and the program invokes SR 3.0.2. An example of where SR 3.0.2 does not apply is in the Containment Leakage Rate Testing Program which does not reference SR 3.0.2. SR 3.0.2 is not applicable because the Program establishes Frequencies to meet the requirements of regulations. The TS cannot in and of themselves extend a test interval specified in the regulations."

The proposed change is consistent with the current application of LCO 3.0 and SR 3.0 and only serves to explicitly state the existing TS usage rules in a readily accessible location.

4.7 <u>Replace the Undefined Term "Operational Convenience" Used in the Bases of LCO 3.0.2, LCO 3.0.3, SR 3.0.2, and SR 3.0.3</u>

The term "operational convenience" appears four times in the Bases of each ISTS NUREG: in the Bases of LCO 3.0.2, LCO 3.0.3, SR 3.0.2, and SR 3.0.3. It does not appear in the Specifications.

The ISTS LCO 3.0.2 Bases state:

> "The Completion Times of the Required Actions are also applicable when a system or component is removed from service intentionally. The reasons for intentionally relying on the ACTIONS include, but are not limited to, performance of Surveillances, preventive maintenance, corrective maintenance, or

> investigation of operational problems. Entering ACTIONS for these reasons must be done in a manner that does not compromise safety. Intentional entry into ACTIONS should not be made for operational convenience. Additionally, if intentional entry into ACTIONS would result in redundant equipment being inoperable, alternatives should be used instead. Doing so limits the time both subsystems/divisions of a safety function are inoperable and limits the time conditions exist which may result in LCO 3.0.3 being entered" (emphasis added).

The ISTS LCO 3.0.3 Bases state:

> "This Specification delineates the time limits for placing the unit in a safe MODE or other specified condition when operation cannot be maintained within the limits for safe operation as defined by the LCO and its ACTIONS. It is not intended to be used as an operational convenience that permits routine voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant systems or components being inoperable" (emphasis added).

The ISTS SR 3.0.2 Bases state:

> "The provisions of SR 3.0.2 are not intended to be used repeatedly merely as an operational convenience to extend Surveillance intervals (other than those consistent with refueling intervals) or periodic Completion Time intervals beyond those specified" (emphasis added).

The ISTS SR 3.0.3 Bases state:

> "Failure to comply with specified Frequencies for SRs is expected to be an infrequent occurrence. Use of the delay period established by SR 3.0.3 is a flexibility which is not intended to be used as an operational convenience to extend Surveillance intervals. While up to 24 hours or the limit of the specified Frequency is provided to perform the missed Surveillance, it is expected that the missed Surveillance will be performed at the first reasonable opportunity. The determination of the first reasonable opportunity should...." (Emphasis added).

Use of the term "operational convenience" in the Bases of the Technical Specifications (TS) has changed and been expanded from its original use and intent, and the revised Bases have created difficulty in interpreting and applying the current guidance. Bases revisions are proposed to replace this term with information reflecting its original intent, to avoid such interpretation and application issues.

The term "operational convenience" first appeared in several 1987-era documents. Its first use is in the model Bases markups attached to Generic Letter (GL) 87-09, "Sections 3.0 and 4.0 of the Standard Technical Specifications (STS) on the Applicability of Limiting Conditions for Operation and Surveillance Requirements," dated June 4, 1987 [copies of the applicable Model PWR Bases pages from GL 87-09 Enclosure 3 are attached for information]. In the two GL 87-09 Bases sections where the term "operational convenience" is used, it is equated with "(routine) voluntary removal of a

system(s) or component(s) from service in lieu of other alternatives that would not result in redundant systems or components being inoperable." Also, the operational convenience concept is only linked to intentional entries into Actions that directly contain a shutdown requirement. As stated, "It is not intended that the shutdown ACTION requirements be used as an operational convenience which permits (routine) voluntary removal of a system(s) or component(s) from service in lieu of other alternatives that would not result in redundant systems or components being inoperable" (emphasis added). The term "operational convenience" was not utilized in the Bases for Surveillance Requirement 4.0.2 (now called SR 3.0.2) or in the Bases for SR 4.0.3 (now SR 3.0.3).

The question of potential misinterpretation of the proposed words in GL 87-09 was raised almost immediately by the industry. For example, in a meeting held with Carolina Power & Light on September 17, 1987 [see attached], when the intent of the GL words were still fresh, the NRC clarified that the words were only intended to limit intentional entry into ACTIONS when the situation involves redundant systems being out of service. The staff stated that, for both Bases sentences, "…the point of clarification is that the last echelon of defense should not be removed from service such that this would invoke a prompt shutdown action requirement, in lieu of other alternatives that would not result in redundant systems being out of service simultaneously."

The third 1987 document (Attachment 3) is an Inspection Manual Part 9900 Technical Guidance document, "Standard Technical Specifications (STS) Section 3.0.3 Limiting Conditions for Operation." Similar to the above, the operational convenience words are linked to situations in which redundant safety systems would be out of service, and it explains that the concern is for situations in which entry into ACTIONS would show a disregard for plant safety.

In the 1991 time frame, during the development of Revision 0 of the ISTS NUREGs, the above described concept was broken down into several separate sentences. The January 1991 NRC "Draft Report for Comment" version of the ISTS NUREGs, the LCO 3.0.2 Bases states:

> "It is not intended that intentional entry into ACTIONS be made for operational convenience. Intentional entry into ACTIONS Conditions with shutdown Required Actions (i.e., Actions requiring a change in MODE) is strongly discouraged and should be considered only in extreme circumstances. This is to limit routine voluntary removal of redundant equipment from service in lieu of other alternatives that would not result in redundant equipment being inoperable."

The intention was to capture the original concept in these new sentences, but the intent was lost due to fragmentation. Additional changes made during the development of the ISTS (some at the request of the industry) resulted in the term "operational convenience" becoming separated from the concept of "(routine) voluntary removal of a system(s) or component(s) from service in lieu of other alternatives that would not result in redundant systems or components being inoperable." It was also separated from the link to Actions that directly involve a shutdown requirement. In addition, the term was introduced into the SR 3.0.2 Bases in circumstances in which the GL 87-09 intent was not applicable.

The June 1992 "Proof and Review" version of the ISTS NUREGs added the term to the SR 3.0.3 Bases, again in circumstances that are not consistent with the original intent, as the Surveillance Requirements usage rules are not related to entry into ACTIONS.

In 1999, in a revision to an NRC Inspection Manual Part 9900 Technical Guidance document, "Voluntary Entry into Limiting Conditions for Operation Action Statements to Perform Preventative Maintenance," (Attachment 4) the phrase "simply for operational convenience" was introduced into a paragraph in Section B that discusses intentional entries into ACTIONS. Similar to how this concept was addressed in the 1987 documents, it links the operational convenience concern to situations "such as intentionally creating a loss of function situation or entering LCO 3.0.3…"

The loss of the original intention of the term "operational convenience" has lead to confusion on the use of the term. Since 2000, there have been two citations in inspection reports for entering, or planning to enter, Actions as an operational convenience. (Quad Cities in 2007, ADAMS Accession Number ML072080425; and Oconee in 2000, NRC Integrated Inspection Report 50-269/99-09, 50-270/99-09, and 50-287/99-09.) In both cases, the circumstances were not related to voluntary removal of redundant systems or components from service. Licensees are unclear on what is, and is not, considered "operational convenience" in the absence of any definition in the TS.

The proposed change revises the Bases of LCO 3.0.2, LCO 3.0.3, SR 3.0.2, and SR 3.0.3 to restore the original intent and to eliminate the incorrect application of the term "operational convenience." This proposed change does not lessen the requirements on licensees to consider safety when entering Actions, nor does it remove the ability of the NRC to respond should licensees inappropriately enter Actions. Since 1987, the practice of voluntary entries into Actions has received a significant amount of attention and has even been the subject of rulemaking: 10 CFR 50.65, the Maintenance Rule. The industry is now required to consider the effect on plant risk when equipment is inoperable and Actions are entered. Licensees track and report unavailability of safety systems under the NRC's Reactor Oversight Process. The NRC performs inspections on these evaluations and unavailability is reported under the Mitigating System Performance Index. Intentional entries are subject to licensee examinations of the net effect on safety, through a balancing of the benefits to be gained by such an entry against the objective of minimizing unavailability.

The Bases of LCO 3.0.2 currently state:

> "Intentional entry into ACTIONS should not be made for operational convenience. Additionally, if intentional entry into ACTIONS would result in redundant equipment being inoperable, alternatives should be used instead."

These sentences are proposed to be replaced with:

> "Intentional entry into ACTIONS should be done in a manner that examines and balances the net effect on safety. Intentional entry into ACTIONS should not be used for voluntary removal of redundant systems or components from service in

> lieu of other alternatives that would not result in redundant systems or components being inoperable."

This change does not alter the intent and is consistent with the intent as stated by the NRC, while eliminating the undefined term "operational convenience."

The Bases of LCO 3.0.3 currently state:

> "This Specification delineates the time limits for placing the unit in a safe MODE or other specified condition when operation cannot be maintained within the limits for safe operation as defined by the LCO and its ACTIONS. It is not intended to be used as an operational convenience that permits routine voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant systems or components being inoperable."

The second sentence is revised to state:

> "It is not intended to be used to permit routine voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant systems or components being inoperable."

This change does not alter the intent and is consistent with the intent as stated by the NRC, while eliminating the undefined term "operational convenience."

The Bases of SR 3.0.2 currently state:

> "The provisions of SR 3.0.2 are not intended to be used repeatedly merely as an operational convenience to extend Surveillance intervals (other than those consistent with refueling intervals) or periodic Completion Time intervals beyond those specified."

The sentence is revised to state:

> "The provisions of SR 3.0.2 are not intended to be used repeatedly to extend Surveillance intervals (other than those consistent with refueling intervals) or periodic Completion Time intervals beyond those specified."

This change does not alter the intent, while eliminating the inconsistent use of the term "operational convenience."

The Bases of SR 3.0.3 currently state:

> "Failure to comply with specified Frequencies for SRs is expected to be an infrequent occurrence. Use of the delay period established by SR 3.0.3 is a flexibility which is not intended to be used as an operational convenience to extend Surveillance intervals."

The second sentence is revised to state:

> "Use of the delay period established by SR 3.0.3 is a flexibility which is not intended to be used to extend Surveillance intervals."

This change does not alter the intent, while eliminating the inconsistent use of the term "operational convenience."

4.8 Revise the Bases of LCO 3.0.3 and SR 3.0.3 to Improve Terminology

The LCO 3.0.3 Bases make several references to "reaching" a lower MODE instead of the more common usage of "entering" a MODE. The term "reaching" is ambiguous as it's not clear whether the MODE is entered. In seven locations in the LCO 3.0.3 Bases, the phrase "reaching" a MODE is replaced with "entering" a MODE.

The SR 3.0.3 Bases make three references to "completing" a Surveillance. Specification SR 3.0.3 uses the term "performing" a Surveillance. The term "performed" is defined in the "Description" section of Specification 1.4, "Use and Application, Frequency." To improve consistency between the Specifications and the Bases, the term "perform" is substituted in the Bases for "complete."

These changes do not represent any change in intent, but are made for consistency within the ISTS.

4.9 Correct LCO 3.0.3 Bases to Acknowledge a Unit Shutdown may be Terminated and LCO 3.0.3 Exited if the LCO is No Longer Applicable

The LCO 3.0.3 Bases state:

> "A unit shutdown required in accordance with LCO 3.0.3 may be terminated and LCO 3.0.3 exited if any of the following occurs:
>
> a. The LCO is now met,
>
> b. A Condition exists for which the Required Actions have now been performed, or
>
> c. ACTIONS exist that do not have expired Completion Times. These Completion Times are applicable from the point in time that the Condition is initially entered and not from the time LCO 3.0.3 is exited."

This list is incomplete. As stated in LCO 3.0.2, "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." The list in the LCO 3.0.3 Bases does not acknowledge that a unit shutdown may be terminated and LCO 3.0.3 exited if the LCO is no longer applicable (i.e., the LCO that was not met which lead to entry into LCO 3.0.3).

The proposed change adds to the list a new paragraph b which states, "The LCO is no longer applicable," and the subsequent list items are renumbered.

This change does not represent any change in intent, but is made for consistency within the ISTS.

4.10 Modify the LCO 3.0.4.c Bases to Correct a Misleading TS Reference

The Bases to LCO 3.0.4.c state:

> "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., [Containment Air Temperature, Containment Pressure, MCPR, Moderator Temperature Coefficient]), and may be applied to other Specifications based on NRC plant specific approval."

Although the list of specifications to which LCO 3.0.4.c is typically applied is in brackets (i.e., plant specific), the parenthetical phrase is misleading. In the ISTS, LCO 3.0.4.c is only applied to only one specification, "RCS Specific Activity." This specification is not listed in the Bases and the listed specifications in the ISTS do not allow application of LCO 3.0.4.c. For consistency within the ISTS, the bracketed list of Specifications is replaced with "(e.g., RCS Specific Activity)."

4.11 Modify the LCO 3.0.5 Bases to Clarify that LCO 3.0.5 Should Not be Used if there are Other Alternatives that Maintain Compliance with Actions.

Many specifications contain provisions which allow Required Actions to not be followed to facilitate repair or testing. For example, the instrumentation specifications may allow channels to be placed in bypass, the containment air lock specification contains an Actions Note which allows entry and exit to perform repairs, and the containment isolation valve specification contains an Actions Note which allows isolated penetration flow paths to be unisolated under administrative control. In these cases, the risks and benefits of not following the Required Action were generically evaluated and accepted and, in some cases, additional restrictions are applied (such as a time limit for keeping an instrument channel in bypass).

When the specification does not provide an allowance to not follow a Required Action in order to establish the LCO is met, LCO 3.0.5 may be used.

LCO 3.0.5 states:

> "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."

Proposed changes to LCO 3.0.5 are discussed in Section 4.5.

Because LCO 3.0.5 applies in many circumstances, it's not possible to generically evaluate every possible application and, therefore, its use should be minimized. As stated in the LCO 3.0.5 Bases,

> "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."

In cases in which the Specification's ACTIONS or Surveillances contain allowances that permit testing to establish the LCO is met, licensees should use those features instead of LCO 3.0.5 as those features have been specifically evaluated and are consistent with LCO 3.0.2. In order to clarify this point, LCO 3.0.5 is modified by adding the following:

> "LCO 3.0.5 should not be used in lieu of other practicable alternatives that comply with ACTIONS and that do not require changing MODE and other specified conditions in the Applicability, in order to demonstrate the LCO is met or that other LCOs are met. LCO 3.0.5 is not intended to be used repetitively."

The proposed change is consistent with the intent of LCO 3.0.5 and provides additional guidance to licensees to avoid misinterpretation.

In a related change, an incorrect example in the LCO 3.0.5 Bases is replaced. The existing example cites the containment isolation valve specification. As noted above, the containment isolation valve specification contains an Actions Note which eliminates the need to use LCO 3.0.5 to unisolate a penetration to perform Operability testing. A new example referencing manual valves closed to isolate Reactor Coolant System Pressure Isolation Valve leakage replaces the containment isolation valve example. For NUREG-1430, -1432, -1433, and -1434 (Babcock & Wilcox (B&W), Combustion Engineering (CE), Boiling Water Reactor (BWR)/4 and BWR/6 plants), the other existing example in the LCO 3.0.5 Bases regarding instrument channels is retained. NUREG-1431 (Westinghouse plants) contains Required Actions Notes which allow channel testing in lieu of LCO 3.0.5, so this example is not applicable and is deleted. The example of verifying that other equipment is Operable is deleted as most relevant examples reference equipment described in the same LCO, such as Pressure Operated Relief Valves (PORVs) and block valves.

4.12 Modify the SR 3.0.3 Bases to Clarify when SR 3.0.3 May be Applied

As stated in SR 3.0.1, SR 3.0.3 is an exception to the requirement that a Surveillance be performed within the specified Frequency. SR 3.0.3 states, "If it is discovered that a Surveillance was not performed..." SR 3.0.3 is not an exception to the requirement for SRs to be met during the Modes or other specified conditions in the Applicability. This is a key consideration in the application of SR 3.0.3.

The terms "met" and "performed" are defined in Section 1.4, "Use and Application, Frequency" of the ISTS. It states:

> "The use of 'met' or 'performed' in these instances conveys specific meanings. A Surveillance is 'met' only when the acceptance criteria are satisfied. Known failure of the requirements of a Surveillance, even without a Surveillance specifically being 'performed,' constitutes a Surveillance not 'met.' 'Performance' refers only to the requirement to specifically determine the ability to meet the acceptance criteria."

The Bases of SR 3.0.3 also state that SR 3.0.3 is an exception to performing the SR within the specified Frequency, not to the requirement an SR be met. The Bases state;

> "The basis for this delay period includes ... the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the requirements."

The Bases of SR 3.0.3 also state:

> "If a Surveillance is failed within the delay period, then the equipment is inoperable, or the variable is outside the specified limits and the Completion Times of the Required Actions for the applicable LCO Conditions begin immediately upon the failure of the Surveillance."

Therefore, if an SR has not been performed within the specified Frequency and it is known that the acceptance criteria of the SR are not met, then the equipment is inoperable and SR 3.0.3 cannot be applied.

NRC Inspection Manual, Part 9900: Technical Guidance, "Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety," Section 3.9 states:

> "The discovery of a degraded or nonconforming condition may call the operability of one or more SSCs [structures, systems, or components] into question. A subsequent determination of operability should be based on the licensee's 'reasonable expectation,' from the evidence collected, that the SSCs are operable and that the operability determination will support that expectation. Reasonable expectation does not mean absolute assurance that the SSCs are operable. The SSCs may be considered operable when there is evidence that the possibility of failure of an SSC has increased, but not to the point of eroding confidence in the reasonable expectation that the SSC remains operable. The supporting basis for the reasonable expectation of SSC operability should provide a high degree of confidence that the SSCs remain operable. It should be noted that the standard of 'reasonable expectation' is a high standard, and that there is no such thing as an indeterminate state of operability; an SSC is either operable or inoperable."

This standard of "reasonable expectation" is directly applicable to the question of whether a licensee may apply SR 3.0.3 to an SR that has not been performed within its specified Frequency because in both cases the question to be addressed is whether the associated equipment is believed to be Operable or that variables are within limits. If the licensee has a reasonable expectation that performance of the SR will confirm that the equipment is Operable or a variable to be verified is within limits, then SR 3.0.3 may be applied to the SR which has not been performed. If the licensee does not have this reasonable expectation, then under SR 3.0.1 the SR is not met and the associated LCO is not met.

In most cases, discovery of an SR that has not been performed within the specified Frequency occurs when a single performance has been missed. In that case, a review of the surveillance history and equipment performance may be sufficient to provide a reasonable expectation that the Surveillance will be met when performed.

However, in some cases an SR, or portions of an SR, may not have been performed for more than one Frequency period, or may not have ever been performed. In that case, establishing a reasonable expectation that the SR is met is more difficult. The licensee will consider other indications, tests, or activities for an indication of whether the Surveillance will be met when performed. The rigor of determining whether there is a reasonable expectation a Surveillance will be met when performed should increase based on the length of time since the last performance of the Surveillance. For long delays or for Surveillances that have never been successfully performed, a more rigorous evaluation, documented in sufficient detail to explain the basis for the determination, should be performed.

The preceding discussion is proposed to be captured in the SR 3.0.3 Bases with the following addition:

> "SR 3.0.3 is only applicable if there is a reasonable expectation the associated equipment is Operable or that variables are within limits, and it is expected that the Surveillance will be met when performed. Many factors should be considered, such as the period of time since the Surveillance was last performed, or whether the Surveillance, or a portion thereof, has ever been performed, and any other indications, tests, or activities that might support the expectation that the Surveillance will be met when performed. An example would be a relay contact that has never been tested in accordance with a particular SR, but the adjacent, physically connected relay contacts have been tested, the relay contacts have been tested by another SR, or historical operation of the actuated equipment has been successful. The rigor of determining whether there is a reasonable expectation a Surveillance will be met when performed should increase based on the length of time since the last performance of the Surveillance. A review of the Surveillance history may be sufficient to provide a reasonable expectation that the Surveillance will be met when performed. For Surveillances that have never been performed, a more rigorous evaluation, documented in sufficient detail to explain the basis for the determination, should be completed to compensate for the lack of performance history."

The proposed Bases wording is consistent with the existing requirements of SR 3.0.3 and the philosophy of "met" and "performed" SRs as described in Section 1.4 of the Technical Specifications.

The proposed Bases are also consistent with the intent of SR 3.0.3 as stated in Generic Letter 87-09. It states, "It is overly conservative to assume that systems or components are inoperable when a surveillance has not been performed because the vast majority of surveillances do in fact demonstrate that systems or components are operable. When a surveillance is missed, it is primarily a question of operability that has not been verified by the performance of a Surveillance Requirement." The fact that SRs must be met in order to apply SR 3.0.3 to SRs that have not been performed within their specified Frequency implements the assumption that systems or components are operable.

Conclusion

The proposed changes are consistent with the current intent of Section 1.3, and LCO 3.0 and SR 3.0 and their associated Bases and will increase the clarity and allow consistent application of the Improved Standard Technical Specifications.

5.0 Regulatory Analysis

5.1 No Significant Hazards Consideration

The TSTF has evaluated whether or not a significant hazards consideration is involved with the proposed generic change by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   The proposed change revises Section 1.3, "Completion Times," and Section 3.0, "LCO Applicability" of the Technical Specifications (TS) and the TS Bases for Section 3.0, "LCO Applicability" and "SR Applicability," to clarify the use and application of the TS usage rules. Section 1.3 is modified to clarify the concept of "time of discovery" and to describe an existing allowance specific to NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." LCO 3.0.4.a is modified to clarify that Required Actions must be followed after entry into the Modes and other specified conditions in the Applicability. An editorial change is made to LCO 3.0.4.b to clarify that LCO 3.0.4.a, LCO 3.0.4.b, and LCO 3.0.4.c are independent options. LCO 3.0.5 is reworded to be consistent with the other LCO 3.0 specifications. The proposed change to LCO 3.0.4.a and LCO 3.0.4.b are for clarification and will not affect the implementation of the Technical Specifications (TS). The proposed change to LCO 3.0.5 will allow LCO 3.0.5 to be applied in a small number of circumstances in which it cannot be applied today.

The proposed change to Section 1.3, LCO 3.0.4, and LCO 3.0.5 has no effect on the requirement for systems to be Operable and will not have a significant effect on the application of TS actions. Since the proposed change does not significantly affect system Operability, the proposed change will have no significant effect on the initiating events for accidents previously evaluated and will have no significant effect on the ability of the systems to mitigate accidents previously evaluated.

Therefore, it is concluded that this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No.

   The proposed change to the TS usage rules does not affect the design or function of any plant systems. The proposed change does not change the Operability requirements for plant systems and facilitates restoring inoperable equipment to Operable status. The proposed change clarifies the current application of LCOs. The proposed change to LCO 3.0.4 will not affect plant operation when LCO 3.0.4 is applied. The proposed change to LCO 3.0.5 slightly expands the circumstances in which LCO 3.0.5 can be applied. Testing to confirm Operability allowed under the proposed change to LCO 3.0.5 will be performed under procedural control in accordance with the licensee's quality assurance process and will not introduce and new or different accident initiators.

   Therefore, it is concluded that this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

   Response: No.

   The proposed change clarifies the application of Section 1.3 and LCO 3.0.4 and does not result in changes in plant operation. As a result, plant safety is either improved or unaffected. The proposed change to LCO 3.0.5 allows testing to establish Operability to be performed, which improves plant safety.

   Therefore, it is concluded that this change does not involve a significant reduction in a margin of safety.

Based on the above, the TSTF concludes that the proposed change presents no significant hazards considerations under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

5.2 Applicable Regulatory Requirements/Criteria

Title 10 of the Code of Federal Regulations, Paragraph 50.36, requires Technical Specifications and describes the Limiting Conditions for Operation (LCOs) and Surveillances. The proposed change clarifies the implementation of the Technical Specifications required by 10 CFR 50.36.

Based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the approval of the proposed change will not be inimical to the common defense and security or to the health and safety of the public.

6.0 Environmental Consideration

A review has determined that the proposed change would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed change.

7.0 References

1. Generic Letter 87-09, "Sections 3.0 And 4.0 of Standard Tech Specs on Limiting Conditions For Operation And Surveillance Requirements," dated June 6, 1987 (Attachment 1).

2. NRC memorandum, "Summary of Meeting Held on September 17, 1987 Relating to Generic Letter 87-09," dated October 20, 1987 (Attachment 2).

3. Inspection Manual Part 9900 Technical Guidance document, "Standard Technical Specifications (STS) Section 3.0.3 Limiting Conditions for Operation" (Attachment 3).

4. NRC Inspection Manual Part 9900 Technical Guidance document, "Voluntary Entry into Limiting Conditions for Operation Action Statements to Perform Preventative Maintenance," (Attachment 4).

5. NRC Enforcement Manual, Revision 7, October 1, 2010.

Attachment 1

Generic Letter 87-09, "Sections 3.0 and 4.0 of Standard Tech Specs on Limiting Conditions For Operation And Surveillance Requirements," dated June 6, 1987

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

June 4, 1987

TO ALL LIGHT WATER REACTOR LICENSEES AND APPLICANTS

Gentlemen:

SUBJECT: SECTIONS 3.0 AND 4.0 OF THE STANDARD TECHNICAL SPECIFICATIONS (STS) ON THE APPLICABILITY OF LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS (Generic Letter 87-09)

As a part of recent initiatives to improve Technical Specifications (TS), the NRC, in cooperation with the Atomic Industrial Forum (AIF), has developed a program for TS improvements. One of the elements of this program is the implementation of short-term improvements to resolve immediate concerns that have been identified in investigations of TS problems by both NRC and AIF. The guidance provided in this generic letter addresses three specific problems that have been encountered with the general requirements on the applicability of Limiting Conditions for Operation (LCO) and Surveillance Requirements in Sections 3.0 and 4.0 of the STS.

There are five enclosures to this Generic Letter. Enclosure 1 applies to both PWR and BWR STS and provides a complete discussion of the three problems and the staff's position on acceptable modifications of the TS to resolve them. These modifications should result in improved TS for all plants and are consistent with the recommendations of NUREG-1024, "Technical Specifications -- Enhancing the Safety Impact" and the Commission Policy Statement on Technical Specification Improvements. Enclosures 2 and 4 provide Sections 3.0 and 4.0 of the PWR and BWR STS, respectively, which incorporate the modifications being made by this Generic Letter. Enclosures 3 and 5: (a) provide the staff's update of the bases for the PWR and BWR STS, respectively; (b) reflect the modifications of Sections 3.0 and 4.0 of the STS; and (c) include improved bases for the unchanged requirements in these sections.

The staff concludes that these modifications will result in improved TS for all plants. Licensees and applicants are encouraged to propose changes to their TS that are consistent with the guidance provided in the enclosures; however, these changes are voluntary for all licensees and current OL applicants.

The staff would like to point out three important points connected with the present TS effort. First, it is aware that the TS can be clarified, simplified, and streamlined both as a whole and with respect to the specifications that are the subject of this Generic Letter. Nonetheless, in keeping with its short-term and purposefully narrow focus, it decided to keep these proposed modifications: (a) focused on the three problems; (b) relatively simple; and (c) consistent with the phrasing of existing TS. Second, after the resolution of these and other identified TS problems, the staff will notify licensees and applicants of its conclusions and resulting proposals for additional short-term TS improvements. Finally, the staff is not proposing to formally amend the STS at this time. Instead the changes will be factored into the development of the new STS anticipated as a part of the implementation of the Commission's Policy Statement on Technical Specification Improvements.

The following is a summary of the three problems covered by the enclosures. The first problem involves unnecessary restrictions on mode changes by Specification 3.0.4 and inconsistent application of exceptions to it. The practical solution is to change this specification to define the conditions under which its requirements apply. With respect to unnecessary mode changes, Specification 3.0.4 unduly restricts facility operation when conformance with Action Requirements provides an acceptable level of safety for continued operation. For an LCO that has Action Requirements permitting continued operation for an unlimited period of time, entry into an operation mode or other specified condition of operation should be permitted in accordance with the Action Requirements. The solution also resolves the problem of inconsistent application of exceptions to Specification 3.0.4: (a) which delays startup under conditions in which conformance to the Action Requirements establishes an acceptable level of safety for unlimited continued operation of the facility; and (b) which delays a return to power operation when the facility is required to be in a lower mode of operation as a consequence of other Action Requirements.

The second problem involves unnecessary shutdowns caused by Specification 4.0.3 when surveillance intervals are inadvertently exceeded. The solution is to clarify the applicability of the Action Requirements, to specify a specific acceptable time limit for completing a missed surveillance in certain circumstances, and to clarify when a missed surveillance constitutes a violation of the Operability Requirements of an LCO. It is overly conservative to assume that systems or components are inoperable when a surveillance has not been performed because the vast majority of surveillances do in fact demonstrate that systems or components are operable. When a surveillance is missed, it is primarily a question of operability that has not been verified by the performance of a Surveillance Requirement. Because the allowable outage time limits of some Action Requirements do not provide an appropriate time for performing a missed surveillance before Shutdown Requirements apply, the TS should include a time limit that allows a delay of required actions to permit the performance of the missed surveillance based on consideration of plant conditions, adequate planning, availability of personnel, the time required to perform the surveillance, and, of course, the safety significance of the delay in completing the surveillance. The staff has concluded that 24 hours is an acceptable time limit for completing a missed surveillance when the allowable outage times of the Action Requirements are less than this limit, or when time is needed to obtain a temporary waiver of the Surveillance Requirement.

The third problem involves two possible conflicts between Specifications 4.0.3 and 4.0.4. The first conflict arises because Specification 4.0.4 prohibits entry into an operational mode or other specified condition when Surveillance Requirements have not been performed within the specified surveillance interval. A conflict with this requirement exists when a mode change is required as a consequence of Action Requirements and when the Surveillance Requirements that become applicable have not been performed within the specified surveillance interval. Specification 4.0.4 should not be used to prevent passage through or to operational modes as required to comply with Action Requirements because to do so: (a) would increase the potential for a plant

upset; and (b) would challenge safety systems. Also, certain surveillances should be allowed to be performed during a shutdown to comply with Action Requirements. Along with the modification of Specification 4.0.3 to permit a delay of up to 24 hours in the applicability of Action Requirements, Specification 4.0.4 has been clarified to allow passage through or to operational modes as required to comply with Action Requirements.

A second conflict could arise because, when Surveillance Requirements can only be completed after entry into a mode or specified condition for which the Surveillance Requirements apply, an exception to the requirements of Specification 4.0.4 is allowed. However, upon entry into this mode or condition, the requirements of Specification 4.0.3 may not be met because the Surveillance Requirements may not have been performed within the allowed surveillance interval. Therefore, to avoid any conflict between Specifications 4.0.3 and 4.0.4, the staff wants to make clear: (a) that it is not the intent of Specification 4.0.3 that the Action Requirements preclude the performance of surveillances allowed under any exception to Specification 4.0.4; and (b) that the delay of up to 24 hours in Specification 4.0.3 for the applicability of Action Requirements now provides an appropriate time limit for the completion of those Surveillance Requirements that become applicable as a consequence of allowance of any exception to Specification 4.0.4.

If you have any questions on this matter, please contact your project manager.

Sincerely,

Frank J. Miraglia

Frank J. Miraglia, Associate Director
for Projects
Office of Nuclear Reactor Regulation

Enclosures:
As stated

Enclosure 1 to Generic Letter 87-09

ALTERNATIVES TO THE STS REQUIREMENTS TO RESOLVE THREE SPECIFIC PROBLEMS WITH LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

INTRODUCTION

Generic Letter 87-09 discusses three problems regarding the general requirements of Sections 3.0 and 4.0 of the STS on the applicability of Limiting Conditions for Operation (LCO) and Surveillance Requirements. The guidance provided in this enclosure addresses alternatives to the Standard Technical Specifications (STS) to resolve these problems.

Problem #1 -- UNNECESSARY RESTRICTIONS ON MODE CHANGES (Specification 4.0.3)

° BACKGROUND

The definition of an LCO is given in 10 CFR 50.36 as the lowest functional capability or performance level of equipment required for safe operation of the facility. Further, it is stated that when an LCO of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the TS until the condition can be met.

Consistent with NRC's regulatory requirements for an LCO, the TS include two basic types of Action Requirements that are applicable when the LCO is not met. The first specifies the remedial actions that permit continued operation of the facility not restricted by the time limits of Action Requirements. In this case, conformance to the Action Requirements provides an acceptable level of safety for continued operation of the facility, and operation may proceed indefinitely as long as the remedial Action Requirements are met. The second type of Action Requirement specifies a time limit in which the LCO must be met. This time limit is the time allowed to restore an inoperable system or component to operable status or to restore parameters within specified limits. If these actions are not completed within the allowable outage time limits, action must be taken to shut down the facility by placing it in a mode or condition of operation in which the LCO does not apply.

Specification 3.0.4 of the STS states that entry into an operational mode[1] or other specified condition shall not be made unless the LCO is met without reliance on the provisions of the Action Requirements. Its intent is to ensure that a higher mode of operation is not entered when equipment is inoperable or when parameters exceed their specified limits. This precludes a plant startup when actions are being taken to satisfy an LCO, which -- if not completed within the time limits of the Action Requirements -- would result in a plant shutdown to comply with the Action Requirements.

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[1]The BWR STS use the term "operational condition" instead of the term "operational mode" that is used in PWR STS. As used here, "operational mode" means "operational condition" for BWRs.

Specification 3.0.4 also precludes entering a mode or specified condition if an LCO is not met, even if the Action Requirements would permit continued operation of the facility for an unlimited period of time. Generally, the individual specifications that have Action Requirements which allow continued operation note that Specification 3.0.4 does not apply. However, exceptions to Specification 3.0.4 have not been consistently applied and their bases are not well documented. For example, approximately two-thirds of the actions which permit continued operation in the Westinghouse STS are exempt from Specification 3.0.4. Although the staff encourages the maintenance of all plant systems and components in an operable condition as a good practice, the TS generally have not precluded entering a mode with inoperable equipment when the Action Requirements include remedial measures that provide an acceptable level of safety for continued operation.

- STATEMENT OF THE PROBLEM

Inconsistent application of exceptions to Specification 3.0.4 impacts the operation of the facility in two ways. First, it delays startup under conditions in which conformance to the Action Requirements establishes an acceptable level of safety for unlimited continued operation of the facility. Second, it delays a return to power operation when the facility is required to be in a lower mode of operation as a consequence of other Action Requirements. In this case, the LCO must be met without reliance on the Action Requirements before returning the facility to that operational mode or other specified condition for which unlimited continued operation was previously permitted in accordance with the Action Requirements.

- STAFF POSITION

Specification 3.0.4 unduly restricts facility operation when conformance to the Action Requirements provides an acceptable level of safety for continued operation. For an LCO that has Action Requirements permitting continued operation for an unlimited period of time, entry into an operational mode or other specified condition of operation should be permitted in accordance with those Action Requirements. This is consistent with NRC's regulatory requirements for an LCO. The restriction on a change in operational modes or other specified conditions should apply only where the Action Requirements establish a specified time interval in which the LCO must be met or a shutdown of the facility would be required. However, nothing in this staff position should be interpreted as endorsing or encouraging a plant startup with inoperable equipment. The staff believes that good practice should dictate that the plant startup should normally be initiated only when all required equipment is operable and that startup with inoperable equipment must be the exception rather than the rule.

- CHANGE TO SPECIFICATION 3.0.4

The practical solution to this problem is not the modification of TS to note that Specification 3.0.4 does not apply, but rather a change to Specification 3.0.4 to define the conditions under which its requirements do apply. Therefore, Specification 3.0.4 will be revised to state:

"Entry into an OPERATIONAL MODE or other specified condition shall not be made when the conditions for the Limiting Conditions for Operation are not met and the associated ACTION requires a shutdown if they are not met within a specified time interval. Entry into an OPERATIONAL MODE or specified condition may be made in accordance with ACTION requirements when conformance to them permits continued operation of the facility for an unlimited period of time."

° CHANGES TO INDIVIDUAL SPECIFICATIONS EXEMPT FROM SPECIFICATION 3.0.4

As a consequence of the modification described above to Specification 3.0.4, individual specifications with Action Requirements permitting continued operation no longer need to indicate that Specification 3.0.4 does not apply. They should be revised to delete the noted exception to avoid confusion about the applicability of Specification 3.0.4. However, exceptions to Specification 3.0.4 should not be deleted for individual specifications if a mode change would be precluded by Specification 3.0.4 as revised. For example, some specifications would not satisfy the provisions under which mode changes are permitted by the revision to Specification 3.0.4 and, therefore, the exception to Specification 3.0.4 need not be deleted. It is not the staff's intent that the revision of Specification 3.0.4 should result in more restrictive requirements for individual specifications.

Problem #2 -- UNNECESSARY SHUTDOWNS CAUSED BY INADVERTENT SURPASSING OF SURVEILLANCE INTERVALS (Specification 4.0.3)

° BACKGROUND

Surveillance Requirements are defined in 10 CFR 50.36 as those requirements relating to test, calibration, or inspection to ensure that the necessary quality of systems and components is maintained, that the facility will be within the safety limits, and that the LCO will be met.

Consistent with the NRC's regulatory framework for Surveillance Requirements, Specification 4.0.3 states that the failure to perform a surveillance within the specified time interval shall constitute a failure to meet the LCO's Operability Requirements. Therefore, if a Surveillance Requirement is not met as a result of the failure to schedule the performance of the surveillance, the LCO would not be met. Consequently, the LCO's Action Requirements must be met as when a surveillance verifies that a system or component is inoperable.

Generally, the Action Requirements include a specified time interval (i.e., allowable outage time limit) that permits corrective action to be taken to satisfy the LCO. When such a specified time interval is included in the Action Requirements, the completion of a missed surveillance within this time interval satisfies Specification 4.0.3.

° STATEMENT OF PROBLEM

Some Action Requirements have allowable outage time limits of only one or two hours and do not establish a practical time limit for the completion of a missed Surveillance Requirement. If surveillances cannot be completed within these

time limits, a plant shutdown would usually be required. Even if the Action Requirements include remedial measures that would permit continued operation, they may be stated in such a way that they could prevent the performance of the required surveillance. A plant shutdown would also be required if the missed surveillance applies to more than the minimum number of systems or components required to be operable for operation under the allowable outage time limits of the Action Requirements. In this case, the individual specification or Specification 3.0.3 would require a shutdown.

If a plant shutdown is required before a missed surveillance is completed, it is likely that it would be conducted when the plant is being shut down because completion of a missed surveillance would terminate the shutdown requirement. This is undesirable since it increases the risk to the plant and public safety for two reasons. First, the plant would be in a transient state involving changing plant conditions that offer the potential for an upset that could lead to a demand for the system or component being tested. This would occur when the system or component is either out of service to allow performance of the surveillance test or there is a lower level of confidence in its operability because the normal surveillance interval was exceeded. If the surveillance did demonstrate that the system or component was inoperable, it usually would be preferable to restore it to operable status before making a major change in plant operating conditions. Second, a shutdown would increase the pressure on the plant staff to expeditiously complete the required surveillance so that the plant could be returned to power operation. This would further increase the potential for a plant upset when both the shutdown and surveillance activities place a demand on the plant operators.

° STAFF POSITION

It is overly conservative to assume that systems or components are inoperable when a surveillance requirement has not been performed. The opposite is in fact the case; the vast majority of surveillances demonstrate that systems or components in fact are operable. When a surveillance is missed, it is primarily a question of operability that has not been verified by the performance of the required surveillance. Because the allowable outage time limits of some Action Requirements do not provide an appropriate time limit for performing a missed surveillance before shutdown requirements may apply, the TS should include a time limit that would allow a delay of the required actions to permit the performance of the missed surveillance.

This time limit should be based on considerations of plant conditions, adequate planning, availability of personnel, the time required to perform the surveillance, as well as the safety significance of the delay in completion of the surveillance. After reviewing possible limits, the staff has concluded that, based on these considerations, 24 hours would be an acceptable time limit for completing a missed surveillance when the allowable outage times of the Action Requirements are less than this time limit or when shutdown Action Requirements apply. The 24-hour time limit would balance the risks associated with an allowance for completing the surveillance within this period against the risks associated with the potential for a plant upset and challenge to safety systems when the alternative is a shutdown to comply with Action Requirements before the surveillance can be completed.

Although a missed surveillance would generally be completed in less time than this 24-hour limit allows, special circumstances may require additional time to ensure that the surveillance can be conducted in a safe manner. The time limits of Action Requirements for surveillances should start when it is identified that Surveillance Requirements have not been performed, except when the 24-hour delay is allowed in the implementation of the Action Requirements. Where the 24-hour time limit is allowed, the time limits of the Action Requirements are applicable either at the end of the 24-hour limit if the surveillance has not been completed or at the time the surveillance is performed if the system or component is found to be inoperable.

Several issues need to be clarified regarding the additional 24-hour time limit. First, this limit does not waive compliance with Specification 4.0.3. Under Specification 4.0.3, the failure to perform a Surveillance Requirement will continue to constitute noncompliance with the Operability Requirements of an LCO and to bring into play the applicable Action Requirements.

Second, Specifications 3.0.2 and 4.0.3 should not be misinterpreted. Specification 3.0.2 notes that a TS is being complied with when the Action Requirements are met within the specified time intervals. Although Specification 4.0.2 provides an allowance for extending the surveillance interval and allows for the completion of the surveillance within this time interval without violation of this Specification, under Specification 4.0.3 nonperformance of a Surveillance Requirement, within the allowed surveillance interval defined by Specification 4.0.2, constitutes a violation of the Operability Requirements of an LCO, as defined by Specification 4.0.3, and is subject to enforcement action.

To avoid any conflict among or misreading of Specifications 3.0.2, 4.0.3, and 4.0.2, the staff wishes to make clear (1) that Specification 3.0.2 shall not be construed to imply that the completion of a missed surveillance within the allowable outage time limits of the Action Requirements -- whether or not the additional 24-hour time limit is included -- negates the violation of Specification 4.0.3, and (2) that the failure to perform a surveillance within the allowable surveillance interval defined by Specification 4.0.2 constitutes a reportable event under 10 CFR 50.73(a)(2)(i)(B) because it is a condition prohibited by the plant's TS.

Third, even though an additional 24-hour time limit may apply for missed surveillances, another consideration is the possibility that plant conditions may preclude the performance of the specified requirements. The provision of a 24-hour delay in the application of the Action Requirements for the completion of a missed surveillance would provide time to obtain a temporary waiver of a Surveillance Requirement that could not otherwise be completed because of current plant conditions. If a surveillance can be performed only when the plant is shut down, there are only two options available to licensees when a missed surveillance is discovered during power operation and continued operation is not allowed under the Action Requirements. The first is to shut down the plant and perform the required surveillance. The other option is to seek relief from the Surveillance Requirement. Such relief would result in the processing of a TS amendment. As a matter of existing policy, a temporary waiver of compliance with a TS that would unnecessarily require a shutdown or

delay startup absence of some relief may be granted by NRC. A temporary waiver of compliance may be granted if the licensee has demonstrated in a written submittal, provided before the TS LCO expired, that the facility can safely continue to operate without compliance with the TS during the time it will take to process the TS amendment request.

° CHANGE TO SPECIFICATION 4.0.3

Specification 4.0.3 will be revised as follows to clarify when a missed surveillance constitutes a violation of the Operability Requirements of an LCO and to clarify the applicability of the Action Requirements and the time during which the limits apply:

> "Failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by Specification 4.0.2, shall constitute noncompliance with the OPERABILITY requirements for a Limiting Condition for Operation. The time limits of the ACTION requirements are applicable at the time it is identified that a Surveillance Requirement has not been performed. The ACTION requirements may be delayed for up to 24 hours to permit the completion of the surveillance when the allowable outage time limits of the ACTION requirements are less than 24 hours."

Specification 4.0.3 previously included the statement that exceptions to it are stated in individual specifications. This statement is deleted because Specification 4.0.3 is always applicable, i.e., the implied exceptions for individual specifications do not exist.

Problem #3 -- CONFLICTS BETWEEN SPECIFICATIONS 4.0.3 AND 4.0.4 RELATED TO MODE CHANGES (Specification 4.0.4)

There are two parts of the general problem of conflicts between Specifications 4.0.3 and 4.0.4 related to mode changes. Each of these parts is discussed separately below.

Part 1 -- SURVEILLANCE REQUIREMENTS THAT BECOME APPLICABLE DUE TO ACTION REQUIREMENTS

° STATEMENT OF THE PROBLEM

Specification 4.0.4 prohibits entry into an operational mode or other specified condition when Surveillance Requirements have not been performed within the specified surveillance interval. First, a conflict with this TS exists when a mode change is required as a consequence of shutdown Action Requirements and when the Surveillance Requirements that become applicable have not been performed within the specified surveillance interval. For instance, the plant could previously have been in a mode for which the Surveillance Requirements were not applicable and, therefore, the surveillance may not have been performed within the specified time interval. Consequently, the Action Requirements of the LCO associated with these Surveillance Requirements apply and the unit may have to be placed in a lower mode of operation than that required by the original shutdown Action Requirements, or other remedial actions may have to be

taken, if the surveillance cannot be completed within the time limits for these actions. This is a second problem that may be encountered.

The first problem arises because conformance with Specification 4.0.4 would require the performance of these surveillances before entering a mode for which they apply. Source and intermediate range nuclear instrumentation and cold overpressure protection systems in PWRs are examples of systems for which Surveillance Requirements may become applicable as a consequence of mode changes to comply with shutdown Action Requirements. The second problem has been mitigated by the change in Specification 4.0.3 to permit a delay of up to 24 hours in the applicability of the Action Requirements, thereby placing an appropriate time limit on the completion of Surveillance Requirements that become applicable as a consequence of mode changes to comply with Action Requirements. However, the first problem can be further resolved by a change to Specification 4.0.4.

° STAFF POSITION

The potential for a plant upset and challenge to safety systems is heightened if surveillances are performed during a shutdown to comply with Action Requirements. It is not the intent of Specification 4.0.4 to prevent passage through or to operational modes to comply with Action Requirements and it should not apply when mode changes are imposed by Action Requirements. Accordingly, Specification, 4.0.4 should be modified to note that its provisions shall not prevent passage through or to operational modes as required to comply with Action Requirements. A similar provision is included in Specification 3.0.4.

° CHANGE TO SPECIFICATION 4.0.4

The following will clarify Specification 4.0.4 for mode changes as a consequence of Action Requirements:

> "This provision shall not prevent passage through or to OPERATIONAL MODES as required to comply with ACTION Requirements."

Part 2 -- <u>SURVEILLANCE REQUIREMENTS FOR EXCEPTIONS TO SPECIFICATION 4.0.4</u>

° STATEMENT OF THE PROBLEM

An exception to Specification 4.0.4 is allowed when Surveillance Requirements can be completed only after entry into a mode or specified condition for which they apply. For example, the TS on power distribution limits are generally exempt from Specification 4.0.4. However, upon entry into the mode or specified condition, Specification 4.0.3 may not be met because the Surveillance Requirements may not have been performed within the allowed surveillance interval. Generally, these Surveillance Requirements apply to redundant systems, and Specification 3.0.3 would apply because they are treated as inoperable under Specification 4.0.3. Therefore, allowance of an exception to Specification 4.0.4 can create a conflict with Specification 4.0.3.

° STAFF POSITION

It is not the intent of Specification 4.0.3 that the Action Requirements should preclude the performance of surveillances when an exception to Specification 4.0.4 is allowed. However, since Specification 4.0.3 has been changed to permit a delay of up to 24 hours in the applicability of the Action Requirements, an appropriate time limit now exists for the completion of those Surveillance Requirements that become applicable when an exception to Specification 4.0.4 is allowed.

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

3/4.0 APPLICABILITY

[NOTE: Only Specifications 3.0.4, 4.0.3, and 4.0.4 are being modified, as shown in the underlined provisions. The other specifications are shown for information only.]

LIMITING CONDITIONS FOR OPERATION

3.0.1 Compliance with the Limiting Conditions for Operation contained in the succeeding specifications is required during the OPERATIONAL MODES or other conditions specified therein; except that upon failure to meet the Limiting Conditions for Operation, the associated ACTION requirements shall be met.

3.0.2 Noncompliance with a specification shall exist when the requirements of the Limiting Condition for Operation and associated ACTION requirements are not met within the specified time intervals. If the Limiting Condition for Operation is restored prior to expiration of the specified time intervals, completion of the ACTION requirements is not required.

3.0.3 When a Limiting Condition for Operation is not met, except as provided in the associated ACTION requirements, within 1 hour action shall be initiated to place it, as applicable, in:

a. At least HOT STANDBY within the next 6 hours,

b. At least HOT SHUTDOWN within the following 6 hours, and

c. At least COLD SHUTDOWN within the subsequent 24 hours.

Where corrective measures are completed that permit operation under the ACTION requirements, the action may be taken in accordance with the specified time limits as measured from the time of failure to meet the Limiting Condition for Operation. Exceptions to these requirements are stated in the individual specifications.

This specification is not applicable in MODES 5 or 6.

3.0.4 Entry into an OPERATIONAL MODE or other specified condition shall not be made when the conditions for the Limiting Conditions for Operation are <u>not</u> met <u>and the associated ACTION requires a shutdown if they are not met within a specified time interval. Entry into an OPERATIONAL MODE or specified condition may be made in accordance with ACTION requirements when conformance to them permits continued operation of the facility for an unlimited period of time.</u> This provision shall not prevent passage through or to OPERATIONAL MODES as required to comply with ACTION requirements. Exceptions to these requirements are stated in the individual specifications.

APPLICABILITY

SURVEILLANCE REQUIREMENTS

4.0.1 Surveillance Requirements shall be met during the OPERATIONAL MODES or other conditions specified for individual Limiting Conditions for Operation unless otherwise stated in an individual Surveillance Requirement.

4.0.2 Each Surveillance Requirement shall be performed within the specified time interval with:

a. A maximum allowable extension not to exceed 25% of the surveillance interval, but

b. The combined time interval for any three consecutive surveillance intervals shall not exceed 3.25 times the specified surveillance interval.

4.0.3 Failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by Specification 4.0.2, shall constitute noncompliance with the OPERABILITY requirements for a Limiting Condition for Operation. The time limits of the ACTION requirements are applicable at the time it is identified that a Surveillance Requirement has not been performed. The ACTION requirements may be delayed for up to 24 hours to permit the completion of the surveillance when the allowable outage time limits of the ACTION requirements are less than 24 hours. Surveillance Requirements do not have to be performed on inoperable equipment.

4.0.4 Entry into an OPERATIONAL MODE or other specified condition shall not be made unless the Surveillance Requirement(s) associated with a Limiting Condition of Operation has been performed within the stated surveillance interval or as otherwise specified. This provision shall not pervent passage through or to OPERATIONAL MODES as required to comply with ACTION requirements.

4.0.5 Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2, and 3 components shall be applicable as follows:

a. Inservice inspection of ASME Code Class 1, 2, and 3 components and inservice testing of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55a(g)(6)(i).

b. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice inspection and testing activities required by the ASME Boiler and

APPLICABILITY

SURVEILLANCE REQUIREMENTS

Pressure Vessel Code and applicable Addenda shall be applicable as follows in these Technical Specifications:

ASME Boiler and Pressure Vessel Code and applicable Addenda terminology for inservice inspection and testing activities	Required frequencies for performing inservice inspection and testing activities
Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days

c. The provisions of Specification 4.0.2 are applicable to the above required frequencies for performing inservice inspection and testing activities.

d. Performance of the above inservice inspection and testing activities shall be in addition to other specified Surveillance Requirements.

e. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any Technical Specification.

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

3/4.0 APPLICABILITY

[NOTE: This enclosure provides revised Bases for all specifications in Sections 3.0 and 4.0.]

BASES

Specification 3.0.1 through 3.0.4 establish the general requirements applicable to Limiting Conditions for Operation. These requirements are based on the requirements for Limiting Conditions for Operation stated in the Code of Federal Regulations, 10 CFR 50.36(c)(2):

"Limiting conditions for operation are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specification until the condition can be met."

Specification 3.0.1 establishes the Applicability statement within each individual specification as the requirement for when (i.e., in which OPERATIONAL MODES or other specified conditions) conformance to the Limiting Conditions for Operation is required for safe operation of the facility. The ACTION requirements establish those remedial measures that must be taken within specified time limits when the requirements of a Limiting Condition for Operation are not met.

There are two basic types of ACTION requirements. The first specifies the remedial measures that permit continued operation of the facility which is not further restricted by the time limits of the ACTION requirements. In this case, conformance to the ACTION requirements provides an acceptable level of safety for unlimited continued operation as long as the ACTION requirements continue to be met. The second type of ACTION requirement specifies a time limit in which conformance to the conditions of the Limiting Condition for Operation must be met. This time limit is the allowable outage time to restore an inoperable system or component to OPERABLE status or for restoring parameters within specified limits. If these actions are not completed within the allowable outage time limits, a shutdown is required to place the facility in a MODE or condition in which the specification no longer applies. It is not intended that the shutdown ACTION requirements be used as an operational convenience which permits (routine) voluntary removal of a system(s) or component(s) from service in lieu of other alternatives that would not result in redundant systems or components being inoperable.

The specified time limits of the ACTION requirements are applicable from the point in time it is identified that a Limiting Condition for Operation is not met. The time limits of the ACTION requirements are also applicable when a system or component is removed from service for surveillance testing or investigation of operational problems. Individual specifications may include a specified time limit for the completion of a Surveillance Requirement when equipment is removed from service. In this case, the allowable outage time

limits of the ACTION requirements are applicable when this limit expires if the surveillance has not been completed. When a shutdown is required to comply with ACTION requirements, the plant may have entered a MODE in which a new specification becomes applicable. In this case, the time limits of the ACTION requirements would apply from the point in time that the new specification becomes applicable if the requirements of the Limiting Condition for Operation are not met.

Specification 3.0.2 establishes that noncompliance with a specification exists when the requirements of the Limiting Condition for Operation are not met and the associated ACTION requirements have not been implemented within the specified time interval. The purpose of this specification is to clarify that (1) implementation of the ACTION requirements within the specified time interval constitutes compliance with a specification and (2) completion of the remedial measures of the ACTION requirements is not required when compliance with a Limiting Condition of Operation is restored within the time interval specified in the associated ACTION requirements.

Specification 3.0.3 establishes the shutdown ACTION requirements that must be implemented when a Limiting Condition for Operation is not met and the condition is not specifically addressed by the associated ACTION requirements. The purpose of this specification is to delineate the time limits for placing the unit in a safe shutdown MODE when plant operation cannot be maintained within the limits for safe operation defined by the Limiting Conditions for Operation and its ACTION requirements. It is not intended to be used as an operational convenience which permits (routine) voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant systems or components being inoperable. One hour is allowed to prepare for an orderly shutdown before initiating a change in plant operation. This time permits the operator to coordinate the reduction in electrical generation with the load dispatcher to ensure the stability and availability of the electrical grid. The time limits specified to reach lower MODES of operation permit the shutdown to proceed in a controlled and orderly manner that is well within the specified maximum cooldown rate and within the cooldown capabilities of the facility assuming only the minimum required equipment is OPERABLE. This reduces thermal stresses on components of the primary coolant system and the potential for a plant upset that could challenge safety systems under conditions for which this specification applies.

If remedial measures permitting limited continued operation of the facility under the provisions of the ACTION requirements are completed, the shutdown may be terminated. The time limits of the ACTION requirements are applicable from the point in time there was a failure to meet a Limiting Condition for Operation. Therefore, the shutdown may be terminated if the ACTION requirements have been met or the time limits of the ACTION requirements have not expired, thus providing an allowance for the completion of the required actions.

3/4.0 APPLICABILITY

BASES (Con't)

The time limits of Specification 3.0.3 allow 37 hours for the plant to be in the COLD SHUTDOWN MODE when a shutdown is required during the POWER MODE of operation. If the plant is in a lower MODE of operation when a shutdown is required, the time limit for reaching the next lower MODE of operation applies. However, if a lower MODE of operation is reached in less time than allowed, the total allowable time to reach COLD SHUTDOWN, or other applicable MODE, is not reduced. For example, if HOT STANDBY is reached in 2 hours, the time allowed to reach HOT SHUTDOWN is the next 11 hours because the total time to reach HOT SHUTDOWN is not reduced from the allowable limit of 13 hours. Therefore, if remedial measures are completed that would permit a return to POWER operation, a penalty is not incurred by having to reach a lower MODE of operation in less than the total time allowed.

The same principle applies with regard to the allowable outage time limits of the ACTION requirements, if compliance with the ACTION requirements for one specification results in entry into a MODE or condition of operation for another specification in which the requirements of the Limiting Condition for Operation are not met. If the new specification becomes applicable in less time than specified, the difference may be added to the allowable outage time limits of the second specification. However, the allowable outage time limits of ACTION requirements for a higher MODE of operation may not be used to extend the allowable outage time that is applicable when a Limiting Condition for Operation is not met in a lower MODE of operation.

The shutdown requirements of Specification 3.0.3 do not apply in MODES 5 and 6, because the ACTION requirements of individual specifications define the remedial measures to be taken.

Specification 3.0.4 establishes limitations on MODE changes when a Limiting Condition for Operation is not met. It precludes placing the facility in a higher MODE of operation when the requirements for a Limiting Condition for Operation are not met and continued noncompliance to these conditions would result in a shutdown to comply with the ACTION requirements if a change in MODES were permitted. The purpose of this specification is to ensure that facility operation is not initiated or that higher MODES of operation are not entered when corrective action is being taken to obtain compliance with a specification by restoring equipment to OPERABLE status or parameters to specified limits. Compliance with ACTION requirements that permit continued operation of the facility for an unlimited period of time provides an acceptable level of safety for continued operation without regard to the status of the plant before or after a MODE change. Therefore, in this case, entry into an OPERATIONAL MODE or other specified condition may be made in accordance with the provisions of the ACTION requirements. The provisions of this specification should not, however, be interpreted as endorsing the failure to exercise good practice in restoring systems or components to OPERABLE status before plant startup.

3/4.0 APPLICABILITY

BASES (Con't)

When a shutdown is required to comply with ACTION requirements, the provisions of Specification 3.0.4 do not apply because they would delay placing the facility in a lower MODE of operation.

Specifications 4.0.1 through 4.0.5 establish the general requirements applicable to Surveillance Requirements. These requirements are based on the Surveillance Requirements stated in the Code of Federal Regulations, 10 CFR 50.36(c)(3):

"Surveillance requirements are requirements relating to test, calibration, or inspection to ensure that the necessary quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions of operation will be met."

Specification 4.0.1 establishes the requirement that surveillances must be performed during the OPERATIONAL MODES or other conditions for which the requirements of the Limiting Conditions for Operation apply unless otherwise stated in an individual Surveillance Requirement. The purpose of this specification is to ensure that surveillances are performed to verify the operational status of systems and components and that parameters are within specified limits to ensure safe operation of the facility when the plant is in a MODE or other specified condition for which the associated Limiting Conditions for Operation are applicable. Surveillance Requirements do not have to be performed when the facility is in an OPERATIONAL MODE for which the requirements of the associated Limiting Condition for Operation do not apply unless otherwise specified. The Surveillance Requirements associated with a Special Test Exception are only applicable when the Special Test Exception is used as an allowable exception to the requirements of a specification.

Specification 4.0.2 establishes the conditions under which the specified time interval for Surveillance Requirements may be extended. Item a. permits an allowable extension of the normal surveillance interval to facilitate surveillance scheduling and consideration of plant operating conditions that may not be suitable for conducting the surveillance; e.g., transient conditions or other ongoing surveillance or maintenance activities. Item b. limits the use of the provisions of item a. to ensure that it is not used repeatedly to extend the surveillance interval beyond that specified. The limits of Specification 4.0.2 are based on engineering judgment and the recognition that the most probable result of any particular surveillance being performed is the verification of conformance with the Surveillance Requirements. These provisions are sufficient to ensure that the reliability ensured through surveillance activities is not significantly degraded beyond that obtained from the specified surveillance interval.

Specification 4.0.3 establishes the failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by the provisions of Specification 4.0.2, as a condition that constitutes a failure to meet the OPERABILITY requirements for a Limiting Condition for Operation. Under the

provisions of this specification, systems and components are assumed to be OPERABLE when Surveillance Requirements have been satisfactorily performed within the specified time interval. However, nothing in this provision is to be construed as implying that systems or components are OPERABLE when they are found or known to be inoperable although still meeting the Surveillance Requirements. This specification also clarifies that the ACTION requirements are applicable when Surveillance Requirements have not been completed within the allowed surveillance interval and that the time limits of the ACTION requirements apply from the point in time it is identified that a surveillance has not been performed and not at the time that the allowed surveillance interval was exceeded. Completion of the Surveillance Requirement within the allowable outage time limits of the ACTION requirements restores compliance with the requirements of Specification 4.0.3. However, this does not negate the fact that the failure to have performed the surveillance within the allowed surveillance interval, defined by the provisions of Specification 4.0.2, was a violation of the OPERABILITY requirements of a Limiting Condition for Operation that is subject to enforcement action. Further, the failure to perform a surveillance within the provisions of Specification 4.0.2 is a violation of a Technical Specification requirement and is, therefore, a reportable event under the requirements of 10 CFR 50.73(a)(2)(i)(B) because it is a condition prohibited by the plant's Technical Specifications.

If the allowable outage time limits of the ACTION requirements are less than 24 hours or a shutdown is required to comply with ACTION requirements, e.g., Specification 3.0.3, a 24-hour allowance is provided to permit a delay in implementing the ACTION requirements. This provides an adequate time limit to complete Surveillance Requirements that have not been performed. The purpose of this allowance is to permit the completion of a surveillance before a shutdown is required to comply with ACTION requirements or before other remedial measures would be required that may preclude completion of a surveillance. The basis for this allowance includes consideration for plant conditions, adequate planning, availability of personnel, the time required to perform the surveillance, and the safety significance of the delay in completing the required surveillance. This provision also provides a time limit for the completion of Surveillance Requirements that become applicable as a consequence of MODE changes imposed by ACTION requirements and for completing Surveillance Requirements that are applicable when an exception to the requirements of Specification 4.0.4 is allowed. If a surveillance is not completed within the 24-hour allowance, the time limits of the ACTION requirements are applicable at that time. When a surveillance is performed within the 24-hour allowance and the Surveillance Requirements are not met, the time limits of the ACTION requirements are applicable at the time that the surveillance is terminated.

Surveillance Requirements do not have to be performed on inoperable equipment because the ACTION requirements define the remedial measures that apply. However, the Surveillance Requirements have to be met to demonstrate that inoperable equipment has been restored to OPERABLE status.

3/4.0 APPLICABILITY

BASES (Con't)

Specification 4.0.4 establishes the requirement that all applicable surveillances must be met before entry into an OPERATIONAL MODE or other condition of operation specified in the Applicability statement. The purpose of this specification is to ensure that system and component OPERABILITY requirements or parameter limits are met before entry into a MODE or condition for which these systems and components ensure safe operation of the facility. This provision applies to changes in OPERATIONAL MODES or other specified conditions associated with plant shutdown as well as startup.

Under the provisions of this specification, the applicable Surveillance Requirements must be performed within the specified surveillance interval to ensure that the Limiting Conditions for Operation are met during initial plant startup or following a plant outage.

When a shutdown is required to comply with ACTION requirements, the provisions of Specification 4.0.4 do not apply because this would delay placing the facility in a lower MODE of operation.

Specification 4.0.5 establishes the requirement that inservice inspection of ASME Code Class 1, 2, and 3 components and inservice testing of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with a periodically updated version of Section XI of the ASME Boiler and Pressure Vessel Code and Addenda as required by 10 CFR 50.55a. These requirements apply except when relief has been provided in writing by the Commission.

This specification includes a clarification of the frequencies for performing the inservice inspection and testing activities required by Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda. This clarification is provided to ensure consistency in surveillance intervals throughout the Technical Specifications and to remove any ambiguities relative to the frequencies for performing the required inservice inspection and testing activities.

Under the terms of this specification, the more restrictive requirements of the Technical Specifications take precedence over the ASME Boiler and Pressure Vessel Code and applicable Addenda. The requirements of Specification 4.0.4 to perform surveillance activities before entry into an OPERATIONAL MODE or other specified condition takes precedence over the ASME Boiler and Pressure Vessel Code provision which allows pumps and valves to be tested up to one week after return to normal operation. The Technical Specification definition of OPERABLE does not allow a grace period before a component, that is not capable of performing its specified function, is declared inoperable and takes precedence over the ASME Boiler and Pressure Vessel Code provision which allows a valve to be incapable of performing its specified function for up to 24 hours before being declared inoperable.

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

3/4.0 APPLICABILITY

[NOTE: Only Specifications 3.0.4, 4.0.3, and 4.0.4 are being modified, as shown in the underlined provisions. The other specifications are shown for information only.]

LIMITING CONDITIONS FOR OPERATION

3.0.1 Compliance with the Limiting Conditions for Operation contained in the succeeding Specifications is required during the OPERATIONAL CONDITIONS or other conditions specified therein; except that upon failure to meet the Limiting Conditions for Operation, the associated ACTION requirements shall be met.

3.0.2 Noncompliance with a Specification shall exist when the requirements of the Limiting Condition for Operation and associated ACTION requirements are not met within the specified time intervals. If the Limiting Condition for Operation is restored prior to expiration of the specified time intervals, completion of the ACTION requirements is not required.

3.0.3 When a Limiting Condition for Operation is not met, except as provided in the associated ACTION requirements, within one hour action shall be initiated to place the unit in an OPERATIONAL CONDITION in which the Specification does not apply by placing it, as applicable, in:

1. At least STARTUP within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

Where corrective measures are completed that permit operation under the ACTION requirements, the action may be taken in accordance with the specified time limits as measured from the time of failure to meet the Limiting Condition for Operation. Exceptions to these requirements are stated in the individual Specifications.

This specification is not applicable in OPERATIONAL CONDITION 4 or 5.

3.0.4 Entry into an OPERATIONAL CONDITION or other specified condition shall not be made when the conditions for the Limiting Conditions for Operation are not met and the associated ACTION requires a shutdown if they are not met within a specified time interval. Entry into an OPERATIONAL CONDITION or other specified condition may be made in accordance with the ACTION requirements when conformance to them permits continued operation of the facility for an unlimited period of time. This provision shall not prevent passage through or to OPERATIONAL CONDITIONS as required to comply with ACTION requirements. Exceptions to these requirements are stated in the individual Specifications.

APPLICABILITY

SURVEILLANCE REQUIREMENTS

4.0.1 Surveillance Requirements shall be met during the OPERATIONAL CONDITIONS or other conditions specified for individual Limiting Conditions for Operation unless otherwise stated in an individual Surveillance Requirement.

4.0.2 Each Surveillance Requirement shall be performed within the specified time interval with:

a. A maximum allowable extension not to exceed 25% of the surveillance interval, but

b. The combined time interval for any 3 consecutive surveillance intervals shall not exceed 3.25 times the specified surveillance interval.

4.0.3 Failure to perform a Surveillance Requirement within the allowed surveillance interval, defined by Specification 4.0.2, shall constitute noncompliance with the OPERABILITY requirements for a Limiting Condition for Operation. The time limits of the ACTION requirements are applicable at the time it is identified that a Surveillance Requirement has not been performed. The ACTION requirements may be delayed for up to 24 hours to permit the completion of the surveillance when the allowable outage time limits of the ACTION requirements are less than 24 hours. Surveillance Requirements do not have to be performed on inoperable equipment.

4.0.4 Entry into an OPERATIONAL CONDITION or other specified applicable condition shall not be made unless the Surveillance Requirement(s) associated with the Limiting Condition for Operation have been performed within the applicable surveillance interval or as otherwise specified. This provision shall not prevent passage through or to OPERATIONAL CONDITIONS as required to comply with ACTION requirements.

4.0.5 Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2, and 3 components shall be applicable as follows:

a. Inservice inspection of ASME Code Class 1, 2, and 3 components and inservice testing of ASME Code Class 1, 2, and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a(g), except where specific written relief has been granted by the Commission pursuant to 10 CFR 50, Section 50.55a(g)(6)(i).

b. Surveillance intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice inspection and testing activities required by the ASME Boiler and

APPLICABILITY

SURVEILLANCE REQUIREMENTS

Pressure Vessel Code and applicable Addenda shall be applicable as follows in these Technical Specifications:

ASME Boiler and Pressure Vessel Code and applicable Addenda terminology for inservice inspection and testing activities	Required frequencies for performing inservice inspection and testing activities
Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Every 9 months	At least once per 276 days
Yearly or annually	At least once per 366 days

c. The provisions of Specification 4.0.2 are applicable to the above required frequencies for performing inservice inspection and testing activities.

d. Performance of the above inservice inspection and testing activities shall be in addition to other specified Surveillance Requirements.

e. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any Technical Specification.

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

3/4.0 APPLICABILITY

[NOTE: This enclosure provides revised Bases for all specifications in Sections 3.0 and 4.0.]

BASES

Specifications 3.0.1 through 3.0.4 establish the general requirements applicable to Limiting Conditions for Operation. These requirements are based on the requirements for Limiting Conditions for Operation stated in the Code of Federal Regulations, 10 CFR 50.36(c)(2):

"Limiting conditions for operation are the lowest functional capability or performance levels of equipment required for safe operation of the facility. When a limiting condition for operation of a nuclear reactor is not met, the licensee shall shut down the reactor or follow any remedial action permitted by the technical specification until the condition can be met."

Specification 3.0.1 establishes the Applicability statement within each individual specification as the requirement for when (i.e., in which OPERATIONAL CONDITIONS or other specified conditions) conformance to the Limiting Conditions for Operation is required for safe operation of the facility. The ACTION requirements establish those remedial measures that must be taken within specified time limits when the requirements of a Limiting Condition for Operation are not met. It is not intended that the shutdown ACTION requirements be used as an operational convenience which permits (routine) voluntary removal of a system(s) or component(s) from service in lieu of other alternatives that would not result in redundant systems or components being inoperable.

There are two basic types of ACTION requirements. The first specifies the remedial measures that permit continued operation of the facility which is not further restricted by the time limits of the ACTION requirements. In this case, conformance to the ACTION requirements provides an acceptable level of safety for unlimited continued operation as long as the ACTION requirements continue to be met. The second type of ACTION requirement specifies a time limit in which conformance to the conditions of the Limiting Condition for Operation must be met. This time limit is the allowable outage time to restore an inoperable system or component to OPERABLE status or for restoring parameters within specified limits. If these actions are not completed within the allowable outage time limits, a shutdown is required to place the facility in an OPERATIONAL CONDITION or other specified condition in which the specification no longer applies.

The specified time limits of the ACTION requirements are applicable from the point in time it is identified that a Limiting Condition for Operation is not met. The time limits of the ACTION requirements are also applicable when a system or component is removed from service for surveillance testing or investigation of operational problems. Individual specifications may include a specified time limit for the completion of a Surveillance Requirement when

Attachment 2

NRC Memorandum, "Summary of Meeting Held on September 17, 1987 Relating to Generic Letter 87-09," dated October 20, 1987

TSTF-529, Rev. 0
NRC 6 1417
Tech Specs

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

OCT 2 0 1987

DOCKET NOS: 50-325/324 & 50-400

LICENSEE: Carolina Power & Light Company

FACILITY: Shearon Harris, Unit 1

SUBJECT: SUMMARY OF MEETING HELD ON SEPTEMBER 17, 1987 RELATING TO GENERIC LETTER 87-09

A meeting was held with representatives of the Carolina Power & Light Company (CP&L) in Bethesda, MD, on September 17, 1987 to discuss Generic Letter 87-09, "Sections 3.0 and 4.0 of the Standard Technical Specifications (STS) on the applicability of Limiting Conditions for Operation and Surveillance Requirements" dated June 4, 1987, as it relates to the Shearon Harris Unit 1 and the Brunswick Units 1 & 2 nuclear power plants. A list of attendees is attached.

CP&L expressed concern about the potential for misinterpretation of the sentence underlined below, for ease of reference, and which appears on page B 3/4.0-1 of enclosure 3 to Generic Letter 87-09.

> "Specification 3.0.1
> ...It is not intended that the shutdown ACTION requirements be used as an operational convenience which permits (routine) voluntary removal of a system(s) or component(s) from service in lieu of other alternatives that would not result in redundant systems or components being inoperable."

The concern expressed is that it could prohibit CP&L from going voluntarily into a Limiting Condition for Operation (LCO) in certain justifiable instances. An example of such an instance would be if a small leak developed in a pump seal which in itself would not render the pump inoperable but had the potential for rendering the pump inoperable at a future date. CP&L would like the option of voluntarily entering a LCO by isolating the pump and making the required repairs without being cited for such action. The NRC staff noted that the underlined section of the Bases for Specification 3.0.1, noted above, would not apply to the example cited by CP&L since it is not a case in which redundant systems would be out of service. The staff noted that in addition to the two basic types of action requirements that are noted in the second paragraph of the Bases for Specification 3.0.1, a third type would define time limits for directly placing the plant in a shutdown condition. It was noted that the sentence in question, underlined above, that was a concern to CP&L was intended to apply to this type of shutdown action requirement. The staff noted that a similar sentence is included in the Bases for Specification 3.0.3. In both cases the point of clarification is that the last echelon of defense should not be removed from service such that this would invoke a prompt shutdown action requirement, in lieu of other alternatives that would not result in redundant systems being out of service simultaneously.

CP&L asked for a clarification of when a missed surveillance is reported under the LER Rule. The staff stated that if a missed surveillance is not performed within the allowance for extending the surveillance interval as provided by Specification 4.0.2, it would be reportable. This is consistent with the clarification of the LER Rule that is provided in NUREG-1022, Supplement #1.

CP&L asked if there was any significance between the words "failure to meet" and the words "noncompliance with" which is currently in Specification 4.0.3 of Generic letter 87-09. The staff stated they both mean the same and that it does not impose any new requirement.

Bart C. Buckley, Senior Project Manager
Project Directorate II-1
Division of Reactor Projects I/II

cc: See next page

DISTRIBUTION:
See attached list

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BBuckley/sh
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D:PD21:DRPR
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10/9/87

Attachment 3

Inspection Manual Part 9900 Technical Guidance document, "Standard Technical Specifications (STS) Section 3.0.3 Limiting Conditions for Operation"

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

NRC INSPECTION MANUAL

ILRB

PART 9900: TECHNICAL GUIDANCE

STANDARD TECHNICAL SPECIFICATIONS
STS SECTION 3.0.3 LIMITING CONDITIONS FOR OPERATION

A. PURPOSE

To provide guidance on Standard Technical Specifications (STS) Section 3.0.3 as it relates to limiting conditions for operation (LCO).

B. BACKGROUND

Regions III and V have reported the incorrect use of the provisions of STS Section 3.0.3 by licensees. As an example, Technical Specification 3.7.A.5.b for Dresden and Quad Cities, and similar specifications for other plants, establish the containment oxygen concentration requirements during the 24 hours prior to a shutdown, and after the reactor mode switch has been placed in the run position on startup. If the oxygen-allowable concentration exceeds the technical specification limit for more than 24 hours prior to shutdown or for more than 24 hours after the reactor mode switch has been placed in the run position on startup, the plant is in violation of the LCO and should be shut down in accordance with the LCO. However, the licensee proposed to enter LCO 3.0.3 at the end of the 24-hour period and use the requirements of LCO 3.0.3 to have an additional 12 hours to shut down the plant. Technical Specification 3.7.A.5.b, defines the two conditions for which oxygen concentration can be exceeded. For either condition, an explicit 24-hour time limit for shutting down is provided. There are no other circumstances which are not accounted for, and STS 3.0.3 does not apply.

The basic information provided to Regions III and V concerning the use of STS 3.0.3 is discussed in the section below.

C. DISCUSSION

LCO as defined in STS 3.0.3 is not intended to be used as an operational convenience which permits redundant safety systems to be out of service for a limited period of time. Its intended purpose is to provide guidance on the time limits for an "orderly" shutdown when the individual LCO or ACTION statements in other specifications cannot be complied with. Voluntary entry into LCO 3.0.3 deliberately removes the last line of defense against potentially harmful events. Doing so allows removal of a system from service when the redundant system is already inoperable. An action like this would show a disregard for plant safety and is unacceptable. It also should be emphasized that removal of a system from service is justified only for test, maintenance, or repair purposes.

Attachment 4

NRC Inspection Manual Part 9900 Technical Guidance document, "Voluntary Entry into Limiting Conditions for Operation Action Statements to Perform Preventative Maintenance"

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

NRC INSPECTION MANUAL OTSB

PART 9900: TECHNICAL GUIDANCE

LCOPM.TG

MAINTENANCE - VOLUNTARY ENTRY INTO LIMITING CONDITIONS FOR OPERATION ACTION STATEMENTS TO PERFORM PREVENTIVE MAINTENANCE

A. PURPOSE

To provide a set of safety principles for guiding the performance of preventive maintenance (PM) at licensed nuclear reactor facilities when the performance of the PM requires rendering the affected system or equipment inoperable (on-Line PM). Although these principles apply primarily to PM during power operation, they also apply to PM on equipment that must be OPERABLE during shutdown evolutions such as fuel handling or mid-loop operation.

This guidance provides qualitative criteria to assist in recognizing abuses of on-line PM. If such abuses are noted, they should be discussed with NRC management before they are discussed with the licensee. This should ensure that the guidance is applied in a reasonable and consistent manner for all licensees.

B. BACKGROUND

The NRC has not previously established guidance on taking equipment out of service to perform PM because the NRC did not expect licensees to routinely perform such PM when technical specifications require the equipment to be OPERABLE. Rather, it was expected that most PM that necessitated taking equipment out of service would be accomplished at a time when the safety function performed by the equipment was not needed, (e.g., when the facility is shutdown). Performing such PM (e.g., emergency diesel generator overhaul at power) requires intentionally entering the technical specifications (TS) limiting conditions for operation (LCO) for the affected system. If a licensee does this, it must complete the PM and restore compliance with the LCO OPERABILITY requirements within the time specified in the appropriate action statement of the LCO (i.e., the allowed outage time (AOT)). Intentional entry into an action statement of an LCO is not a violation of the TS (except in certain cases, such as intentionally creating a loss of function situation or entering LCO 3.0.3 simply for operational convenience). For example, TS allow licensees to perform much surveillance testing during power operation, even though such testing requires entry into LCO action statements. TS permit entry into LCO action statements to perform surveillance testing for a number of reasons. One reason is that the time needed to perform most surveillances is usually only a small fraction of the AOT specified in the action statement.

Another reason is that the benefit to safety (increased level of assurance of reliability and verification of OPERABILITY) derived from meeting surveillance requirements is considered to more than compensate for the risk to safety from

operating the facility in an LCO action statement for a small fraction of the AOT.

The NRC staff has noticed a trend at many licensed nuclear facilities to perform increasing amounts of PM during power operation (on-line PM) rather than during shutdown conditions. By performing more on-line PM, licensees must intentionally enter into LCOs more frequently than before and use more of the AOTs than would normally be used by surveillance testing alone. This could cause the total unavailability of equipment over each operating cycle (or the total time that a facility operates at increased risk because it is not complying with LCO OPERABILITY requirements and is vulnerable to single failures) to become greater than originally contemplated when TS were established. Of special concern is intentional entry into LCOs to perform PM near the end of an operating cycle primarily in order to shorten the refueling outage.

The NRC is only beginning to quantitatively study the significance to safety (risk) of the trend to perform more PM during power operation. Therefore, the NRC can not yet establish quantitative criteria by which the NRC or a licensee can determine the net effect on safety that on-line PM would have at a facility. Until studies concerning the risk of on-line PM are completed, this guidance establishes conservative principles for safely performing PM that involves entering into LCO action statements.

C. DISCUSSION

A licensee may take equipment out of service to perform PM during power operation of the facility (on-line PM) if it expects the reliability of the equipment to improve such that the overall risk to safe operation of the facility should decrease. Licensees' expectations should take into account that such practice may increase the unavailability of the equipment. When performing PM on equipment not in TS (i.e., equipment that has no TS AOT), licensees should be sensitive to the principles embodied by the TS definition of OPERABILITY and the effect upon the OPERABILITY of TS equipment.

If a licensee has a reasonable expectation that an on-line PM program will improve safety by making equipment more reliable, then the licensee can implement that program even though it may increase the unavailability of equipment. The licensee should be able to justify such an expectation of improved safety. Part of this justification should be based upon adherence to the following conservative safety principles:

1. Performance of a PM action on-line rather than during shutdown should improve safety (as described above) and be warranted by operational necessity, not just by the convenience of shortening a refueling outage.

2. The licensee should not abuse the allowance to perform a PM action on-line by repeatedly entering and exiting LCO action statements. The licensee should carefully plan the PM action to prevent such abuse.

3. While performing an on-line PM action, the licensee should avoid removing other equipment from service. Confidence in the OPERABILITY of the independent equipment that is redundant (or diverse) to the affected equipment should be high. If a piece of equipment is OPERABLE, but is degraded, or is trending towards a degraded condition, the licensee should not remove its redundant counterpart equipment from service for a routine PM action.

4. While performing an on-line PM action. the licensee should avoid performing other testing or maintenance that would increase the likelihood of a transient. The licensee should have reason to expect that the facility will continue to operate in a stable manner. (The basis of this expectation should include a consideration of degraded or out of service balance of plant equipment.)

END

Model Application for Adoption of TSTF-529

[DATE] 10 CFR 50.90

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: PLANT NAME
DOCKET NO. 50-[xxx]
APPLICATION TO REVISE TECHNICAL SPECIFICATIONS TO ADOPT TSTF-529, "CLARIFY USE AND APPLICATION RULES"

Dear Sir or Madam:

Pursuant to 10 CFR 50.90, [LICENSEE] is submitting a request for an amendment to the Technical Specifications (TS) for [PLANT NAME, UNIT NOS.].

The proposed amendment would modify TS requirements in Section 1.3 and Section 3.0 regarding LCO usage and the TS Bases for Section 3.0 regarding Limiting Condition for Operation (LCO) usage and Surveillance Requirement (SR) usage. These changes are consistent with NRC-approved Revision 0 to TSTF Standard Technical Specification (STS) Traveler TSTF-529, "Clarify Use and Application Rules." The availability of this TS improvement was announced in the Federal Register on [Date] ([ ] FR [ ]) as part of the consolidated line item improvement process (CLIIP).

Attachment 1 provides a description and assessment of the proposed changes.

Attachment 2 provides the existing TS pages marked up to show the proposed changes.

Attachment 3 provides revised (clean) TS pages.

Attachment 4 provides existing TS Bases pages marked to show the proposed changes.

Approval of the proposed amendment is requested by [date]. Once approved, the amendment shall be implemented within [ ] days.

In accordance with 10 CFR 50.91, a copy of this application, with attachments, is being provided to the designated [STATE] Official.

[In accordance with 10 CFR 50.30(b), a license amendment request must be executed in a signed original under oath or affirmation. This can be accomplished by attaching a notarized affidavit confirming the signature authority of the signatory, or by including the following statement in the cover letter: "I declare under penalty of perjury that the foregoing is true and correct. Executed on (date)." The alternative statement is pursuant to 28 USC 1746. It does not require notarization.]

If you should have any questions regarding this submittal, please contact [NAME, TELEPHONE NUMBER].

Sincerely,

[Name, Title]

Attachments:
1. Description and Assessment
2. Proposed Technical Specifications Changes (Mark-Up)
3. Revised Technical Specifications Pages
4. Proposed Technical Specifications Bases Changes (Mark-Up)

cc: NRC Project Manager
NRC Regional Office
NRC Resident Inspector
State Contact

ATTACHMENT 1 - DESCRIPTION AND ASSESSMENT

1.0 DESCRIPTION

The proposed change revises Section 1.3, "Completion Times," and Section 3.0, "LCO Applicability" of the Technical Specifications (TS) and the TS Bases for Section 3.0, "LCO Applicability" and "SR Applicability," to clarify the use and application of the TS usage rules.

- Section 1.3 and the Bases of LCO 3.0.2 are modified to clarify and to provide an example of "time of discovery."

  ---------- REVIEWER'S NOTE----------
  The following paragraph is only applicable to Westinghouse NSSS plants.

- [An addition is made to Section 1.3 to discuss instrumentation Notes that allow entering a Condition and not starting the Completion Time until expiration of the time allowance in the Notes.]

- LCO 3.0.4.a is modified to clarify that Required Actions must be followed after entry into the Modes and other specified conditions in the Applicability. An example is added to the Bases.

- An editorial change is made to LCO 3.0.4.b to clarify that LCO 3.0.4.a, LCO 3.0.4.b, and LCO 3.0.4.c are independent options. The LCO 3.0.4.a Bases are revised to support the clarification.

- LCO 3.0.5 is reworded to be consistent with the other LCO 3.0 specifications and to eliminate unnecessary restrictions.

In addition to TS Bases changes that reflect the proposed changes to the TS, the following TS Bases changes are proposed consistent with TSTF-529.

- The introductory paragraphs of the LCO 3.0 and SR 3.0 Bases, and the SR 3.0.2 Bases are modified to state that the usage rules are applicable to Chapter 3 of the TS and to clarify their use when invoked from Chapter 5.

- The Bases of LCO 3.0.2, LCO 3.03, SR 3.0.2, and SR 3.0.3 are revised to replace the term "Operational Convenience," with the intention from Generic Letter 87-09 of "voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant systems or components being inoperable."

- Changes are made to the Bases of LCO 3.0.3 and SR 3.0.3 to use consistent terminology.

- The LCO 3.0.3 Bases are corrected to state that a unit shutdown may be terminated and LCO 3.0.3 exited if the LCO is no longer applicable.

- The LCO 3.0.4.c Bases are modified to replace a misleading TS reference.

- The LCO 3.0.5 Bases are modified to clarify that LCO 3.0.5 should not be used if there are other alternatives to demonstrate Operability that maintain compliance with Actions. An inaccurate example in the LCO 3.0.5 Bases is replaced.

- The SR 3.0.3 Bases are modified to clarify when SR 3.0.3 may be applied and to state expectations for applying SR 3.0.3 to SRs that have not been performed for an extended period.

2.0 ASSESSMENT

2.1 Applicability of Published Safety Evaluation

[LICENSEE] has reviewed the model safety evaluation dated [DATE] as part of the Federal Register Notice of Availability. This review included a review of the NRC staff's evaluation, as well as the information provided in TSTF-529. [As described in the subsequent paragraphs,][LICENSEE] has concluded that the justifications presented in the TSTF-529 proposal and the model safety evaluation prepared by the NRC staff are applicable to [PLANT, UNIT NOS.] and justify this amendment for the incorporation of the changes to the [PLANT] TS.

2.2 Optional Changes and Variations

[LICENSEE is not proposing any variations or deviations from the TS changes described in the TSTF-529, Revision 0, or the applicable parts of the NRC staff's model safety evaluation dated [DATE].] [LICENSEE is proposing the following variations from the TS changes described in the TSTF-529, Revision 0, or the applicable parts of the NRC staff's model safety evaluation dated [DATE].]

---------- REVIEWER'S NOTE----------
Omission of one or more changes proposed in TSTF-529 is an acceptable variation from the Traveler.

[The [PLANT] TS utilize different [numbering][and][titles] than the Standard Technical Specifications on which TSTF-529 was based. Specifically, [describe differences between the plant-specific TS numbering and/or titles and the TSTF-529 numbering and titles.] These differences are administrative and do not affect the applicability of TSTF-529 to the [PLANT] TS.]

3.0 REGULATORY ANALYSIS

3.1 No Significant Hazards Consideration Determination

[LICENSEE] requests adoption of TSTF-529, Revision 0, "Clarify Use and Application Rules," which is an approved change to the standard technical specifications (STS), into the [PLANT NAME, UNIT NOS] technical specifications (TS).

[LICENSEE] has evaluated whether or not a significant hazards consideration is involved with the proposed amendment(s) by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   The proposed change revises Section 1.3, "Completion Times," and Section 3.0, "LCO Applicability" of the Technical Specifications (TS) and the TS Bases for Section 3.0, "LCO Applicability" and "SR Applicability," to clarify the use and application of the TS usage rules. Section 1.3 is modified to clarify the concept of "time of discovery" and to describe an existing allowance specific to NUREG-1431, "Standard Technical Specifications, Westinghouse Plants." LCO 3.0.4.a is modified to clarify that Required Actions must be followed after entry into the Modes and other specified conditions in the Applicability. An editorial change is made to LCO 3.0.4.b to clarify that LCO 3.0.4.a, LCO 3.0.4.b, and LCO 3.0.4.c are independent options. LCO 3.0.5 is reworded to be consistent with the other LCO 3.0 specifications. The proposed change to LCO 3.0.4.a and LCO 3.0.4.b are for clarification and will not affect the implementation of the Technical Specifications (TS). The proposed change to LCO 3.0.5 will allow LCO 3.0.5 to be applied in a small number of circumstances in which it cannot be applied today.

   The proposed change to Section 1.3, LCO 3.0.4, and LCO 3.0.5 has no effect on the requirement for systems to be Operable and will not have a significant effect on the application of TS actions. Since the proposed change does not significantly affect system Operability, the proposed change will have no significant effect on the initiating events for accidents previously evaluated and will have no significant effect on the ability of the systems to mitigate accidents previously evaluated.

   Therefore, it is concluded that this change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No.

   The proposed change to the TS usage rules does not affect the design or function of any plant systems. The proposed change does not change the Operability requirements for plant systems and facilitates restoring inoperable equipment to Operable status. The proposed change clarifies the current application of LCOs. The proposed change to LCO 3.0.4 will not affect plant operation when LCO 3.0.4 is applied. The proposed change to LCO 3.0.5 slightly expands the circumstances in which LCO 3.0.5 can be applied. Testing to confirm Operability allowed under the proposed change to LCO 3.0.5 will be performed under procedural control in accordance with the licensee's quality assurance process and will not introduce and new or different accident initiators.

   Therefore, it is concluded that this change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

   Response: No.

   The proposed change clarifies the application of Section 1.3 and LCO 3.0.4 and does not result in changes in plant operation. As a result, plant safety is either improved or unaffected. The proposed change to LCO 3.0.5 allows testing to establish Operability to be performed, which improves plant safety.

   Therefore, it is concluded that this change does not involve a significant reduction in a margin of safety.

Based on the above, [LICENSEE] concludes that the proposed change presents no significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

4.0 ENVIRONMENTAL EVALUATION

The proposed change would change a requirement with respect to installation or use of a facility component located within the restricted area, as defined in 10 CFR 20, or would change an inspection or surveillance requirement. However, the proposed change does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed change.

Improved Technical Specifications Mark-Up

1.0 USE AND APPLICATION

1.3 Completion Times

PURPOSE	The purpose of this section is to establish the Completion Time convention and to provide guidance for its use.
BACKGROUND	Limiting Conditions for Operation (LCOs) specify minimum requirements for ensuring safe operation of the unit. The ACTIONS associated with an LCO state Conditions that typically describe the ways in which the requirements of the LCO can fail to be met. Specified with each stated Condition are Required Action(s) and Completion Time(s).
DESCRIPTION	The Completion Time is the amount of time allowed for completing a Required Action. It is referenced to the time of discovery of a situation ~~(e.g., inoperable equipment or variable not within limits)~~ that requires entering an ACTIONS Condition unless otherwise specified, providing the unit is in a MODE or specified condition stated in the Applicability of the LCO. The time of discovery is when the LCO is declared not met. The time of discovery is subsequent to both the time of occurrence of a degraded or nonconforming condition and the time of identification and evaluation of the degraded or nonconforming condition. For example, it may be established that a component is inoperable following improper maintenance performed in the past. The time of discovery (when the LCO is declared not met) is subsequent to both the time of occurrence (the improper maintenance), the time when it is identified that the component is degraded or nonconforming, and the time required to determine that the degraded or nonconforming component is inoperable. Required Actions must be completed prior to the expiration of the specified Completion Time. An ACTIONS Condition remains in effect and the Required Actions apply until the Condition no longer exists or the unit is not within the LCO Applicability. If situations are discovered that require entry into more than one Condition at a time within a single LCO (multiple Conditions), the Required Actions for each Condition must be performed within the associated Completion Time. When in multiple Conditions, separate Completion Times are tracked for each Condition starting from the time of discovery of the situation that required entry into the Condition. Once a Condition has been entered, subsequent trains, 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, unless specifically stated. The Required Actions of the Condition continue to apply to each additional failure, with Completion Times based on initial entry into the Condition. However, when a subsequent train, subsystem, component, or variable, expressed in the Condition, is discovered to be inoperable or not within

3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

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, LCO 3.0.7, and LCO 3.0.8.
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.
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 3 within 7 hours, b. MODE 4 within 13 hours, and c. MODE 5 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, 3, and 4.
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 following entry into the MODE or other specified condition in the Applicability will 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

3.0 LCO Applicability

LCO 3.0.4 (continued)

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.

LCO 3.0.5

The Required Actions of Conditions~~Equipment removed from service or declared inoperable to comply with ACTIONS~~ are not required to be ~~may be~~ met~~returned to service~~ under administrative control solely to perform testing required to demonstrate the LCO is met or that other LCOs are met~~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~~the LCO is met or that other LCOs are met.

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 5.5.15, "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.

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.

LCO 3.0.7

Test Exception LCOs [3.1.9, 3.1.10, 3.1.11, and 3.4.19] allow specified Technical Specification (TS) requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TS requirements remain unchanged. Compliance with Test Exception LCOs is optional. When a Test Exception LCO is desired to be met but is not met, the ACTIONS of the Test Exception LCO shall be met. When a Test Exception LCO is not desired to be met, entry into a MODE or other specified condition in the Applicability shall be made in accordance with the other applicable Specifications.

3.0 LCO Applicability

LCO 3.0.8

When one or more required snubbers are unable to perform their associated support function(s), any affected supported LCO(s) are not required to be declared not met solely for this reason if risk is assessed and managed, and:

a. the snubbers not able to perform their associated support function(s) are associated with only one train or subsystem of a multiple train or subsystem supported system or are associated with a single train or subsystem supported system and are able to perform their associated support function within 72 hours; or

b. the snubbers not able to perform their associated support function(s) are associated with more than one train or subsystem of a multiple train or subsystem supported system and are able to perform their associated support function within 12 hours.

At the end of the specified period the required snubbers must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met.

B 3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

BASES

LCOs	LCO 3.0.1 through LCO 3.0.8 establish the general requirements applicable to all Specifications in Section 3.1 through 3.9 and apply at all times, unless otherwise stated.
LCO 3.0.1	LCO 3.0.1 establishes the Applicability statement within each individual Specification as the requirement for when the LCO is required to be met (i.e., when the unit is in the MODES or other specified conditions of the Applicability statement of each Specification).
LCO 3.0.2	LCO 3.0.2 establishes that upon discovery of a failure to meet an LCO, the associated ACTIONS shall be met. The time of discovery is when the LCO is declared not met. The time of discovery is subsequent to both the time of occurrence of a degraded or nonconforming condition and the time of identification and evaluation of the degraded or nonconforming condition. The Completion Time of each Required Action for an ACTIONS Condition is applicable from the point in time that an ACTIONS Condition is entered unless otherwise specified. The Required Actions establish those remedial measures that must be taken within specified Completion Times when the requirements of an LCO are not met. This Specification establishes that: a. Completion of the Required Actions within the specified Completion Times constitutes compliance with a Specification and b. Completion of the Required Actions is not required when an LCO is met within the specified Completion Time, unless otherwise specified. There are two basic types of Required Actions. The first type of Required Action specifies a time limit in which the LCO must be met. This time limit is the Completion Time to restore an inoperable system or component to OPERABLE status or to restore variables to within specified limits. If this type of Required Action is not completed within the specified Completion Time, a shutdown may be required to place the unit in a MODE or condition in which the Specification is not applicable. (Whether stated as a Required Action or not, correction of the entered Condition is an action that may always be considered upon entering ACTIONS.) The second type of Required Action specifies the remedial measures that permit continued operation of the unit that is not further restricted by the Completion Time. In this case, compliance with the Required Actions provides an acceptable level of safety for continued operation. Completing the Required Actions is not required when an LCO is met or is no longer applicable, unless otherwise stated in the individual Specifications.

BASES

LCO 3.0.2 (continued)

The nature of some Required Actions of some Conditions necessitates that, once the Condition is entered, the Required Actions must be completed even though the associated Conditions no longer exist. The individual LCO's ACTIONS specify the Required Actions where this is the case. An example of this is in LCO 3.4.3, "RCS Pressure and Temperature (P/T) Limits."

The Completion Times of the Required Actions are also applicable when a system or component is removed from service intentionally. Reasons for intentionally relying on the ACTIONS include, but are not limited to, performance of Surveillances, preventive maintenance, corrective maintenance, or investigation of operational problems. Entering ACTIONS for these reasons must be done in a manner that does not compromise safety. Intentional entry into ACTIONS should be done in a manner that examines and balances the net effect on safety. Intentional entry into ACTIONS should not be used for voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant systems or components being inoperable. ~~made for operational convenience. Additionally, if intentional entry into ACTIONS would result in redundant equipment being inoperable, alternatives should be used instead.~~ Doing so limits the time both subsystems/trains of a safety function are inoperable and limits the time conditions exist which may result in LCO 3.0.3 being entered. Individual Specifications may specify a time limit for performing an SR when equipment is removed from service or bypassed for testing. In this case, the Completion Times of the Required Actions are applicable when this time limit expires, if the equipment remains removed from service or bypassed.

When a change in MODE or other specified condition is required to comply with Required Actions, the unit may enter a MODE or other specified condition in which another Specification becomes applicable. In this case, the Completion Times of the associated Required Actions would apply from the point in time that the new Specification becomes applicable and the ACTIONS Condition(s) are entered.

LCO 3.0.3

LCO 3.0.3 establishes the actions that must be implemented when an LCO is not met and either:

a. An associated Required Action and Completion Time is not met and no other Condition applies or

BASES

LCO 3.0.3 (continued)

b. The condition of the unit is not specifically addressed by the associated ACTIONS. This means that no combination of Conditions stated in the ACTIONS can be made that exactly corresponds to the actual condition of the unit. Sometimes, possible combinations of Conditions are such that entering LCO 3.0.3 is warranted; in such cases, the ACTIONS specifically state a Condition corresponding to such combinations and also that LCO 3.0.3 be entered immediately.

This Specification delineates the time limits for placing the unit in a safe MODE or other specified condition when operation cannot be maintained within the limits for safe operation as defined by the LCO and its ACTIONS. It is not intended to be used ~~as an operational convenience that permits~~ to permit routine voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant systems or components being inoperable.

Upon entering LCO 3.0.3, 1 hour is allowed to prepare for an orderly shutdown before initiating a change in unit operation. This includes time to permit the operator to coordinate the reduction in electrical generation with the load dispatcher to ensure the stability and availability of the electrical grid. The time limits specified to ~~reach~~ enter lower MODES of operation permit the shutdown to proceed in a controlled and orderly manner that is well within the specified maximum cooldown rate and within the capabilities of the unit, assuming that only the minimum required equipment is OPERABLE. This reduces thermal stresses on components of the Reactor Coolant System and the potential for a plant upset that could challenge safety systems under conditions to which this Specification applies. The use and interpretation of specified times to complete the actions of LCO 3.0.3 are consistent with the discussion of Section 1.3, Completion Times.

A unit shutdown required in accordance with LCO 3.0.3 may be terminated and LCO 3.0.3 exited if any of the following occurs:

a. The LCO is now met,

b. The LCO is no longer applicable,

c~~b~~. A Condition exists for which the Required Actions have now been performed, or

d~~c~~. ACTIONS exist that do not have expired Completion Times. These Completion Times are applicable from the point in time that the Condition is initially entered and not from the time LCO 3.0.3 is exited.

BASES

LCO 3.0.3 (continued)

The time limits of LCO 3.0.3 allow 37 hours for the unit to be in MODE 5 when a shutdown is required during MODE 1 operation. If the unit is in a lower MODE of operation when a shutdown is required, the time limit for entering ~~reaching~~ the next lower MODE applies. If a lower MODE is ~~reached~~ entered in less time than allowed, however, the total allowable time to ~~reach~~ enter MODE 5, or other applicable MODE, is not reduced. For example, if MODE 3 is ~~reached~~ entered in 2 hours, then the time allowed for ~~reaching~~ entering MODE 4 is the next 11 hours, because the total time for ~~reaching~~ entering MODE 4 is not reduced from the allowable limit of 13 hours. Therefore, if remedial measures are completed that would permit a return to MODE 1, a penalty is not incurred by having to ~~reach~~ enter a lower MODE of operation in less than the total time allowed.

In MODES 1, 2, 3, and 4, LCO 3.0.3 provides actions for Conditions not covered in other Specifications. The requirements of LCO 3.0.3 do not apply in MODES 5 and 6 because the unit is already in the most restrictive Condition required by LCO 3.0.3. The requirements of LCO 3.0.3 do not apply in other specified conditions of the Applicability (unless in MODE 1, 2, 3, or 4) because the ACTIONS of individual Specifications sufficiently define the remedial measures to be taken.

Exceptions to LCO 3.0.3 are provided in instances where requiring a unit shutdown, in accordance with LCO 3.0.3, would not provide appropriate remedial measures for the associated condition of the unit. An example of this is in LCO 3.7.14, "Fuel Storage Pool Water Level." LCO 3.7.14 has an Applicability of "During movement of irradiated fuel assemblies in fuel storage pool." Therefore, this LCO can be applicable in any or all MODES. If the LCO and the Required Actions of LCO 3.7.14 are not met while in MODE 1, 2, 3, or 4, there is no safety benefit to be gained by placing the unit in a shutdown condition. The Required Action of LCO 3.7.14 of "Suspend movement of irradiated fuel assemblies in 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

LCO 3.0.4 establishes limitations on changes in MODES or other specified conditions in the Applicability when an LCO is not met. It allows placing the unit in a MODE or other specified condition stated in that Applicability (e.g., the Applicability desired to be entered) when unit conditions are such that the requirements of the LCO would not be met, in accordance with either LCO 3.0.4.a, LCO 3.0.4.b, or LCO 3.0.4.c.

BASES

LCO 3.0.4 (continued)

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~~following entry into in the MODE or other specified condition in the Applicability will permit continued operation within the MODE or other specified condition for an unlimited period of time. Compliance with ACTIONS ~~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.

For example, LCO 3.0.4.a may be used when the Required Action states that an inoperable train be restored to OPERABLE status within the Completion Time, and the subsequent default ACTION ("Required Action and associated Completion Time not met") allows the OPERABLE train to be placed in operation. Use of LCO 3.0.4.a is acceptable because the associated ACTIONS to be entered following entry into the MODE include ACTIONS (place the OPERABLE train in operation) that permit plant operation for an unlimited period of time in the MODE or other specified condition to be entered.

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 to 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.

BASES

LCO 3.0.4 (continued)

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 systems 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~~[Containment Air Temperature, Containment Pressure, MCPR, Moderator Temperature Coefficient]~~), 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.

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. 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, MODE 3 to MODE 4, and MODE 4 to MODE 5.

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.

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~~ provides an exception to LCO 3.0.2 (e.g., to not comply with the applicable Required Action(s)) under administrative controls for the sole purpose of allowing ~~to allow~~ the performance of required testing to demonstrate either:

a. The LCO is met, ~~The OPERABILITY of the equipment being returned to service~~ or

b. Other LCOs are met~~The OPERABILITY of other equipment~~.

LCO 3.0.5 allows Required Actions to not be followed temporarily in order to demonstrate an LCO is met without exiting the Applicability of the Specification.

The administrative controls ensure the time the Required Actions are not met ~~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 the LCO is met~~OPERABILITY~~. This Specification does not provide time to perform any other preventive or corrective maintenance. LCO 3.0.5 should not be used in lieu of other

practicable alternatives that comply with ACTIONS and that do not require changing MODE and other specified conditions in the Applicability, in order to demonstrate the LCO is met or that other LCOs are met. LCO 3.0.5 is not intended to be used repeatedly.

An example of demonstrating the LCO is met with the Required Actions not met is opening a manual valve that was closed to comply with Required Actions to isolate a flowpath with excessive Reactor Coolant System (RCS) Pressure Isolation Valve (PIV) leakage in order to perform testing to demonstrate that RCS PIV leakage is now within limit.

BASES

LCO 3.0.5 (continued)

Another example of demonstrating the LCO is met ~~OPERABILITY of other equipment~~ is taking an inoperable channel or trip system out of the tripped condition to prevent the trip function from occurring during the performance of required testing on another channel in the other trip system. ~~A similar example of demonstrating the OPERABILITY of other equipment is taking an inoperable channel or trip system out of the tripped condition to permit the logic to function and indicate the appropriate response during the performance of required testing on another channel in the same trip system.~~

LCO 3.0.6

LCO 3.0.6 establishes an exception to LCO 3.0.2 for supported systems that have a support system LCO specified in the Technical Specifications (TS). This exception is provided because LCO 3.0.2 would require that the Conditions and Required Actions of the associated inoperable supported system LCO be entered solely due to the inoperability of the support system. This exception is justified because the actions that are required to ensure the unit is maintained in a safe condition are specified in the support system LCO's Required Actions. These Required Actions may include entering the supported system's Conditions and Required Actions or may specify other Required Actions.

When a support system is inoperable and there is an LCO specified for it in the TS, the supported system(s) are required to be declared inoperable if determined to be inoperable as a result of the support system inoperability. However, it is not necessary to enter into the supported systems' Conditions and Required Actions unless directed to do so by the support system's Required Actions. The potential confusion and inconsistency of requirements related to the entry into multiple support and supported systems' LCOs' Conditions and Required Actions are eliminated by providing all the actions that are necessary to ensure the unit is maintained in a safe condition in the support system's Required Actions.

However, there are instances where a support system's Required Action may either direct a supported system to be declared inoperable or direct entry into Conditions and Required Actions for the supported system. This may occur immediately or after some specified delay to perform some other Required Action. Regardless of whether it is immediate or after some delay, 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.

BASES

LCO 3.0.6 (continued)

Specification 5.5.15, "Safety Function Determination Program (SFDP)," ensures loss of safety function is detected and appropriate actions are taken. Upon entry into LCO 3.0.6, an evaluation shall be made to determine if loss of safety function exists. Additionally, other limitations, remedial actions, or compensatory actions may be identified as a result of the support system inoperability and corresponding exception to entering supported system Conditions and Required Actions. The SFDP implements the requirements of LCO 3.0.6.

Cross train checks to identify a loss of safety function for those support systems that support multiple and redundant safety systems are required. The cross train check verifies that the supported systems of the remaining OPERABLE support systems are OPERABLE, thereby ensuring safety function is retained. [A loss of safety function may exist when a support system is inoperable, and:

a. A required system redundant to system(s) supported by the inoperable support system is also inoperable (EXAMPLE B 3.0.6-1),

b. A required system redundant to system(s) in turn supported by the inoperable supported system is also inoperable (EXAMPLE B 3.0.6-2), or

c. A required system redundant to support system(s) for the supported systems (a) and (b) above is also inoperable (EXAMPLE B 3.0.6-3).

<u>EXAMPLE B 3.0.6-1</u>

If System 2 of Train A is inoperable and System 5 of Train B is inoperable, a loss of safety function exists in supported System 5.

<u>EXAMPLE B 3.0.6-2</u>

If System 2 of Train A is inoperable, and System 11 of Train B is inoperable, a loss of safety function exists in System 11 which is in turn supported by System 5.

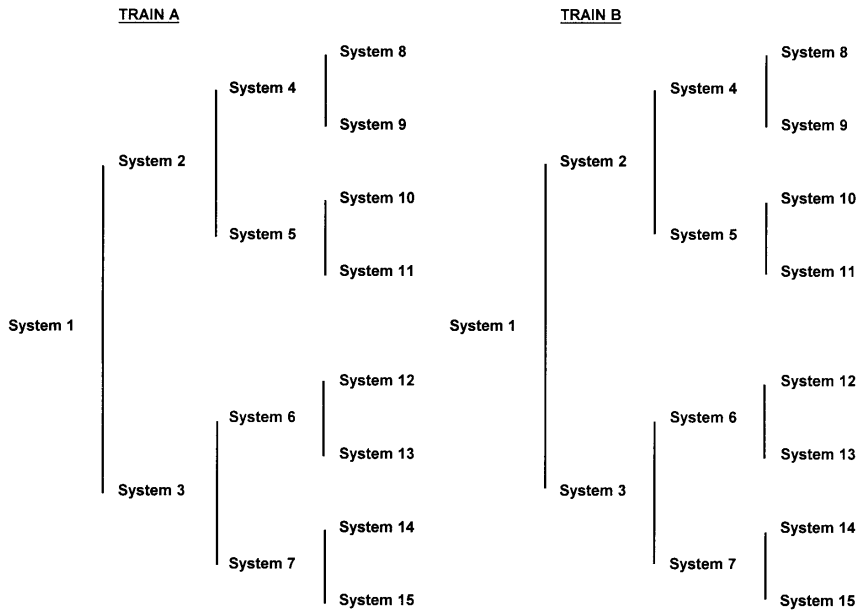
<u>EXAMPLE B 3.0.6-3</u>

If System 2 of Train A is inoperable, and System 1 of Train B is inoperable, a loss of safety function exists in Systems 2, 4, 5, 8, 9, 10 and 11.]

If this evaluation determines that a loss of safety function exists, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.

BASES

LCO 3.0.6 (continued)



[Figure B 3.0-1
Configuration of Trains and Systems]

This loss of safety function does not require the assumption of additional single failures or loss of offsite power. Since operations are being restricted in accordance with the ACTIONS of the support system, any resulting temporary loss of redundancy or single failure protection is taken into account. Similarly, the ACTIONS for inoperable offsite circuit(s) and inoperable diesel generator(s) provide the necessary restriction for cross train inoperabilities. This explicit cross train verification for inoperable AC electrical power sources also acknowledges that supported system(s) are not declared inoperable solely as a result of inoperability of a normal or emergency electrical power source (refer to the definition of OPERABILITY).

BASES

LCO 3.0.6 (continued)

When loss of safety function is determined to exist, and the SFDP requires entry into the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists, consideration must be given to the specific type of function affected. Where a loss of function is solely due to a single Technical Specification support system (e.g., loss of automatic start due to inoperable instrumentation, or loss of pump suction source due to low tank level) the appropriate LCO is the LCO for the support system. The ACTIONS for a support system LCO adequately address the inoperabilities of that system without reliance on entering its supported system LCO. When the loss of function is the result of multiple support systems, the appropriate LCO is the LCO for the supported system.

LCO 3.0.7

There are certain special tests and operations required to be performed at various times over the life of the unit. These special tests and operations are necessary to demonstrate select unit performance characteristics, to perform special maintenance activities, and to perform special evolutions. Test Exception LCOs [3.1.8, 3.1.9, and 3.4.19] allow specified Technical Specification (TS) requirements to be changed to permit performances of these special tests and operations, which otherwise could not be performed if required to comply with the requirements of these TS. Unless otherwise specified, all the other TS requirements remain unchanged. This will ensure all appropriate requirements of the MODE or other specified condition not directly associated with or required to be changed to perform the special test or operation will remain in effect.

The Applicability of a Test Exception LCO represents a condition not necessarily in compliance with the normal requirements of the TS. Compliance with Test Exception LCOs is optional. A special operation may be performed either under the provisions of the appropriate Test Exception LCO or under the other applicable TS requirements. If it is desired to perform the special operation under the provisions of the Test Exception LCO, the requirements of the Test Exception LCO shall be followed.

LCO 3.0.8

LCO 3.0.8 establishes conditions under which systems are considered to remain capable of performing their intended safety function when associated snubbers are not capable of providing their associated support function(s). This LCO states that the supported system is not considered to be inoperable solely due to one or more snubbers not capable of performing their associated support function(s). This is appropriate because a limited length of time is allowed for maintenance, testing, or repair of one or more snubbers not capable of performing their associated

BASES

LCO 3.0.8 (continued)

support function(s) and appropriate compensatory measures are specified in the snubber requirements, which are located outside of the Technical Specifications (TS) under licensee control. The snubber requirements do not meet the criteria in 10 CFR 50.36(c)(2)(ii), and, as such, are appropriate for control by the licensee.

If the allowed time expires and the snubber(s) are unable to perform their associated support function(s), the affected supported system's LCO(s) must be declared not met and the Conditions and Required Actions entered in accordance with LCO 3.0.2.

LCO 3.0.8.a applies when one or more snubbers are not capable of providing their associated support function(s) to a single train or subsystem of a multiple train or subsystem supported system or to a single train or subsystem supported system. LCO 3.0.8.a allows 72 hours to restore the snubber(s) before declaring the supported system inoperable. The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system occurring while the snubber(s) are not capable of performing their associated support function and due to the availability of the redundant train of the supported system.

LCO 3.0.8.b applies when one or more snubbers are not capable of providing their associated support function(s) to more than one train or subsystem of a multiple train or subsystem supported system. LCO 3.0.8.b allows 12 hours to restore the snubber(s) before declaring the supported system inoperable. The 12 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system occurring while the snubber(s) are not capable of performing their associated support function.

LCO 3.0.8 requires that risk be assessed and managed. Industry and NRC guidance on the implementation of 10 CFR 50.65(a)(4) (the Maintenance Rule) does not address seismic risk. However, use of LCO 3.0.8 should be considered with respect to other plant maintenance activities, and integrated into the existing Maintenance Rule process to the extent possible so that maintenance on any unaffected train or subsystem is properly controlled, and emergent issues are properly addressed. The risk assessment need not be quantified, but may be a qualitative awareness of the vulnerability of systems and components when one or more snubbers are not able to perform their associated support function.

B 3.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

BASES

SRs	SR 3.0.1 through SR 3.0.4 establish the general requirements applicable to all Specifications in Section 3.1 through 3.9 and apply at all times, unless otherwise stated. SR 3.0.1 through SR 3.0.4 apply in Chapter 5 only when invoked by a Chapter 5 Specification.
SR 3.0.1	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. Surveillances may be performed by means of any series of sequential, overlapping, or total steps provided the entire Surveillance is performed within the specified Frequency. Additionally, the definitions related to instrument testing (e.g., CHANNEL CALIBRATION) specify that these tests are performed by means of any series of sequential, overlapping, or total steps. 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 Test Exception (STE) LCO are only applicable when the STE LCO is used as an allowable exception to the requirements of a Specification. Unplanned events may satisfy the requirements (including applicable acceptance criteria) for a given SR. In this case, the unplanned event may be credited as fulfilling the performance of the SR. This allowance includes those SRs whose performance is normally precluded in a given MODE or other specified condition.

BASES

SR 3.0.1 (continued)

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.

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. Emergency feedwater (EFW) pump turbine maintenance during refueling that requires testing at steam pressures > 800 psi. However, if other appropriate testing is satisfactorily completed, the EFW System can be considered OPERABLE. This allows startup and other necessary testing to proceed until the plant reaches the steam pressure required to perform the EFW pump testing.

b. High pressure injection (HPI) maintenance during shutdown that requires system functional tests at a specified pressure. Provided other appropriate testing is satisfactorily completed, startup can proceed with HPI 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).

BASES

SR 3.0.2 (continued)

The 25% extension does not significantly degrade the reliability that results from performing the Surveillance at its specified Frequency. This is based on the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the SRs. There are exceptions to SR 3.0.2 for certain ~~are those~~ Surveillances to ~~for~~ which the 25% extension of the interval specified in the Frequency may not be applied~~does not apply~~. These exceptions are stated in the individual Specifications. ~~The requirements of regulations take precedence over the TS.~~ For those Surveillances in Chapter 3 whose Frequency refers to a Program in Section 5.5, the referenced Program specification must be examined to determine if SR 3.0.2 applies. For example, the Diesel Fuel Oil Testing Program is referenced in Specification 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," and the program invokes SR 3.0.2. An example of where SR 3.0.2 does not apply is in the Containment Leakage Rate Testing Program which does not reference SR 3.0.2. SR 3.0.2 is not applicable because the Program establishes Frequencies to meet the requirements of regulations.~~An example of where SR 3.0.2 does not apply is in the Containment Leakage Rate Testing Program. This program establishes testing requirements and Frequencies in accordance with the requirements of regulations.~~ The TS cannot in and of themselves extend a test interval specified in the regulations.

As stated in SR 3.0.2, the 25% extension also does not apply to the initial portion of a periodic Completion Time that requires performance on a "once per ..." basis. The 25% extension applies to each performance after the initial performance. The initial performance of the Required Action, whether it is a particular Surveillance or some other remedial action, is considered a single action with a single Completion Time. One reason for not allowing the 25% extension to this Completion Time is that such an action usually verifies that no loss of function has occurred by checking the status of redundant or diverse components or accomplishes the function of the inoperable equipment in an alternative manner.

The provisions of SR 3.0.2 are not intended to be used repeatedly ~~merely as an operational convenience~~ to extend Surveillance intervals (other than those consistent with refueling intervals) or periodic Completion Time intervals beyond those specified.

SR 3.0.3

SR 3.0.3 establishes the flexibility to defer declaring affected equipment inoperable or an affected variable outside the specified limits when a Surveillance has not been ~~completed~~ performed within the specified Frequency. A delay period of up to 24 hours or up to the limit of the specified Frequency, whichever is greater, applies from the point in time that it is discovered that the Surveillance has not been performed in

accordance with SR 3.0.2, and not at the time that the specified Frequency was not met.

BASES

SR 3.0.3 (continued)

This delay period provides an adequate time to ~~complete~~ perform Surveillances that have been missed. This delay period permits the completion of a Surveillance before complying with Required Actions or other remedial measures that might preclude ~~completion~~ performance of the Surveillance.

The basis for this delay period includes consideration of unit conditions, adequate planning, availability of personnel, the time required to perform the Surveillance, the safety significance of the delay in completing the required Surveillance, and the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the requirements.

When a Surveillance with a Frequency based not on time intervals, but upon specified unit conditions, operating situations, or requirements of regulations (e.g., prior to entering MODE 1 after each fuel loading, or in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions, etc.) is discovered to not have been performed when specified, SR 3.0.3 allows for the full delay period of up to the specified Frequency to perform the Surveillance. However, since there is not a time interval specified, the missed Surveillance should be performed at the first reasonable opportunity.

SR 3.0.3 provides a time limit for, and allowances for the performance of, Surveillances that become applicable as a consequence of MODE changes imposed by Required Actions.

SR 3.0.3 is only applicable if there is a reasonable expectation the associated equipment is Operable or that variables are within limits, and it is expected that the Surveillance will be met when performed. Many factors should be considered, such as the period of time since the Surveillance was last performed, or whether the Surveillance, or a portion thereof, has ever been performed, and any other indications, tests, or activities that might support the expectation that the Surveillance will be met when performed. An example would be a relay contact that has never been tested in accordance with a particular SR, but the adjacent, physically connected relay contacts have been tested, the relay contacts have been tested by another SR, or historical operation of the actuated equipment has been successful. The rigor of determining whether there is a reasonable expectation a Surveillance will be met when performed should increase based on the length of time since the last performance of the Surveillance. A review of the Surveillance history may be sufficient to provide a reasonable expectation that the Surveillance will be met when performed. For Surveillances that have never been performed, a more rigorous evaluation, documented in sufficient detail to explain the basis

for the determination, should be completed to compensate for the lack of performance history.

Failure to comply with specified Frequencies for SRs is expected to be an infrequent occurrence. Use of the delay period established by SR 3.0.3 is a flexibility which is not intended to be used ~~as an operational convenience~~ to extend Surveillance intervals. While up to 24 hours or the limit of the specified Frequency is provided to perform the missed Surveillance, it is expected that the missed Surveillance will be performed at the first reasonable opportunity. The determination of the first reasonable opportunity should include consideration of the impact on plant risk (from delaying the Surveillance as well as any plant configuration changes required or shutting the plant down to perform the Surveillance) and impact on any analysis assumptions, in addition to unit conditions, planning, availability of personnel, and the time required to perform the Surveillance. This 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.” This Regulatory Guide addresses consideration of temporary and

BASES

SR 3.0.3 (continued)

aggregate risk impacts, determination of risk management action thresholds, and risk management action up to and including plant shutdown. The missed Surveillance should be treated as an emergent condition as discussed in the Regulatory Guide. The risk evaluation may use quantitative, qualitative, or blended methods. The degree of depth and rigor of the evaluation should be commensurate with the importance of the component. Missed Surveillances for important components should be analyzed quantitatively. If the results of the risk evaluation determine the risk increase is significant, this evaluation should be used to determine the safest course of action. All missed Surveillances will be placed in the licensee's Corrective Action Program.

If a Surveillance is not completed within the allowed delay period, then the equipment is considered inoperable or the variable is considered outside the specified limits and the Completion Times of the Required Actions for the applicable LCO Conditions begin immediately upon expiration of the delay period. If a Surveillance is failed within the delay period, then the equipment is inoperable, or the variable is outside the specified limits and the Completion Times of the Required Actions for the applicable LCO Conditions begin immediately upon the failure of the Surveillance.

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. 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 a Surveillance not being met in accordance with LCO 3.0.4.

BASES

SR 3.0.4 (continued)

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, MODE 3 to MODE 4, and MODE 4 to MODE 5.

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.

1.0 USE AND APPLICATION

1.3 Completion Times

PURPOSE	The purpose of this section is to establish the Completion Time convention and to provide guidance for its use.
BACKGROUND	Limiting Conditions for Operation (LCOs) specify minimum requirements for ensuring safe operation of the unit. The ACTIONS associated with an LCO state Conditions that typically describe the ways in which the requirements of the LCO can fail to be met. Specified with each stated Condition are Required Action(s) and Completion Time(s).
DESCRIPTION	The Completion Time is the amount of time allowed for completing a Required Action. It is referenced to the time of discovery of a situation ~~(e.g., inoperable equipment or variable not within limits)~~ that requires entering an ACTIONS Condition unless otherwise specified, providing the unit is in a MODE or specified condition stated in the Applicability of the LCO. The time of discovery is when the LCO is declared not met. The time of discovery is subsequent to both the time of occurrence of a degraded or nonconforming condition and the time of identification and evaluation of the degraded or nonconforming condition. For example, it may be established that a component is inoperable following improper maintenance performed in the past. The time of discovery (when the LCO is declared not met) is subsequent to both the time of occurrence (the improper maintenance), the time when it is identified that the component is degraded or nonconforming, and the time required to determine that the degraded or nonconforming component is inoperable. Required Actions must be completed prior to the expiration of the specified Completion Time. An ACTIONS Condition remains in effect and the Required Actions apply until the Condition no longer exists or the unit is not within the LCO Applicability. If situations are discovered that require entry into more than one Condition at a time within a single LCO (multiple Conditions), the Required Actions for each Condition must be performed within the associated Completion Time. When in multiple Conditions, separate Completion Times are tracked for each Condition starting from the time of discovery of the situation that required entry into the Condition. Once a Condition has been entered, subsequent trains, 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, unless specifically stated. The Required Actions of the Condition continue to apply to each additional failure, with Completion Times based on initial entry into the Condition. However, when a subsequent train, subsystem, component, or variable expressed in the Condition is discovered to be inoperable or not within

limits, the Completion Time(s) may be extended. To apply this Completion Time extension, two criteria must first be met. The subsequent inoperability:

a. Must exist concurrent with the first inoperability and

1.3 Completion Times

DESCRIPTION (continued)

b. Must remain inoperable or not within limits after the first inoperability is resolved.

The total Completion Time allowed for completing a Required Action to address the subsequent inoperability shall be limited to the more restrictive of either:

a. The stated Completion Time, as measured from the initial entry into the Condition, plus an additional 24 hours or

b. The stated Completion Time as measured from discovery of the subsequent inoperability.

The above Completion Time extensions do not apply to those Specifications that have exceptions that allow completely separate re-entry into the Condition (for each train, subsystem, component, or variable expressed in the Condition) and separate tracking of Completion Times based on this re-entry. These exceptions are stated in individual Specifications.

The above Completion Time extension does not apply to a Completion Time with a modified "time zero." This modified "time zero" may be expressed as a repetitive time (i.e., "once per 8 hours," where the Completion Time is referenced from a previous completion of the Required Action versus the time of Condition entry) or as a time modified by the phrase "from discovery . . ."

The Completion Time is referenced to the time of entering an ACTIONS Condition unless otherwise specified. One of the "otherwise specified" cases is a Required Action modified by a Note which provides an alternative time to perform specific tasks (i.e., "One channel may be bypassed for up to 12 hours for surveillance testing and setpoint adjustment.") Starting the Completion Time is deferred in accordance with the Note. While utilizing the Note, should the Condition be applicable for any reason not addressed by the Note, the Completion Time begins. Should the time allowance in the Note expire, the Completion Time begins.

EXAMPLES

The following examples illustrate the use of Completion Times with different types of Conditions and changing Conditions.

EXAMPLE 1.3-1

ACTIONS

3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

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, LCO 3.0.7, and LCO 3.0.8.
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.
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 3 within 7 hours, b. MODE 4 within 13 hours, and c. MODE 5 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, 3, and 4.
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 following entry into the MODE or other specified condition in the Applicability will 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

3.0 LCO Applicability

LCO 3.0.4 (continued)

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.

LCO 3.0.5

The Required Actions of Conditions ~~Equipment removed from service or declared inoperable to comply with ACTIONS may be~~ are not required to be met~~returned to service~~ under administrative control solely to perform testing required to demonstrate ~~its~~ the LCO is met or that other LCOs are met~~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 the LCO is met or that other LCOs are met ~~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 5.5.15, "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.

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.

LCO 3.0.7

Test Exception LCOs [3.1.8 and 3.4.19] allow specified Technical Specification (TS) requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TS requirements remain unchanged. Compliance with Test Exception LCOs is optional. When a Test Exception LCO is desired to be met but is not met, the ACTIONS of the Test Exception LCO shall be met. When a Test Exception LCO is not desired to be met, entry into a MODE or other specified condition in the Applicability shall be made in accordance with the other applicable Specifications.

3.0 LCO Applicability

LCO 3.0.8 When one or more required snubbers are unable to perform their associated support function(s), any affected supported LCO(s) are not required to be declared not met solely for this reason if risk is assessed and managed, and:

a. the snubbers not able to perform their associated support function(s) are associated with only one train or subsystem of a multiple train or subsystem supported system or are associated with a single train or subsystem supported system and are able to perform their associated support function within 72 hours; or

b. the snubbers not able to perform their associated support function(s) are associated with more than one train or subsystem of a multiple train or subsystem supported system and are able to perform their associated support function within 12 hours.

At the end of the specified period the required snubbers must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met.

B 3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

BASES

LCOs	LCO 3.0.1 through LCO 3.0.8 establish the general requirements applicable to all Specifications in Section 3.1 through 3.9 and apply at all times, unless otherwise stated.
LCO 3.0.1	LCO 3.0.1 establishes the Applicability statement within each individual Specification as the requirement for when the LCO is required to be met (i.e., when the unit is in the MODES or other specified conditions of the Applicability statement of each Specification).
LCO 3.0.2	LCO 3.0.2 establishes that upon discovery of a failure to meet an LCO, the associated ACTIONS shall be met. The time of discovery is when the LCO is declared not met. The time of discovery is subsequent to both the time of occurrence of a degraded or nonconforming condition and the time of identification and evaluation of the degraded or nonconforming condition. The Completion Time of each Required Action for an ACTIONS Condition is applicable from the point in time that an ACTIONS Condition is entered unless otherwise specified. The Required Actions establish those remedial measures that must be taken within specified Completion Times when the requirements of an LCO are not met. This Specification establishes that: a. Completion of the Required Actions within the specified Completion Times constitutes compliance with a Specification and b. Completion of the Required Actions is not required when an LCO is met within the specified Completion Time, unless otherwise specified. There are two basic types of Required Actions. The first type of Required Action specifies a time limit in which the LCO must be met. This time limit is the Completion Time to restore an inoperable system or component to OPERABLE status or to restore variables to within specified limits. If this type of Required Action is not completed within the specified Completion Time, a shutdown may be required to place the unit in a MODE or condition in which the Specification is not applicable. (Whether stated as a Required Action or not, correction of the entered Condition is an action that may always be considered upon entering ACTIONS.) The second type of Required Action specifies the remedial measures that permit continued operation of the unit that is not further restricted by the Completion Time. In this case, compliance with the Required Actions provides an acceptable level of safety for continued operation. Completing the Required Actions is not required when an LCO is met or is no longer applicable, unless otherwise stated in the individual Specifications.

BASES

LCO 3.0.2 (continued)

The nature of some Required Actions of some Conditions necessitates that, once the Condition is entered, the Required Actions must be completed even though the associated Conditions no longer exist. The individual LCO's ACTIONS specify the Required Actions where this is the case. An example of this is in LCO 3.4.3, "RCS Pressure and Temperature (P/T) Limits."

The Completion Times of the Required Actions are also applicable when a system or component is removed from service intentionally. The reasons for intentionally relying on the ACTIONS include, but are not limited to, performance of Surveillances, preventive maintenance, corrective maintenance, or investigation of operational problems. Entering ACTIONS for these reasons must be done in a manner that does not compromise safety. Intentional entry into ACTIONS should be done in a manner that examines and balances the net effect on safety. Intentional entry into ACTIONS should not be ~~made~~ used for voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant systems or components being inoperable. ~~operational convenience. Additionally, if intentional entry into ACTIONS would result in redundant equipment being inoperable, alternatives should be used instead.~~ Doing so limits the time both subsystems/trains of a safety function are inoperable and limits the time conditions exist which may result in LCO 3.0.3 being entered. Individual Specifications may specify a time limit for performing an SR when equipment is removed from service or bypassed for testing. In this case, the Completion Times of the Required Actions are applicable when this time limit expires, if the equipment remains removed from service or bypassed.

When a change in MODE or other specified condition is required to comply with Required Actions, the unit may enter a MODE or other specified condition in which another Specification becomes applicable. In this case, the Completion Times of the associated Required Actions would apply from the point in time that the new Specification becomes applicable, and the ACTIONS Condition(s) are entered.

LCO 3.0.3

LCO 3.0.3 establishes the actions that must be implemented when an LCO is not met and:

a. An associated Required Action and Completion Time is not met and no other Condition applies or

b. The condition of the unit is not specifically addressed by the associated ACTIONS. This means that no combination of Conditions stated in the ACTIONS can be made that exactly corresponds to the actual condition of the unit. Sometimes, possible combinations of

Conditions are such that entering LCO 3.0.3 is warranted; in such cases, the ACTIONS specifically state a Condition corresponding to such combinations and also that LCO 3.0.3 be entered immediately.

BASES

LCO 3.0.3 (continued)

This Specification delineates the time limits for placing the unit in a safe MODE or other specified condition when operation cannot be maintained within the limits for safe operation as defined by the LCO and its ACTIONS. It is not intended to be used ~~as an operational convenience that permits~~ to permit routine voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant systems or components being inoperable.

Upon entering LCO 3.0.3, 1 hour is allowed to prepare for an orderly shutdown before initiating a change in unit operation. This includes time to permit the operator to coordinate the reduction in electrical generation with the load dispatcher to ensure the stability and availability of the electrical grid. The time limits specified to ~~reach~~ enter lower MODES of operation permit the shutdown to proceed in a controlled and orderly manner that is well within the specified maximum cooldown rate and within the capabilities of the unit, assuming that only the minimum required equipment is OPERABLE. This reduces thermal stresses on components of the Reactor Coolant System and the potential for a plant upset that could challenge safety systems under conditions to which this Specification applies. The use and interpretation of specified times to complete the actions of LCO 3.0.3 are consistent with the discussion of Section 1.3, Completion Times.

A unit shutdown required in accordance with LCO 3.0.3 may be terminated and LCO 3.0.3 exited if any of the following occurs:

a. The LCO is now met,

b. The LCO is no longer applicable,

c~~b~~. A Condition exists for which the Required Actions have now been performed, or

d~~c~~. ACTIONS exist that do not have expired Completion Times. These Completion Times are applicable from the point in time that the Condition is initially entered and not from the time LCO 3.0.3 is exited.

The time limits of LCO 3.0.3 allow 37 hours for the unit to be in MODE 5 when a shutdown is required during MODE 1 operation. If the unit is in a lower MODE of operation when a shutdown is required, the time limit for ~~reaching~~ entering the next lower MODE applies. If a lower MODE is ~~reached~~ entered in less time than allowed, however, the total allowable time to ~~reach~~ enter MODE 5, or other applicable MODE, is not reduced. For example, if MODE 3 is ~~reached~~ entered in 2 hours, then the time

allowed for ~~reaching~~ entering MODE 4 is the next 11 hours, because the total time for ~~reaching~~ entering

BASES

LCO 3.0.3 (continued)

MODE 4 is not reduced from the allowable limit of 13 hours. Therefore, if remedial measures are completed that would permit a return to MODE 1, a penalty is not incurred by having to ~~reach~~ enter a lower MODE of operation in less than the total time allowed.

In MODES 1, 2, 3, and 4, LCO 3.0.3 provides actions for Conditions not covered in other Specifications. The requirements of LCO 3.0.3 do not apply in MODES 5 and 6 because the unit is already in the most restrictive Condition required by LCO 3.0.3. The requirements of LCO 3.0.3 do not apply in other specified conditions of the Applicability (unless in MODE 1, 2, 3, or 4) because the ACTIONS of individual Specifications sufficiently define the remedial measures to be taken.

Exceptions to LCO 3.0.3 are provided in instances where requiring a unit shutdown, in accordance with LCO 3.0.3, would not provide appropriate remedial measures for the associated condition of the unit. An example of this is in LCO 3.7.15, "Fuel Storage Pool Water Level." LCO 3.7.15 has an Applicability of "During movement of irradiated fuel assemblies in the fuel storage pool." Therefore, this LCO can be applicable in any or all MODES. If the LCO and the Required Actions of LCO 3.7.15 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 3.7.15 of "Suspend movement of irradiated fuel assemblies in the 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

LCO 3.0.4 establishes limitations on changes in MODES or other specified conditions in the Applicability when an LCO is not met. It allows placing the unit in a MODE or other specified condition stated in that Applicability (e.g., the Applicability desired to be entered) when unit conditions are such that the requirements of the LCO would not be met, in accordance with either 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~~ following entry into the MODE or other specified condition in the Applicability will permit continued operation within the MODE or other specified condition for an unlimited period of time. Compliance with ~~Required Actions~~ 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.

For example, LCO 3.0.4.a may be used when the Required Action states that an inoperable train be restored to OPERABLE status within the Completion Time, and the subsequent default ACTION ("Required Action and associated Completion Time not met") allows the OPERABLE train to be placed in operation. Use of LCO 3.0.4.a is acceptable because the associated ACTIONS to be entered following entry into the MODE include ACTIONS (place the OPERABLE train in operation) that permit plant operation for an unlimited period of time in the MODE or other specified condition to be entered.

BASES

LCO 3.0.4 (continued)

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 to 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.

BASES

LCO 3.0.4 (continued)

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 systems 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~~[Containment Air Temperature, Containment Pressure, MCPR, Moderator Temperature Coefficient]~~), 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, MODE 3 to MODE 4, and MODE 4 to MODE 5.

BASES

LCO 3.0.4 (continued)

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.

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~~ provides an exception to LCO 3.0.2 (e.g., to not comply with the applicable Required Action(s)) under administrative controls for the sole purpose of allowing ~~to allow~~ the performance of required testing to demonstrate:

a. The LCO is met, ~~OPERABILITY of the equipment being returned to service~~ or

b. Other LCOs are met~~The OPERABILITY of other equipment~~.

LCO 3.0.5 allows Required Actions to not be followed temporarily in order to demonstrate an LCO is met without exiting the Applicability of the Specification.

The administrative controls ensure the time the Required Actions are not met ~~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 the LCO is met~~OPERABILITY~~. This Specification does not provide time to perform any other preventive or corrective maintenance. LCO 3.0.5 should not be used in lieu of other practicable alternatives that comply with ACTIONS and that do not require changing MODE and other specified conditions in the Applicability, in order to demonstrate the LCO is met or that other LCOs are met. LCO 3.0.5 is not intended to be used repeatedly.

An example of demonstrating the~~-~~ LCO is met~~OPERABILITY of the equipment being returned to service~~ with the Required Actions not met is ~~re~~opening a manual valve that was closed to comply with Required Actions to isolate a flowpath with excessive Reactor Coolant System

(RCS) Pressure Isolation Valve (PIV) leakage in order to perform testing to demonstrate that RCS PIV leakage is now within limit.~~containment isolation valve that has been closed to comply with Required Actions and must be reopened to perform the required testing.~~

~~An example of demonstrating the OPERABILITY of other equipment is taking an inoperable channel or trip system out of the tripped condition to prevent the trip function from occurring during the performance of required testing on another channel in the other trip system. A similar example of demonstrating the OPERABILITY of other equipment is taking an inoperable channel or trip system out of the tripped condition to permit the logic to function and indicate the appropriate response during the performance of required testing on another channel in the same trip system.~~

BASES

LCO 3.0.6

LCO 3.0.6 establishes an exception to LCO 3.0.2 for supported systems that have a support system LCO specified in the Technical Specifications (TS). This exception is provided because LCO 3.0.2 would require that the Conditions and Required Actions of the associated inoperable supported system LCO be entered solely due to the inoperability of the support system. This exception is justified because the actions that are required to ensure the unit is maintained in a safe condition are specified in the support system LCO's Required Actions. These Required Actions may include entering the supported system's Conditions and Required Actions or may specify other Required Actions.

When a support system is inoperable and there is an LCO specified for it in the TS, the supported system(s) are required to be declared inoperable if determined to be inoperable as a result of the support system inoperability. However, it is not necessary to enter into the supported systems' Conditions and Required Actions unless directed to do so by the support system's Required Actions. The potential confusion and inconsistency of requirements related to the entry into multiple support and supported systems' LCOs' Conditions and Required Actions are eliminated by providing all the actions that are necessary to ensure the unit is maintained in a safe condition in the support system's Required Actions.

However, there are instances where a support system's Required Action may either direct a supported system to be declared inoperable or direct entry into Conditions and Required Actions for the supported system. This may occur immediately or after some specified delay to perform some other Required Action. Regardless of whether it is immediate or after some delay, 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.

Specification 5.5.15, "Safety Function Determination Program (SFDP)," ensures loss of safety function is detected and appropriate actions are taken. Upon entry into LCO 3.0.6, an evaluation shall be made to determine if loss of safety function exists. Additionally, other limitations, remedial actions, or compensatory actions may be identified as a result of the support system inoperability and corresponding exception to entering supported system Conditions and Required Actions. The SFDP implements the requirements of LCO 3.0.6.

BASES

LCO 3.0.6 (continued)

Cross train checks to identify a loss of safety function for those support systems that support multiple and redundant safety systems are required. The cross train check verifies that the supported systems of the redundant OPERABLE support system are OPERABLE, thereby ensuring safety function is retained. [A loss of safety function may exist when a support system is inoperable, and:

a. A required system redundant to system(s) supported by the inoperable support system is also inoperable (EXAMPLE B 3.0.6-1),

b. A required system redundant to system(s) in turn supported by the inoperable supported system is also inoperable (EXAMPLE B 3.0.6-2), or

c. A required system redundant to support system(s) for the supported systems (a) and (b) above is also inoperable (EXAMPLE B 3.0.6-3).

EXAMPLE B 3.0.6-1

If System 2 of Train A is inoperable and System 5 of Train B is inoperable, a loss of safety function exists in supported System 5.

EXAMPLE B 3.0.6-2

If System 2 of Train A is inoperable, and System 11 of Train B is inoperable, a loss of safety function exists in System 11 which is in turn supported by System 5.

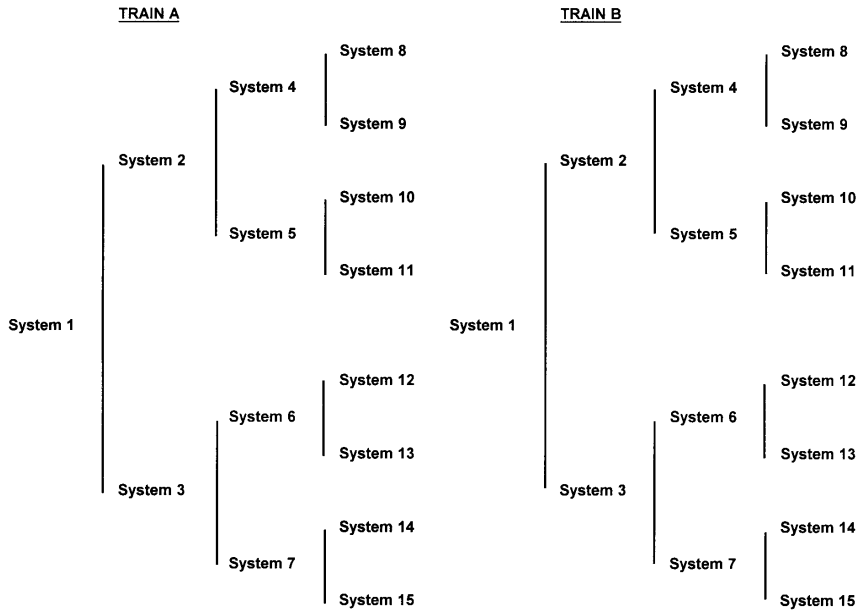
EXAMPLE B 3.0.6-3

If System 2 of Train A is inoperable, and System 1 of Train B is inoperable, a loss of safety function exists in Systems 2, 4, 5, 8, 9, 10 and 11.]

If this evaluation determines that a loss of safety function exists, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.

BASES

LCO 3.0.6 (continued)



[Figure B 3.0-1
Configuration of Trains and Systems]

This loss of safety function does not require the assumption of additional single failures or loss of offsite power. Since operations are being restricted in accordance with the ACTIONS of the support system, any resulting temporary loss of redundancy or single failure protection is taken into account. Similarly, the ACTIONS for inoperable offsite circuit(s) and inoperable diesel generator(s) provide the necessary restriction for cross train inoperabilities. This explicit cross train verification for inoperable AC electrical power sources also acknowledges that supported system(s) are not declared inoperable solely as a result of inoperability of a normal or emergency electrical power source (refer to the definition of OPERABILITY).

When loss of safety function is determined to exist, and the SFDP requires entry into the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists, consideration must be given to the specific type of function affected. Where a loss of function is solely due to a single Technical Specification support system (e.g., loss of automatic start due to inoperable instrumentation, or loss of pump suction

BASES

LCO 3.0.6 (continued)

source due to low tank level) the appropriate LCO is the LCO for the support system. The ACTIONS for a support system LCO adequately address the inoperabilities of that system without reliance on entering its supported system LCO. When the loss of function is the result of multiple support systems, the appropriate LCO is the LCO for the supported system.

LCO 3.0.7

There are certain special tests and operations required to be performed at various times over the life of the unit. These special tests and operations are necessary to demonstrate select unit performance characteristics, to perform special maintenance activities, and to perform special evolutions. Test Exception LCOs [3.1.8 and 3.4.19] allow specified Technical Specification (TS) requirements to be changed to permit performances of these special tests and operations, which otherwise could not be performed if required to comply with the requirements of these TS. Unless otherwise specified, all the other TS requirements remain unchanged. This will ensure all appropriate requirements of the MODE or other specified condition not directly associated with or required to be changed to perform the special test or operation will remain in effect.

The Applicability of a Test Exception LCO represents a condition not necessarily in compliance with the normal requirements of the TS. Compliance with Test Exception LCOs is optional. A special operation may be performed either under the provisions of the appropriate Test Exception LCO or under the other applicable TS requirements. If it is desired to perform the special operation under the provisions of the Test Exception LCO, the requirements of the Test Exception LCO shall be followed.

LCO 3.0.8

LCO 3.0.8 establishes conditions under which systems are considered to remain capable of performing their intended safety function when associated snubbers are not capable of providing their associated support function(s). This LCO states that the supported system is not considered to be inoperable solely due to one or more snubbers not capable of performing their associated support function(s). This is appropriate because a limited length of time is allowed for maintenance, testing, or repair of one or more snubbers not capable of performing their associated support function(s) and appropriate compensatory measures are specified in the snubber requirements, which are located outside of the Technical Specifications (TS) under licensee control. The snubber requirements do not meet the criteria in 10 CFR 50.36(c)(2)(ii), and, as such, are appropriate for control by the licensee.

BASES

LCO 3.0.8 (continued)

If the allowed time expires and the snubber(s) are unable to perform their associated support function(s), the affected supported system's LCO(s) must be declared not met and the Conditions and Required Actions entered in accordance with LCO 3.0.2.

LCO 3.0.8.a applies when one or more snubbers are not capable of providing their associated support function(s) to a single train or subsystem of a multiple train or subsystem supported system or to a single train or subsystem supported system. LCO 3.0.8.a allows 72 hours to restore the snubber(s) before declaring the supported system inoperable. The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system occurring while the snubber(s) are not capable of performing their associated support function and due to the availability of the redundant train of the supported system.

LCO 3.0.8.b applies when one or more snubbers are not capable of providing their associated support function(s) to more than one train or subsystem of a multiple train or subsystem supported system. LCO 3.0.8.b allows 12 hours to restore the snubber(s) before declaring the supported system inoperable. The 12 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system occurring while the snubber(s) are not capable of performing their associated support function.

LCO 3.0.8 requires that risk be assessed and managed. Industry and NRC guidance on the implementation of 10 CFR 50.65(a)(4) (the Maintenance Rule) does not address seismic risk. However, use of LCO 3.0.8 should be considered with respect to other plant maintenance activities, and integrated into the existing Maintenance Rule process to the extent possible so that maintenance on any unaffected train or subsystem is properly controlled, and emergent issues are properly addressed. The risk assessment need not be quantified, but may be a qualitative awareness of the vulnerability of systems and components when one or more snubbers are not able to perform their associated support function.

B 3.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

BASES

SRs	SR 3.0.1 through SR 3.0.4 establish the general requirements applicable to all Specifications in Section 3.1 through 3.9 and apply at all times, unless otherwise stated. SR 3.0.1 through SR 3.0.4 apply in Chapter 5 only when invoked by a Chapter 5 Specification.
SR 3.0.1	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. Surveillances may be performed by means of any series of sequential, overlapping, or total steps provided the entire Surveillance is performed within the specified Frequency. Additionally, the definitions related to instrument testing (e.g., CHANNEL CALIBRATION) specify that these tests are performed by means of any series of sequential, overlapping, or total steps. 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 not to be 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 test exception are only applicable when the test exception is used as an allowable exception to the requirements of a Specification. Unplanned events may satisfy the requirements (including applicable acceptance criteria) for a given SR. In this case, the unplanned event may be credited as fulfilling the performance of the SR. This allowance includes those SRs whose performance is normally precluded in a given MODE or other specified condition. 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.

BASES

SR 3.0.1 (continued)

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. Auxiliary feedwater (AFW) pump turbine maintenance during refueling that requires testing at steam pressures > 800 psi. However, if other appropriate testing is satisfactorily completed, the AFW System can be considered OPERABLE. This allows startup and other necessary testing to proceed until the plant reaches the steam pressure required to perform the testing.

b. High pressure safety injection (HPI) maintenance during shutdown that requires system functional tests at a specified pressure. Provided other appropriate testing is satisfactorily completed, startup can proceed with HPI 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).

The 25% extension does not significantly degrade the reliability that results from performing the Surveillance at its specified Frequency. This is based on the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the SRs. There are exceptions to SR 3.0.2 for certain ~~are those~~ Surveillances ~~for~~ to which the

BASES

SR 3.0.2 (continued)

25% extension of the interval specified in the Frequency ~~does~~ may not be applied~~not apply~~. These exceptions are stated in the individual Specifications. ~~The requirements of regulations take precedence over the TS.~~ For those Surveillances in Chapter 3 whose Frequency refers to a Program in Section 5.5, the referenced Program specification must be examined to determine if SR 3.0.2 applies. For example, the Diesel Fuel Oil Testing Program is referenced in Specification 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," and the program invokes SR 3.0.2. An example of where SR 3.0.2 does not apply is in the Containment Leakage Rate Testing Program which does not reference SR 3.0.2. SR 3.0.2 is not applicable because the Program establishes Frequencies to meet the requirements of regulations. ~~An example of where SR 3.0.2 does not apply is in the Containment Leakage Rate Testing Program~~. ~~This program establishes testing requirements and Frequencies in accordance with the requirements of regulations.~~ The TS cannot in and of themselves extend a test interval specified in the regulations.

As stated in SR 3.0.2, the 25% extension also does not apply to the initial portion of a periodic Completion Time that requires performance on a "once per ..." basis. The 25% extension applies to each performance after the initial performance. The initial performance of the Required Action, whether it is a particular Surveillance or some other remedial action, is considered a single action with a single Completion Time. One reason for not allowing the 25% extension to this Completion Time is that such an action usually verifies that no loss of function has occurred by checking the status of redundant or diverse components or accomplishes the function of the inoperable equipment in an alternative manner.

The provisions of SR 3.0.2 are not intended to be used repeatedly ~~merely as an operational convenience~~ to extend Surveillance intervals (other than those consistent with refueling intervals) or periodic Completion Time intervals beyond those specified.

SR 3.0.3

SR 3.0.3 establishes the flexibility to defer declaring affected equipment inoperable or an affected variable outside the specified limits when a Surveillance has not been ~~completed~~ performed within the specified Frequency. A delay period of up to 24 hours or up to the limit of the specified Frequency, whichever is greater, applies from the point in time that it is discovered that the Surveillance has not been performed in accordance with SR 3.0.2, and not at the time that the specified Frequency was not met.

This delay period provides adequate time to ~~complete~~ perform Surveillances that have been missed. This delay period permits the completion of a Surveillance before complying with Required Actions or

other remedial measures that might preclude ~~completion~~ performance of the Surveillance.

The basis for this delay period includes consideration of unit conditions, adequate planning, availability of personnel, the time required to perform the Surveillance, the safety significance of the delay in completing the required Surveillance, and the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the requirements.

BASES

SR 3.0.3 (continued)

When a Surveillance with a Frequency based not on time intervals, but upon specified unit conditions, operating situations, or requirements of regulations (e.g., prior to entering MODE 1 after each fuel loading, or in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions, etc.) is discovered to not have been performed when specified, SR 3.0.3 allows for the full delay period of up to the specified Frequency to perform the Surveillance. However, since there is not a time interval specified, the missed Surveillance should be performed at the first reasonable opportunity.

SR 3.0.3 provides a time limit for, and allowances for the performance of, Surveillances that become applicable as a consequence of MODE changes imposed by Required Actions.

SR 3.0.3 is only applicable if there is a reasonable expectation the associated equipment is Operable or that variables are within limits, and it is expected that the Surveillance will be met when performed. Many factors should be considered, such as the period of time since the Surveillance was last performed, or whether the Surveillance, or a portion thereof, has ever been performed, and any other indications, tests, or activities that might support the expectation that the Surveillance will be met when performed. An example would be a relay contact that has never been tested in accordance with a particular SR, but the adjacent, physically connected relay contacts have been tested, the relay contacts have been tested by another SR, or historical operation of the actuated equipment has been successful. The rigor of determining whether there is a reasonable expectation a Surveillance will be met when performed should increase based on the length of time since the last performance of the Surveillance. A review of the Surveillance history may be sufficient to provide a reasonable expectation that the Surveillance will be met when performed. For Surveillances that have never been performed, a more rigorous evaluation, documented in sufficient detail to explain the basis for the determination, should be completed to compensate for the lack of performance history.

Failure to comply with specified Frequencies for SRs is expected to be an infrequent occurrence. Use of the delay period established by SR 3.0.3 is a flexibility which is not intended to be used ~~as an operational convenience~~ to extend Surveillance intervals. While up to 24 hours or the limit of the specified Frequency is provided to perform the missed Surveillance, it is expected that the missed Surveillance will be performed at the first reasonable opportunity. The determination of the first reasonable opportunity should include consideration of the impact on plant risk (from delaying the Surveillance as well as any plant configuration changes required or shutting the plant down to perform the Surveillance) and impact on any analysis assumptions, in addition to unit

conditions, planning, availability of personnel, and the time required to perform the Surveillance. This 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.” This Regulatory Guide addresses consideration of temporary and aggregate risk impacts, determination of risk management action thresholds, and risk management action up to and including plant shutdown. The missed Surveillance should be treated as an emergent condition as discussed in the Regulatory Guide. The risk evaluation may use quantitative, qualitative, or blended methods. The degree of depth and rigor of the evaluation should be commensurate with the importance of the component. Missed Surveillances for important components should be analyzed quantitatively. If the results of the risk evaluation determine the risk increase is significant, this evaluation should be used to determine the safest course of action. All missed Surveillances will be placed in the licensee’s Corrective Action Program.

BASES

SR 3.0.3 (continued)

If a Surveillance is not completed within the allowed delay period, then the equipment is considered inoperable or the variable is considered outside the specified limits and the Completion Times of the Required Actions for the applicable LCO Conditions begin immediately upon expiration of the delay period. If a Surveillance is failed within the delay period, then the equipment is inoperable, or the variable is outside the specified limits and the Completion Times of the Required Actions for the applicable LCO Conditions begin immediately upon the failure of the Surveillance.

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. 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 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. 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

BASES

SR 3.0.4 (continued)

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, MODE 3 to MODE 4, and MODE 4 to MODE 5.

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.

1.0 USE AND APPLICATION

1.3 Completion Times

PURPOSE	The purpose of this section is to establish the Completion Time convention and to provide guidance for its use.
BACKGROUND	Limiting Conditions for Operation (LCOs) specify minimum requirements for ensuring safe operation of the unit. The ACTIONS associated with an LCO state Conditions that typically describe the ways in which the requirements of the LCO can fail to be met. Specified with each stated Condition are Required Action(s) and Completion Time(s).
DESCRIPTION	The Completion Time is the amount of time allowed for completing a Required Action. It is referenced to the time of discovery of a situation ~~(e.g., inoperable equipment or variable not within limits)~~ that requires entering an ACTIONS Condition unless otherwise specified, providing the unit is in a MODE or specified condition stated in the Applicability of the LCO. The time of discovery is when the LCO is declared not met. The time of discovery is subsequent to both the time of occurrence of a degraded or nonconforming condition and the time of identification and evaluation of the degraded or nonconforming condition. For example, it may be established that a component is inoperable following improper maintenance performed in the past. The time of discovery (when the LCO is declared not met) is subsequent to both the time of occurrence (the improper maintenance), the time when it is identified that the component is degraded or nonconforming, and the time required to determine that the degraded or nonconforming component is inoperable. Required Actions must be completed prior to the expiration of the specified Completion Time. An ACTIONS Condition remains in effect and the Required Actions apply until the Condition no longer exists or the unit is not within the LCO Applicability. If situations are discovered that require entry into more than one Condition at a time within a single LCO (multiple Conditions), the Required Actions for each Condition must be performed within the associated Completion Time. When in multiple Conditions, separate Completion Times are tracked for each Condition starting from the time of discovery of the situation that required entry into the Condition. Once a Condition has been entered, subsequent trains, 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, unless specifically stated. The Required Actions of the Condition continue to apply to each additional failure, with Completion Times based on initial entry into the Condition. However, when a subsequent train, subsystem, component, or variable expressed in the Condition is discovered to be inoperable or not within

3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

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, LCO 3.0.7, and LCO 3.0.8.
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.
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 3 within 7 hours, b. [MODE 4 within 13] hours, and c. MODE 5 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, 3, and 4.
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 following entry into the MODE or other specified condition in the Applicability will 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 LCO Applicability

LCO 3.0.4 (continued)

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.

LCO 3.0.5

The Required Actions of Conditions ~~Equipment removed from service or declared inoperable to comply with ACTIONS may be~~ are not required to be met~~returned to service~~ under administrative control solely to perform testing required to demonstrate the LCO is met or that other LCOs are met~~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~~the LCO is met or that other LCOs are met.

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 5.5.15, "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.

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.

LCO 3.0.7

Special test exception (STE) LCOs [in each applicable LCO section] allow specified Technical Specifications (TS) requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TS requirements remain unchanged. Compliance with STE LCOs is optional. When an STE LCO is desired to be met but is not met, the ACTIONS of the STE LCO shall be met. When an STE LCO is not desired to be met, entry into a MODE or other specified condition in the Applicability shall only be made in accordance with the other applicable Specifications.

LCO 3.0.8

When one or more required snubbers are unable to perform their associated support function(s), any affected supported LCO(s) are not required to be declared not met solely for this reason if risk is assessed and managed, and:

3.0 LCO Applicability

LCO 3.0.8 (continued)

a. the snubbers not able to perform their associated support function(s) are associated with only one train or subsystem of a multiple train or subsystem supported system or are associated with a single train or subsystem supported system and are able to perform their associated support function within 72 hours; or

b. the snubbers not able to perform their associated support function(s) are associated with more than one train or subsystem of a multiple train or subsystem supported system and are able to perform their associated support function within 12 hours.

At the end of the specified period the required snubbers must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met.

B 3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

BASES

LCOs	LCO 3.0.1 through LCO 3.0.8 establish the general requirements applicable to all Specifications in Section 3.1 through 3.9 and apply at all times unless otherwise stated.
LCO 3.0.1	LCO 3.0.1 establishes the Applicability statement within each individual Specification as the requirement for when the LCO is required to be met (i.e., when the unit is in the MODES or other specified conditions of the Applicability statement of each Specification).
LCO 3.0.2	LCO 3.0.2 establishes that upon discovery of a failure to meet an LCO, the associated ACTIONS shall be met. The time of discovery is when the LCO is declared not met. The time of discovery is subsequent to both the time of occurrence of a degraded or nonconforming condition and the time of identification and evaluation of the degraded or nonconforming condition. The Completion Time of each Required Action for an ACTIONS Condition is applicable from the point in time that an ACTIONS Condition is entered unless otherwise specified. The Required Actions establish those remedial measures that must be taken within specified Completion Times when the requirements of an LCO are not met. This Specification establishes that: a. Completion of the Required Actions within the specified Completion Times constitutes compliance with a Specification and b. Completion of the Required Actions is not required when an LCO is met within the specified Completion Time, unless otherwise specified. There are two basic types of Required Actions. The first type of Required Action specifies a time limit in which the LCO must be met. This time limit is the Completion Time to restore an inoperable system or component to OPERABLE status or to restore variables to within specified limits. If this type of Required Action is not completed within the specified Completion Time, a shutdown may be required to place the unit in a MODE or condition in which the Specification is not applicable. (Whether stated as a Required Action or not, correction of the entered Condition is an action that may always be considered upon entering ACTIONS.) The second type of Required Action specifies the remedial measures that permit continued operation of the unit that is not further restricted by the Completion Time. In this case, compliance with the Required Actions provides an acceptable level of safety for continued operation. Completing the Required Actions is not required when an LCO is met or is no longer applicable, unless otherwise stated in the individual Specifications.

BASES

LCO 3.0.2 (continued)

The nature of some Required Actions of some Conditions necessitates that, once the Condition is entered, the Required Actions must be completed even though the associated Conditions no longer exist. The individual LCO's ACTIONS specify the Required Actions where this is the case. An example of this is in LCO 3.4.3, "RCS Pressure and Temperature (P/T) Limits."

The Completion Times of the Required Actions are also applicable when a system or component is removed from service intentionally. The reasons for intentionally relying on the ACTIONS include, but are not limited to, performance of Surveillances, preventive maintenance, corrective maintenance, or investigation of operational problems. Entering ACTIONS for these reasons must be done in a manner that does not compromise safety. Intentional entry into ACTIONS should be done in a manner that examines and balances the net effect on safety. Intentional entry into ACTIONS should not be used ~~made~~ for ~~operational convenience. Additionally, if intentional entry into ACTIONS~~ voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant ~~equipment~~ systems or components being inoperable~~, alternatives should be used instead~~. Doing so limits the time both subsystems/trains of a safety function are inoperable and limits the time conditions exist which may result in LCO 3.0.3 being entered. Individual Specifications may specify a time limit for performing an SR when equipment is removed from service or bypassed for testing. In this case, the Completion Times of the Required Actions are applicable when this time limit expires, if the equipment remains removed from service or bypassed.

When a change in MODE or other specified condition is required to comply with Required Actions, the unit may enter a MODE or other specified condition in which another Specification becomes applicable. In this case, the Completion Times of the associated Required Actions would apply from the point in time that the new Specification becomes applicable and the ACTIONS Condition(s) are entered.

LCO 3.0.3

LCO 3.0.3 establishes the actions that must be implemented when an LCO is not met and either:

a. An associated Required Action and Completion Time is not met and no other Condition applies or

b. The condition of the unit is not specifically addressed by the associated ACTIONS. This means that no combination of Conditions stated in the ACTIONS can be made that exactly corresponds to the actual condition of the unit. Sometimes, possible combinations of Conditions are such that entering LCO 3.0.3 is warranted; in such

cases, the ACTIONS specifically state a Condition corresponding to such combinations and also that LCO 3.0.3 be entered immediately.

BASES

LCO 3.0.3 (continued)

This Specification delineates the time limits for placing the unit in a safe MODE or other specified condition when operation cannot be maintained within the limits for safe operation as defined by the LCO and its ACTIONS. It is not intended to be used ~~as an operational convenience that permits~~ to permit routine voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant systems or components being inoperable.

Upon entering LCO 3.0.3, 1 hour is allowed to prepare for an orderly shutdown before initiating a change in unit operation. This includes time to permit the operator to coordinate the reduction in electrical generation with the load dispatcher to ensure the stability and availability of the electrical grid. The time limits specified to ~~reach~~ enter lower MODES of operation permit the shutdown to proceed in a controlled and orderly manner that is well within the specified maximum cooldown rate and within the capabilities of the unit, assuming that only the minimum required equipment is OPERABLE. This reduces thermal stresses on components of the Reactor Coolant System and the potential for a plant upset that could challenge safety systems under conditions to which this Specification applies. The use and interpretation of specified times to complete the actions of LCO 3.0.3 are consistent with the discussion of Section 1.3, Completion Times.

A unit shutdown required in accordance with LCO 3.0.3 may be terminated and LCO 3.0.3 exited if any of the following occurs:

a. The LCO is now met,

b. The LCO is no longer applicable,

~~b~~c. A Condition exists for which the Required Actions have now been performed, or

~~c~~d. ACTIONS exist that do not have expired Completion Times. These Completion Times are applicable from the point in time that the Condition is initially entered and not from the time LCO 3.0.3 is exited.

The time limits of LCO 3.0.3 allow 37 hours for the unit to be in MODE 5 when a shutdown is required during MODE 1 operation. If the unit is in a lower MODE of operation when a shutdown is required, the time limit for ~~reaching~~ entering the next lower MODE applies. If a lower MODE is ~~reached~~ entered in less time than allowed, however, the total allowable time to ~~reach~~ enter

BASES

LCO 3.0.3 (continued)

MODE 5, or other applicable MODE, is not reduced. For example, if MODE 3 is ~~reached~~ entered in 2 hours, then the time allowed for ~~reaching~~ entering MODE 4 is the next 11 hours, because the total time for ~~reaching~~ entering MODE 4 is not reduced from the allowable limit of 13 hours. Therefore, if remedial measures are completed that would permit a return to MODE 1, a penalty is not incurred by having to ~~reach~~ enter a lower MODE of operation in less than the total time allowed.

In MODES 1, 2, 3, and 4, LCO 3.0.3 provides actions for Conditions not covered in other Specifications. The requirements of LCO 3.0.3 do not apply in MODES 5 and 6 because the unit is already in the most restrictive Condition required by LCO 3.0.3. The requirements of LCO 3.0.3 do not apply in other specified conditions of the Applicability (unless in MODE 1, 2, 3, or 4) because the ACTIONS of individual Specifications sufficiently define the remedial measures to be taken.

Exceptions to LCO 3.0.3 are provided in instances where requiring a unit shutdown, in accordance with LCO 3.0.3, would not provide appropriate remedial measures for the associated condition of the unit. An example of this is in LCO 3.7.16, "Fuel Storage Pool Water Level." LCO 3.7.16 has an Applicability of "During movement of irradiated fuel assemblies in the fuel storage pool." Therefore, this LCO can be applicable in any or all MODES. If the LCO and the Required Actions of LCO 3.7.16 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 3.7.16 of "Suspend movement of irradiated fuel assemblies in 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.

[The requirement to be in MODE 4 in 13 hours is plant specific and depends on the ability to cool the pressurizer and degas.]

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 allows placing the unit in a MODE or other specified condition stated in that Applicability (e.g., the Applicability desired to be entered) when unit conditions are such that the requirements of the LCO would not be met, in accordance with either LCO 3.0.4.a, LCO 3.0.4.b, or LCO 3.0.4.c.

BASES

LCO 3.0.4 (continued)

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~~ following entry into the MODE or other specified condition in the Applicability will permit continued operation within the MODE or other specified condition for an unlimited period of time. Compliance with ~~Required Actions~~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.

For example, LCO 3.0.4.a may be used when the Required Action states that an inoperable train be restored to OPERABLE status within the Completion Time, and the subsequent default ACTION ("Required Action and associated Completion Time not met") allows the OPERABLE train to be placed in operation. Use of LCO 3.0.4.a is acceptable because the associated ACTIONS to be entered following entry into the MODE include ACTIONS (place the OPERABLE train in operation) that permit plant operation for an unlimited period of time in the MODE or other specified condition to be entered.

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 to 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.

BASES

LCO 3.0.4 (continued)

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 systems 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~~[Containment Air Temperature, Containment Pressure, MCPR, Moderator Temperature Coefficient]~~), 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.

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. 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, MODE 3 to MODE 4, and MODE 4 to MODE 5.

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.

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~~ provides an exception to LCO 3.0.2 (e.g., to not comply with the applicable Required Action(s)) ~~to allow~~ under administrative controls for the sole purpose of allowing the performance of required testing to demonstrate either:

a. The LCO is met,~~OPERABILITY of the equipment being returned to service~~ or

b. Other LCOs are met~~The OPERABILITY of other equipment~~.

LCO 3.0.5 allows Required Actions to not be followed temporarily in order to demonstrate an LCO is met without exiting the Applicability of the Specification.

The administrative controls ensure the time the Required Actions are not met ~~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 the LCO is met~~OPERABILITY~~. This Specification does not provide time to perform any other preventive or corrective maintenance. LCO 3.0.5 should not be used in lieu of other

practicable alternatives that comply with ACTIONS and that do not require changing MODE and other specified conditions in the Applicability, in order to demonstrate the LCO is met or that other LCOs are met.
LCO 3.0.5 is not intended to be used repeatedly.

BASES

LCO 3.0.5 (continued)

An example of demonstrating the LCO is met ~~OPERABILITY of the equipment~~ with the Required Actions not met~~being returned to service is reopening a containment isolation valve that has been closed to comply with Required Actions and must be reopened to perform the required testing~~ is opening a manual valve that was closed to comply with Required Actions to isolate a flowpath with excessive Reactor Coolant System (RCS) Pressure Isolation Valve (PIV) leakage in order to perform testing to demonstrate that RCS PIV leakage is now within limit.

Another example of demonstrating the LCO is met ~~the OPERABILITY of other equipment~~ is taking an inoperable channel or trip system out of the tripped condition to prevent the trip function from occurring during the performance of required testing on another channel in the other trip system. ~~A similar example of demonstrating the OPERABILITY of other equipment is taking an inoperable channel or trip system out of the tripped condition to permit the logic to function and indicate the appropriate response during the performance of required testing on another channel in the same trip system.~~

LCO 3.0.6

LCO 3.0.6 establishes an exception to LCO 3.0.2 for supported systems that have a support system LCO specified in the Technical Specifications (TS). This exception is provided because LCO 3.0.2 would require that the Conditions and Required Actions of the associated inoperable supported system LCO be entered solely due to the inoperability of the support system. This exception is justified because the actions that are required to ensure the unit is maintained in a safe condition are specified in the support system LCO's Required Actions. These Required Actions may include entering the supported system's Conditions and Required Actions or may specify other Required Actions.

When a support system is inoperable and there is an LCO specified for it in the TS, the supported system(s) are required to be declared inoperable if determined to be inoperable as a result of the support system inoperability. However, it is not necessary to enter into the supported systems' Conditions and Required Actions unless directed to do so by the support system's Required Actions. The potential confusion and inconsistency of requirements related to the entry into multiple support and supported systems' LCOs' Conditions and Required Actions are eliminated by providing all the actions that are necessary to ensure the unit is maintained in a safe condition in the support system's Required Actions.

However, there are instances where a support system's Required Action may either direct a supported system to be declared inoperable or direct entry into Conditions and Required Actions for the supported system. This may occur immediately or after some specified delay to perform

BASES

LCO 3.0.6 (continued)

some other Required Action. Regardless of whether it is immediate or after some delay, 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.

Specification 5.5.15, "Safety Function Determination Program (SFDP)," ensures loss of safety function is detected and appropriate actions are taken. Upon entry into LCO 3.0.6, an evaluation shall be made to determine if loss of safety function exists. Additionally, other limitations, remedial actions, or compensatory actions may be identified as a result of the support system inoperability and corresponding exception to entering supported system Conditions and Required Actions. The SFDP implements the requirements of LCO 3.0.6.

Cross train checks to identify a loss of safety function for those support systems that support multiple and redundant safety systems are required. The cross train check verifies that the supported systems of the redundant OPERABLE support system are OPERABLE, thereby ensuring safety function is retained. [A loss of safety function may exist when a support system is inoperable, and:

a. A required system redundant to system(s) supported by the inoperable support system is also inoperable (EXAMPLE B 3.0.6-1),

b. A required system redundant to system(s) in turn supported by the inoperable supported system is also inoperable (EXAMPLE B 3.0.6-2), or

c. A required system redundant to support system(s) for the supported systems (a) and (b) above is also inoperable (EXAMPLE B 3.0.6-3).

<u>EXAMPLE B 3.0.6-1</u>

If System 2 of Train A is inoperable and System 5 of Train B is inoperable, a loss of safety function exists in supported System 5.

<u>EXAMPLE B 3.0.6-2</u>

If System 2 of Train A is inoperable, and System 11 of Train B is inoperable, a loss of safety function exists in System 11 which is in turn supported by System 5.

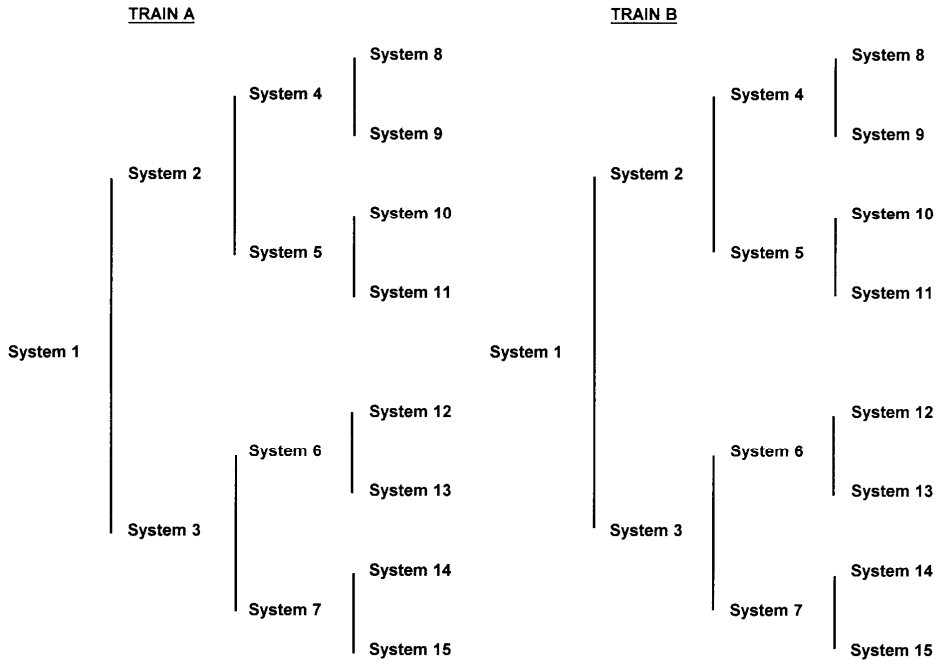
BASES

LCO 3.0.6 (continued)

EXAMPLE B 3.0.6-3

If System 2 of Train A is inoperable, and System 1 of Train B is inoperable, a loss of safety function exists in Systems 2, 4, 5, 8, 9, 10 and 11.]

If this evaluation determines that a loss of safety function exists, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.



[Figure B 3.0-1
Configuration of Trains and Systems]

This loss of safety function does not require the assumption of additional single failures or loss of offsite power. Since operations are being restricted in accordance with the ACTIONS of the support system, any resulting temporary loss of redundancy or single failure protection is taken into account. Similarly, the ACTIONS for inoperable offsite circuit(s) and inoperable diesel generator(s) provide the necessary restriction for cross train inoperabilities. This explicit cross train verification for inoperable AC electrical power sources also acknowledges that supported system(s) are not declared inoperable solely as a result of inoperability of a normal or emergency electrical power source (refer to the definition of OPERABILITY).

BASES

LCO 3.0.6 (continued)

When loss of safety function is determined to exist, and the SFDP requires entry into the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists, consideration must be given to the specific type of function affected. Where a loss of function is solely due to a single Technical Specification support system (e.g., loss of automatic start due to inoperable instrumentation, or loss of pump suction source due to low tank level) the appropriate LCO is the LCO for the support system. The ACTIONS for a support system LCO adequately address the inoperabilities of that system without reliance on entering its supported system LCO. When the loss of function is the result of multiple support systems, the appropriate LCO is the LCO for the supported system.

LCO 3.0.7

Special tests and operations are required at various times over the unit's life to demonstrate performance characteristics, to perform maintenance activities, and to perform special evaluations. Because TS normally preclude these tests and operations, special test exceptions (STEs) allow specified requirements to be changed or suspended under controlled conditions. STEs are included in applicable sections of the Specifications. Unless otherwise specified, all other TS requirements remain unchanged and in effect as applicable. This will ensure that all appropriate requirements of the MODE or other specified condition not directly associated with or required to be changed or suspended to perform the special test or operation will remain in effect.

The Applicability of an STE LCO represents a condition not necessarily in compliance with the normal requirements of the TS. Compliance with STE LCOs is optional.

A special test may be performed under either the provisions of the appropriate STE LCO or the other applicable TS requirements. If it is desired to perform the special test under the provisions of the STE LCO, the requirements of the STE LCO shall be followed. This includes the SRs specified in the STE LCO.

Some of the STE LCOs require that one or more of the LCOs for normal operation be met (i.e., meeting the STE LCO requires meeting the specified normal LCOs). The Applicability, ACTIONS, and SRs of the specified normal LCOs, however, are not required to be met in order to meet the STE LCO when it is in effect. This means that, upon failure to meet a specified normal LCO, the associated ACTIONS of the STE LCO

BASES

LCO 3.0.7 (continued)

apply, in lieu of the ACTIONS of the normal LCO. Exceptions to the above do exist. There are instances when the Applicability of the specified normal LCO must be met, where its ACTIONS must be taken, where certain of its Surveillances must be performed, or where all of these requirements must be met concurrently with the requirements of the STE LCO.

Unless the SRs of the specified normal LCOs are suspended or changed by the special test, those SRs that are necessary to meet the specified normal LCOs must be met prior to performing the special test. During the conduct of the special test, those Surveillances need not be performed unless specified by the ACTIONS or SRs of the STE LCO.

ACTIONS for STE LCOs provide appropriate remedial measures upon failure to meet the STE LCO. Upon failure to meet these ACTIONS, suspend the performance of the special test and enter the ACTIONS for all LCOs that are then not met. Entry into LCO 3.0.3 may possibly be required, but this determination should not be made by considering only the failure to meet the ACTIONS of the STE LCO.

LCO 3.0.8

LCO 3.0.8 establishes conditions under which systems are considered to remain capable of performing their intended safety function when associated snubbers are not capable of providing their associated support function(s). This LCO states that the supported system is not considered to be inoperable solely due to one or more snubbers not capable of performing their associated support function(s). This is appropriate because a limited length of time is allowed for maintenance, testing, or repair of one or more snubbers not capable of performing their associated support function(s) and appropriate compensatory measures are specified in the snubber requirements, which are located outside of the Technical Specifications (TS) under licensee control. The snubber requirements do not meet the criteria in 10 CFR 50.36(c)(2)(ii), and, as such, are appropriate for control by the licensee.

If the allowed time expires and the snubber(s) are unable to perform their associated support function(s), the affected supported system's LCO(s) must be declared not met and the Conditions and Required Actions entered in accordance with LCO 3.0.2.

LCO 3.0.8.a applies when one or more snubbers are not capable of providing their associated support function(s) to a single train or subsystem of a multiple train or subsystem supported system or to a single train or subsystem supported system. LCO 3.0.8.a allows 72 hours to restore the snubber(s) before declaring the supported system

BASES

LCO 3.0.8 (continued)

inoperable. The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system occurring while the snubber(s) are not capable of performing their associated support function and due to the availability of the redundant train of the supported system.

LCO 3.0.8.b applies when one or more snubbers are not capable of providing their associated support function(s) to more than one train or subsystem of a multiple train or subsystem supported system.
LCO 3.0.8.b allows 12 hours to restore the snubber(s) before declaring the supported system inoperable. The 12 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system occurring while the snubber(s) are not capable of performing their associated support function.

LCO 3.0.8 requires that risk be assessed and managed. Industry and NRC guidance on the implementation of 10 CFR 50.65(a)(4) (the Maintenance Rule) does not address seismic risk. However, use of LCO 3.0.8 should be considered with respect to other plant maintenance activities, and integrated into the existing Maintenance Rule process to the extent possible so that maintenance on any unaffected train or subsystem is properly controlled, and emergent issues are properly addressed. The risk assessment need not be quantified, but may be a qualitative awareness of the vulnerability of systems and components when one or more snubbers are not able to perform their associated support function.

B 3.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

BASES

SRs	SR 3.0.1 through SR 3.0.4 establish the general requirements applicable to all Specifications in Section 3.1 through 3.9 and apply at all times, unless otherwise stated. SR 3.0.1 through SR 3.0.4 apply in Chapter 5 only when invoked by a Chapter 5 Specification.
SR 3.0.1	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. Surveillances may be performed by means of any series of sequential, overlapping, or total steps provided the entire Surveillance is performed within the specified Frequency. Additionally, the definitions related to instrument testing (e.g., CHANNEL CALIBRATION) specify that these tests are performed by means of any series of sequential, overlapping, or total steps. 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 either: 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 test exception (STE) are only applicable when the STE is used as an allowable exception to the requirements of a Specification. Unplanned events may satisfy the requirements (including applicable acceptance criteria) for a given SR. In this case, the unplanned event may be credited as fulfilling the performance of the SR. This allowance includes those SRs whose performance is normally precluded in a given MODE or other specified condition. 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.

BASES

SR 3.0.1 (continued)

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. Auxiliary feedwater (AFW) pump turbine maintenance during refueling that requires testing at steam pressures > 800 psi. However, if other appropriate testing is satisfactorily completed, the AFW System can be considered OPERABLE. This allows startup and other necessary testing to proceed until the plant reaches the steam pressure required to perform the testing.

b. High pressure safety injection (HPSI) maintenance during shutdown that requires system functional tests at a specified pressure. Provided other appropriate testing is satisfactorily completed, startup can proceed with HPSI 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).

BASES

SR 3.0.2 (continued)

The 25% extension does not significantly degrade the reliability that results from performing the Surveillance at its specified Frequency. This is based on the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the SRs. There are exceptions to SR 3.0.2 for certain ~~are those~~ Surveillances to ~~for~~ which the 25% extension of the interval specified in the Frequency may not be applied~~does not apply~~. These exceptions are stated in the individual Specifications. ~~The requirements of regulations take precedence over the TS.~~ For those Surveillances in Chapter 3 whose Frequency refers to a Program in Section 5.5, the referenced Program specification must be examined to determine if SR 3.0.2 applies. For example, the Diesel Fuel Oil Testing Program is referenced in Specification 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," and the program invokes SR 3.0.2. An example of where SR 3.0.2 does not apply is in the Containment Leakage Rate Testing Program which does not reference SR 3.0.2. SR 3.0.2 is not applicable because the Program establishes Frequencies to meet the requirements of regulations. ~~An example of where SR 3.0.2 does not apply is in the Containment Leakage Rate Testing Program. This program establishes testing requirements and Frequencies in accordance with the requirements of regulations.~~ The TS cannot in and of themselves extend a test interval specified in the regulations.

As stated in SR 3.0.2, the 25% extension also does not apply to the initial portion of a periodic Completion Time that requires performance on a "once per ..." basis. The 25% extension applies to each performance after the initial performance. The initial performance of the Required Action, whether it is a particular Surveillance or some other remedial action, is considered a single action with a single Completion Time. One reason for not allowing the 25% extension to this Completion Time is that such an action usually verifies that no loss of function has occurred by checking the status of redundant or diverse components or accomplishes the function of the inoperable equipment in an alternative manner.

The provisions of SR 3.0.2 are not intended to be used repeatedly ~~merely as an operational convenience~~ to extend Surveillance intervals (other than those consistent with refueling intervals) or periodic Completion Time intervals beyond those specified.

SR 3.0.3

SR 3.0.3 establishes the flexibility to defer declaring affected equipment inoperable or an affected variable outside the specified limits when a Surveillance has not been ~~completed~~ performed within the specified Frequency. A delay period of up to 24 hours or up to the limit of the specified Frequency, whichever is greater, applies from the point in time that it is discovered that the Surveillance has not been performed in

accordance with SR 3.0.2, and not at the time that the specified Frequency was not met.

This delay period provides adequate time to ~~complete~~ perform Surveillances that have been missed. This delay period permits the completion of a Surveillance before complying with Required Actions or other remedial measures that might preclude ~~completion~~ performance of the Surveillance.

BASES

SR 3.0.3 (continued)

The basis for this delay period includes consideration of unit conditions, adequate planning, availability of personnel, the time required to perform the Surveillance, the safety significance of the delay in completing the required Surveillance, and the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the requirements.

When a Surveillance with a Frequency based not on time intervals, but upon specified unit conditions, operating situations, or requirements of regulations (e.g., prior to entering MODE 1 after each fuel loading, or in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions, etc.) is discovered to not have been performed when specified, SR 3.0.3 allows for the full delay period of up to the specified Frequency to perform the Surveillance. However, since there is not a time interval specified, the missed Surveillance should be performed at the first reasonable opportunity.

SR 3.0.3 provides a time limit for, and allowances for the performance of, Surveillances that become applicable as a consequence of MODE changes imposed by Required Actions.

SR 3.0.3 is only applicable if there is a reasonable expectation the associated equipment is Operable or that variables are within limits, and it is expected that the Surveillance will be met when performed. Many factors should be considered, such as the period of time since the Surveillance was last performed, or whether the Surveillance, or a portion thereof, has ever been performed, and any other indications, tests, or activities that might support the expectation that the Surveillance will be met when performed. An example would be a relay contact that has never been tested in accordance with a particular SR, but the adjacent, physically connected relay contacts have been tested, the relay contacts have been tested by another SR, or historical operation of the actuated equipment has been successful. The rigor of determining whether there is a reasonable expectation a Surveillance will be met when performed should increase based on the length of time since the last performance of the Surveillance. A review of the Surveillance history may be sufficient to provide a reasonable expectation that the Surveillance will be met when performed. For Surveillances that have never been performed, a more rigorous evaluation, documented in sufficient detail to explain the basis for the determination, should be completed to compensate for the lack of performance history.

Failure to comply with specified Frequencies for SRs is expected to be an infrequent occurrence. Use of the delay period established by SR 3.0.3 is a flexibility which is not intended to be used ~~as an operational convenience~~ to extend Surveillance intervals. While up to 24 hours or the

limit of the specified Frequency is provided to perform the missed Surveillance, it is expected that the missed Surveillance will be performed at the first reasonable opportunity. The determination of the first reasonable opportunity should include consideration of the impact on plant risk (from delaying the Surveillance as well as any plant configuration changes required or shutting the plant down to perform the Surveillance) and impact on any analysis assumptions, in addition to unit conditions, planning, availability of personnel, and the time required to perform the Surveillance. This 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.” This Regulatory Guide addresses consideration of temporary and aggregate risk impacts, determination of risk management action thresholds, and risk management action up to and including plant

BASES

SR 3.0.3 (continued)

shutdown. The missed Surveillance should be treated as an emergent condition as discussed in the Regulatory Guide. The risk evaluation may use quantitative, qualitative, or blended methods. The degree of depth and rigor of the evaluation should be commensurate with the importance of the component. Missed Surveillances for important components should be analyzed quantitatively. If the results of the risk evaluation determine the risk increase is significant, this evaluation should be used to determine the safest course of action. All missed Surveillances will be placed in the licensee's Corrective Action Program.

If a Surveillance is not completed within the allowed delay period, then the equipment is considered inoperable or the variable is considered outside the specified limits and the Completion Times of the Required Actions for the applicable LCO Conditions begin immediately upon expiration of the delay period. If a Surveillance is failed within the delay period, then the equipment is inoperable, or the variable is outside the specified limits and the Completion Times of the Required Actions for the applicable LCO Conditions begin immediately upon the failure of the Surveillance.

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. 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 a Surveillance not being met in accordance with LCO 3.0.4.

BASES

SR 3.0.4 (continued)

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, MODE 3 to MODE 4, and MODE 4 to MODE 5.

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.

1.0 USE AND APPLICATION

1.3 Completion Times

PURPOSE	The purpose of this section is to establish the Completion Time convention and to provide guidance for its use.
BACKGROUND	Limiting Conditions for Operation (LCOs) specify minimum requirements for ensuring safe operation of the unit. The ACTIONS associated with an LCO state Conditions that typically describe the ways in which the requirements of the LCO can fail to be met. Specified with each stated Condition are Required Action(s) and Completion Time(s).
DESCRIPTION	The Completion Time is the amount of time allowed for completing a Required Action. It is referenced to the time of discovery of a situation ~~(e.g., inoperable equipment or variable not within limits)~~ that requires entering an ACTIONS Condition unless otherwise specified, providing the unit is in a MODE or specified condition stated in the Applicability of the LCO. The time of discovery is when the LCO is declared not met. The time of discovery is subsequent to both the time of occurrence of a degraded or nonconforming condition and the time of identification and evaluation of the degraded or nonconforming condition. For example, it may be established that a component is inoperable following improper maintenance performed in the past. The time of discovery (when the LCO is declared not met) is subsequent to both the time of occurrence (the improper maintenance), the time when it is identified that the component is degraded or nonconforming, and the time required to determine that the degraded or nonconforming component is inoperable. Required Actions must be completed prior to the expiration of the specified Completion Time. An ACTIONS Condition remains in effect and the Required Actions apply until the Condition no longer exists or the unit is not within the LCO Applicability. If situations are discovered that require entry into more than one Condition at a time within a single LCO (multiple Conditions), the Required Actions for each Condition must be performed within the associated Completion Time. When in multiple Conditions, separate Completion Times are tracked for each Condition starting from the time of discovery of the situation that required entry into the Condition. 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, unless specifically stated. The Required Actions of the Condition continue to apply to each additional failure, with Completion Times based on initial entry into the Condition. However, when a subsequent division, subsystem, component, or variable expressed in the Condition is discovered to be inoperable or not

3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

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, LCO 3.0.7, and LCO 3.0.8.
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.
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. ----------REVIEWER'S NOTE---------- The brackets around the time provided to reach MODE 2 allow a plant to extend the time from 7 hours to a plant specific time. Before the time can be changed, plant specific data must be provided to support the extended time. ----------
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 following entry into the MODE or other specified condition in the Applicability will permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time;

LCO Applicability

LCO 3.0.4 (continued)

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.

LCO 3.0.5

The Required Actions of Conditions ~~Equipment removed from service or declared inoperable to comply with ACTIONS may be~~ are not required to be met~~returned to service~~ under administrative control solely to perform testing required to demonstrate the LCO is met or that other LCOs are met~~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 the LCO is met or that other LCOs are met ~~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 5.5.12, "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.

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.

LCO 3.0.7

Special Operations LCOs in Section 3.10 allow specified Technical Specifications (TS) requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TS requirements remain unchanged. Compliance with Special Operations LCOs is optional. When a Special Operations LCO is desired to be met but is not met, the ACTIONS of the Special Operations LCO shall be met. When a Special Operations LCO is not desired to be met, entry into a

B 3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

BASES

LCOs	LCO 3.0.1 through LCO 3.0.8 establish the general requirements applicable to all Specifications in Section 3.1 through 3.10 and apply at all times, unless otherwise stated.
LCO 3.0.1	LCO 3.0.1 establishes the Applicability statement within each individual Specification as the requirement for when the LCO is required to be met (i.e., when the unit is in the MODES or other specified conditions of the Applicability statement of each Specification).
LCO 3.0.2	LCO 3.0.2 establishes that upon discovery of a failure to meet an LCO, the associated ACTIONS shall be met. The time of discovery is when the LCO is declared not met. The time of discovery is subsequent to both the time of occurrence of a degraded or nonconforming condition and the time of identification and evaluation of the degraded or nonconforming condition. The Completion Time of each Required Action for an ACTIONS Condition is applicable from the point in time that an ACTIONS Condition is entered unless otherwise specified. The Required Actions establish those remedial measures that must be taken within specified Completion Times when the requirements of an LCO are not met. This Specification establishes that: a. Completion of the Required Actions within the specified Completion Times constitutes compliance with a Specification and b. Completion of the Required Actions is not required when an LCO is met within the specified Completion Time, unless otherwise specified. There are two basic types of Required Actions. The first type of Required Action specifies a time limit in which the LCO must be met. This time limit is the Completion Time to restore an inoperable system or component to OPERABLE status or to restore variables to within specified limits. If this type of Required Action is not completed within the specified Completion Time, a shutdown may be required to place the unit in a MODE or condition in which the Specification is not applicable. (Whether stated as a Required Action or not, correction of the entered Condition is an action that may always be considered upon entering ACTIONS.) The second type of Required Action specifies the remedial measures that permit continued operation of the unit that is not further restricted by the Completion Time. In this case, compliance with the Required Actions provides an acceptable level of safety for continued operation. Completing the Required Actions is not required when an LCO is met or is no longer applicable, unless otherwise stated in the individual Specifications.

BASES

LCO 3.0.2 (continued)

The nature of some Required Actions of some Conditions necessitates that, once the Condition is entered, the Required Actions must be completed even though the associated Conditions no longer exist. The individual LCO's ACTIONS specify the Required Actions where this is the case. An example of this is in LCO 3.4.10, "RCS Pressure and Temperature (P/T) Limits."

The Completion Times of the Required Actions are also applicable when a system or component is removed from service intentionally. The reasons for intentionally relying on the ACTIONS include, but are not limited to, performance of Surveillances, preventive maintenance, corrective maintenance, or investigation of operational problems. Entering ACTIONS for these reasons must be done in a manner that does not compromise safety. Intentional entry into ACTIONS should be done in a manner that examines and balances the net effect on safety. Intentional entry into ACTIONS should not be ~~made~~ used for ~~operational convenience. Additionally, if intentional entry into ACTIONS~~ voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant systems or components equipment being inoperable~~, alternatives should be used instead~~. Doing so limits the time both subsystems/divisions of a safety function are inoperable and limits the time conditions exist which may result in LCO 3.0.3 being entered. Individual Specifications may specify a time limit for performing an SR when equipment is removed from service or bypassed for testing. In this case, the Completion Times of the Required Actions are applicable when this time limit expires, if the equipment remains removed from service or bypassed.

When a change in MODE or other specified condition is required to comply with Required Actions, the unit may enter a MODE or other specified condition in which another Specification becomes applicable. In this case, the Completion Times of the associated Required Actions would apply from the point in time that the new Specification becomes applicable, and the ACTIONS Condition(s) are entered.

LCO 3.0.3

LCO 3.0.3 establishes the actions that must be implemented when an LCO is not met and:

a. An associated Required Action and Completion Time is not met and no other Condition applies or

BASES

LCO 3.0.3 (continued)

b. The condition of the unit is not specifically addressed by the associated ACTIONS. This means that no combination of Conditions stated in the ACTIONS can be made that exactly corresponds to the actual condition of the unit. Sometimes, possible combinations of Conditions are such that entering LCO 3.0.3 is warranted; in such cases, the ACTIONS specifically state a Condition corresponding to such combinations and also that LCO 3.0.3 be entered immediately.

This Specification delineates the time limits for placing the unit in a safe MODE or other specified condition when operation cannot be maintained within the limits for safe operation as defined by the LCO and its ACTIONS. It is not intended to be used ~~as an operational convenience that permits~~ to permit routine voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant systems or components being inoperable.

Upon entering LCO 3.0.3, 1 hour is allowed to prepare for an orderly shutdown before initiating a change in unit operation. This includes time to permit the operator to coordinate the reduction in electrical generation with the load dispatcher to ensure the stability and availability of the electrical grid. The time limits specified to ~~reach~~ enter lower MODES of operation permit the shutdown to proceed in a controlled and orderly manner that is well within the specified maximum cooldown rate and within the capabilities of the unit, assuming that only the minimum required equipment is OPERABLE. This reduces thermal stresses on components of the Reactor Coolant System and the potential for a plant upset that could challenge safety systems under conditions to which this Specification applies. The use and interpretation of specified times to complete the actions of LCO 3.0.3 are consistent with the discussion of Section 1.3, Completion Times.

A unit shutdown required in accordance with LCO 3.0.3 may be terminated and LCO 3.0.3 exited if any of the following occurs:

a. The LCO is now met,

b. The LCO is no longer applicable.

c~~b~~. A Condition exists for which the Required Actions have now been performed, or

d~~c~~. ACTIONS exist that do not have expired Completion Times. These Completion Times are applicable from the point in time that the Condition is initially entered and not from the time LCO 3.0.3 is exited.

BASES

LCO 3.0.3 (continued)

The time limits of LCO 3.0.3 allow 37 hours for the unit to be in MODE 4 when a shutdown is required during MODE 1 operation. If the unit is in a lower MODE of operation when a shutdown is required, the time limit for ~~reaching~~ entering the next lower MODE applies. If a lower MODE is ~~reached~~ entered in less time than allowed, however, the total allowable time to ~~reach~~ enter MODE 4, or other applicable MODE, is not reduced. For example, if MODE 2 is ~~reached~~ entered in 2 hours, then the time allowed for ~~reaching~~ entering MODE 3 is the next 11 hours, because the total time for ~~reaching~~ entering MODE 3 is not reduced from the allowable limit of 13 hours. Therefore, if remedial measures are completed that would permit a return to MODE 1, a penalty is not incurred by having to ~~reach~~ enter a lower MODE of operation in less than the total time allowed.

In MODES 1, 2, and 3, LCO 3.0.3 provides actions for Conditions not covered in other Specifications. The requirements of LCO 3.0.3 do not apply in MODES 4 and 5 because the unit is already in the most restrictive Condition required by LCO 3.0.3. The requirements of LCO 3.0.3 do not apply 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.

Exceptions to LCO 3.0.3 are provided in instances where requiring a unit shutdown, in accordance with LCO 3.0.3, would not provide appropriate remedial measures for the associated condition of the unit. An example of this is in LCO 3.7.8, "Spent Fuel Storage Pool Water Level." LCO 3.7.8 has an Applicability of "During movement of irradiated fuel assemblies in the spent fuel storage pool." Therefore, this LCO can be applicable in any or all MODES. If the LCO and the Required Actions of LCO 3.7.8 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 3.7.8 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

LCO 3.0.4 establishes limitations on changes in MODES or other specified conditions in the Applicability when an LCO is not met. It allows placing the unit in a MODE or other specified condition stated in that Applicability (e.g., the Applicability desired to be entered) when unit conditions are such that the requirements of the LCO would not be met, in accordance with either LCO 3.0.4.a, LCO 3.0.4.b, or LCO 3.0.4.c.

BASES

LCO 3.0.4 (continued)

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~~ following entry into the MODE or other specified condition in the Applicability will permit continued operation within the MODE or other specified condition for an unlimited period of time. Compliance with ~~Required Actions~~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.

For example, LCO 3.0.4.a may be used when the Required Action states that an inoperable subsystem be restored to OPERABLE status within the Completion Time, and the subsequent default ACTION ("Required Action and associated Completion Time not met") allows the OPERABLE subsystem to be placed in operation. Use of LCO 3.0.4.a is acceptable because the associated ACTIONS to be entered following entry into the MODE include ACTIONS (place the OPERABLE subsystem in operation) that permit plant operation for an unlimited period of time in the MODE or other specified condition to be entered.

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 to 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.

BASES

LCO 3.0.4 (continued)

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 systems 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~~[Containment Air Temperature, Containment Pressure, MCPR, Moderator Temperature Coefficient]~~), 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.

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. 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 meet, 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 Specifications.

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 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.

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~~ provides an exception to LCO 3.0.2 (e.g., to not comply with the applicable Required Action(s)) ~~to allow~~ under administrative controls for the sole purpose of allowing the performance of required testing to demonstrate:

a. The LCO is met, ~~The OPERABILITY of the equipment being returned to service~~ or

b. Other LCOs are met~~The OPERABILITY of other equipment~~.

LCO 3.0.5 allows Required Actions to not be followed temporarily in order to demonstrate an LCO is met without exiting the Applicability of the Specification.

The administrative controls ensure the time the Required Actions are not met ~~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 the LCO is met~~OPERABILITY~~. This Specification does not provide time to perform any other preventive or corrective maintenance. LCO 3.0.5 should not be used in lieu of other

practicable alternatives that comply with ACTIONS and that do not require changing MODE and other specified conditions in the Applicability, in order to demonstrate the LCO is met or that other LCOs are met. LCO 3.0.5 is not intended to be used repeatedly.

An example of demonstrating the LCO is metOPERABILITY of the equipment with the Required Actions not met is opening a manual valve that was closed to comply with Required Actions to isolate a flowpath with excessive Reactor Coolant System (RCS) Pressure Isolation Valve (PIV) leakage in order to perform testing to demonstrate that RCS PIV leakage is now within limit.being returned to service is reopening a containment isolation valve that has been closed to comply with Required Actions and must be reopened to perform the required testing.

BASES

LCO 3.0.5 (continued)

Another example of demonstrating the LCO is met ~~OPERABILITY of other equipment~~ is taking an inoperable channel or trip system out of the tripped condition to prevent the trip function from occurring during the performance of required testing on another channel in the other trip system. ~~A similar example of demonstrating the OPERABILITY of other equipment is taking an inoperable channel or trip system out of the tripped condition to permit the logic to function and indicate the appropriate response during the performance of required testing on another channel in the same trip system.~~

LCO 3.0.6

LCO 3.0.6 establishes an exception to LCO 3.0.2 for supported systems that have a support system LCO specified in the Technical Specifications (TS). This exception is provided because LCO 3.0.2 would require that the Conditions and Required Actions of the associated inoperable supported system LCO be entered solely due to the inoperability of the support system. This exception is justified because the actions that are required to ensure the plant is maintained in a safe condition are specified in the support system LCO's Required Actions. These Required Actions may include entering the supported system's Conditions and Required Actions or may specify other Required Actions.

When a support system is inoperable and there is an LCO specified for it in the TS, the supported system(s) are required to be declared inoperable if determined to be inoperable as a result of the support system inoperability. However, it is not necessary to enter into the supported systems' Conditions and Required Actions unless directed to do so by the support system's Required Actions. The potential confusion and inconsistency of requirements related to the entry into multiple support and supported systems' LCOs' Conditions and Required Actions are eliminated by providing all the actions that are necessary to ensure the plant is maintained in a safe condition in the support system's Required Actions.

However, there are instances where a support system's Required Action may either direct a supported system to be declared inoperable or direct entry into Conditions and Required Actions for the supported system. This may occur immediately or after some specified delay to perform some other Required Action. Regardless of whether it is immediate or after some delay, 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.

BASES

LCO 3.0.6 (continued)

Specification 5.5.12, "Safety Function Determination Program (SFDP)," ensures loss of safety function is detected and appropriate actions are taken. Upon entry into LCO 3.0.6, an evaluation shall be made to determine if loss of safety function exists. Additionally, other limitations, remedial actions, or compensatory actions may be identified as a result of the support system inoperability and corresponding exception to entering supported system Conditions and Required Actions. The SFDP implements the requirements of LCO 3.0.6.

Cross division checks to identify a loss of safety function for those support systems that support safety systems are required. The cross division check verifies that the supported systems of the redundant OPERABLE support system are OPERABLE, thereby ensuring safety function is retained. [A loss of safety function may exist when a support system is inoperable, and:

a. A required system redundant to system(s) supported by the inoperable support system is also inoperable (EXAMPLE B 3.0.6-1),

b. A required system redundant to system(s) in turn supported by the inoperable supported system is also inoperable (EXAMPLE B 3.0.6-2), or

c. A required system redundant to support system(s) for the supported systems (a) and (b) above is also inoperable (EXAMPLE B 3.0.6-3).

<u>EXAMPLE B 3.0.6-1</u>

If System 2 of Train A is inoperable and System 5 of Train B is inoperable, a loss of safety function exists in supported System 5.

<u>EXAMPLE B 3.0.6-2</u>

If System 2 of Train A is inoperable, and System 11 of Train B is inoperable, a loss of safety function exists in System 11 which is in turn supported by System 5.

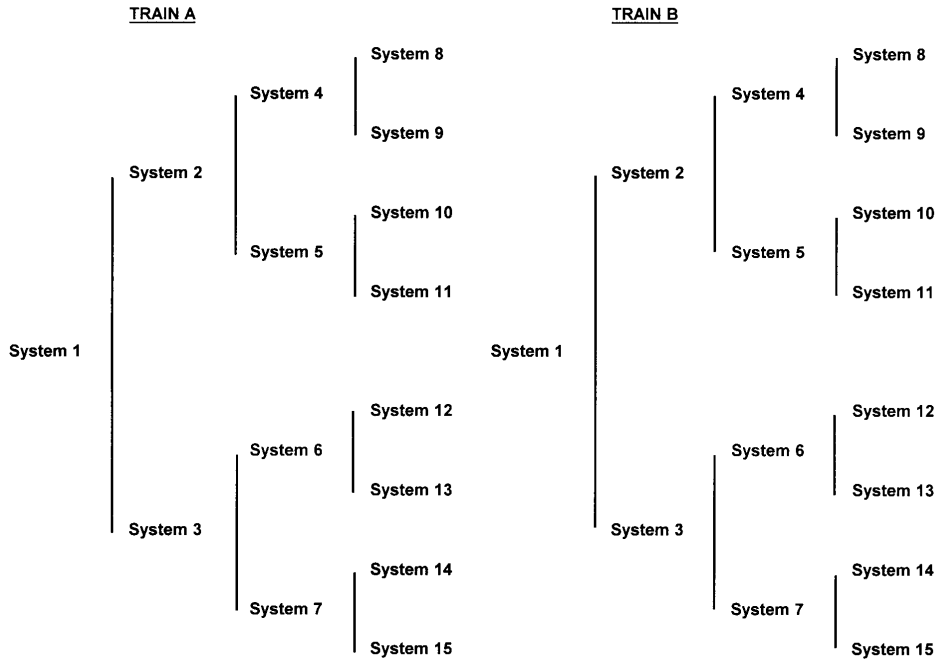
<u>EXAMPLE B 3.0.6-3</u>

If System 2 of Train A is inoperable, and System 1 of Train B is inoperable, a loss of safety function exists in Systems 2, 4, 5, 8, 9, 10 and 11.]

BASES

LCO 3.0.6 (continued)

If this evaluation determines that a loss of safety function exists, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.



[Figure B 3.0-1
Configuration of Trains and Systems]

This loss of safety function does not require the assumption of additional single failures or loss of offsite power. Since operations are being restricted in accordance with the ACTIONS of the support system, any resulting temporary loss of redundancy or single failure protection is taken into account. Similarly, the ACTIONS for inoperable offsite circuit(s) and inoperable diesel generator(s) provide the necessary restriction for cross train inoperabilities. This explicit cross train verification for inoperable AC electrical power sources also acknowledges that supported system(s) are not declared inoperable solely as a result of inoperability of a normal or emergency electrical power source (refer to the definition of OPERABILITY).

BASES

LCO 3.0.6 (continued)

When loss of safety function is determined to exist, and the SFDP requires entry into the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists, consideration must be given to the specific type of function affected. Where a loss of function is solely due to a single Technical Specification support system (e.g., loss of automatic start due to inoperable instrumentation, or loss of pump suction source due to low tank level) the appropriate LCO is the LCO for the support system. The ACTIONS for a support system LCO adequately address the inoperabilities of that system without reliance on entering its supported system LCO. When the loss of function is the result of multiple support systems, the appropriate LCO is the LCO for the supported system.

LCO 3.0.7

There are certain special tests and operations required to be performed at various times over the life of the unit. These special tests and operations are necessary to demonstrate select unit performance characteristics, to perform special maintenance activities, and to perform special evolutions. Special Operations LCOs in Section 3.10 allow specified TS requirements to be changed to permit performances of these special tests and operations, which otherwise could not be performed if required to comply with the requirements of these TS. Unless otherwise specified, all the other TS requirements remain unchanged. This will ensure all appropriate requirements of the MODE or other specified condition not directly associated with or required to be changed to perform the special test or operation will remain in effect.

The Applicability of a Special Operations LCO represents a condition not necessarily in compliance with the normal requirements of the TS. Compliance with Special Operations LCOs is optional. A special operation may be performed either under the provisions of the appropriate Special Operations LCO or under the other applicable TS requirements. If it is desired to perform the special operation under the provisions of the Special Operations LCO, the requirements of the Special Operations LCO shall be followed. When a Special Operations LCO requires another LCO to be met, only the requirements of the LCO statement are required to be met regardless of that LCO's Applicability (i.e., should the requirements of this other LCO not be met, the ACTIONS of the Special Operations LCO apply, not the ACTIONS of the other LCO). However, there are instances where the Special Operations LCO ACTIONS may direct the other LCOs' ACTIONS be met. The Surveillances of the other LCO are not required to be met, unless specified in the Special Operations LCO. If conditions exist such that the Applicability of any other LCO is met, all the other LCO's requirements (ACTIONS and SRs) are required to be met concurrent with the requirements of the Special Operations LCO.

BASES

LCO 3.0.8

LCO 3.0.8 establishes conditions under which systems are considered to remain capable of performing their intended safety function when associated snubbers are not capable of providing their associated support function(s). This LCO states that the supported system is not considered to be inoperable solely due to one or more snubbers not capable of performing their associated support function(s). This is appropriate because a limited length of time is allowed for maintenance, testing, or repair of one or more snubbers not capable of performing their associated support function(s) and appropriate compensatory measures are specified in the snubber requirements, which are located outside of the Technical Specifications (TS) under licensee control. The snubber requirements do not meet the criteria in 10 CFR 50.36(c)(2)(ii), and, as such, are appropriate for control by the licensee.

If the allowed time expires and the snubber(s) are unable to perform their associated support function(s), the affected supported system's LCO(s) must be declared not met and the Conditions and Required Actions entered in accordance with LCO 3.0.2.

LCO 3.0.8.a applies when one or more snubbers are not capable of providing their associated support function(s) to a single train or subsystem of a multiple train or subsystem supported system or to a single train or subsystem supported system. LCO 3.0.8.a allows 72 hours to restore the snubber(s) before declaring the supported system inoperable. The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system occurring while the snubber(s) are not capable of performing their associated support function and due to the availability of the redundant train of the supported system.

LCO 3.0.8.b applies when one or more snubbers are not capable of providing their associated support function(s) to more than one train or subsystem of a multiple train or subsystem supported system.
LCO 3.0.8.b allows 12 hours to restore the snubber(s) before declaring the supported system inoperable. The 12 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system occurring while the snubber(s) are not capable of performing their associated support function.

LCO 3.0.8 requires that risk be assessed and managed. Industry and NRC guidance on the implementation of 10 CFR 50.65(a)(4) (the Maintenance Rule) does not address seismic risk. However, use of LCO 3.0.8 should be considered with respect to other plant maintenance activities, and integrated into the existing Maintenance Rule process to the extent possible so that maintenance on any unaffected train or

BASES

LCO 3.0.8 (continued)

subsystem is properly controlled, and emergent issues are properly addressed. The risk assessment need not be quantified, but may be a qualitative awareness of the vulnerability of systems and components when one or more snubbers are not able to perform their associated support function.

B 3.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

BASES

SRs	SR 3.0.1 through SR 3.0.4 establish the general requirements applicable to all Specifications in Section 3.1 through 3.10 and apply at all times, unless otherwise stated. SR 3.0.1 through SR 3.0.4 apply in Chapter 5 only when invoked by a Chapter 5 Specification.
SR 3.0.1	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. Surveillances may be performed by means of any series of sequential, overlapping, or total steps provided the entire Surveillance is performed within the specified Frequency. Additionally, the definitions related to instrument testing (e.g., CHANNEL CALIBRATION) specify that these tests are performed by means of any series of sequential, overlapping, or total steps. 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. Unplanned events may satisfy the requirements (including applicable acceptance criteria) for a given SR. In this case, the unplanned event may be credited as fulfilling the performance of the SR. This allowance includes those SRs whose performance is normally precluded in a given MODE or other specified condition.

BASES

SR 3.0.1 (continued)

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.

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 > [800 psi]. 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 [800 psi] to perform other necessary testing.

b. High pressure coolant injection (HPCI) maintenance during shutdown that requires system functional tests at a specified pressure. Provided other appropriate testing is satisfactorily completed, startup can proceed with HPCI 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).

BASES

SR 3.0.2 (continued)

The 25% extension does not significantly degrade the reliability that results from performing the Surveillance at its specified Frequency. This is based on the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the SRs. There are exceptions to SR 3.0.2 for certain ~~are those~~ Surveillances to ~~for~~ which the 25% extension of the interval specified in the Frequency may not be applied~~does not apply~~. These exceptions are stated in the individual Specifications. ~~The requirements of regulations take precedence over the TS.~~ For those Surveillances in Chapter 3 whose Frequency refers to a Program in Section 5.5, the referenced Program specification must be examined to determine if SR 3.0.2 applies. For example, the Diesel Fuel Oil Testing Program is referenced in Specification 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," and the program invokes SR 3.0.2. An example of where SR 3.0.2 does not apply is in the Primary Containment Leakage Rate Testing Program which does not reference SR 3.0.2. SR 3.0.2 is not applicable because the Program establishes Frequencies to meet the requirements of regulations. ~~An example of where SR 3.0.2 does not apply is in the Primary Containment Leakage Rate Testing Program. This program establishes testing requirements and Frequencies in accordance with the requirements of regulations.~~ The TS cannot in and of themselves extend a test interval specified in the regulations.

As stated in SR 3.0.2, the 25% extension also does not apply to the initial portion of a periodic Completion Time that requires performance on a "once per ..." basis. The 25% extension applies to each performance after the initial performance. The initial performance of the Required Action, whether it is a particular Surveillance or some other remedial action, is considered a single action with a single Completion Time. One reason for not allowing the 25% extension to this Completion Time is that such an action usually verifies that no loss of function has occurred by checking the status of redundant or diverse components or accomplishes the function of the inoperable equipment in an alternative manner.

The provisions of SR 3.0.2 are not intended to be used repeatedly ~~merely as an operational convenience~~ to extend Surveillance intervals (other than those consistent with refueling intervals) or periodic Completion Time intervals beyond those specified.

SR 3.0.3

SR 3.0.3 establishes the flexibility to defer declaring affected equipment inoperable or an affected variable outside the specified limits when a Surveillance has not been ~~completed~~ performed within the specified Frequency. A delay period of up to 24 hours or up to the limit of the specified Frequency, whichever is greater, applies from the point in time that it is discovered that the Surveillance has not been performed in

accordance with SR 3.0.2, and not at the time that the specified Frequency was not met.

BASES

SR 3.0.3 (continued)

This delay period provides adequate time to ~~complete~~ perform Surveillances that have been missed. This delay period permits the completion of a Surveillance before complying with Required Actions or other remedial measures that might preclude ~~completion~~ performance of the Surveillance.

The basis for this delay period includes consideration of unit conditions, adequate planning, availability of personnel, the time required to perform the Surveillance, the safety significance of the delay in completing the required Surveillance, and the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the requirements.

When a Surveillance with a Frequency based not on time intervals, but upon specified unit conditions, operating situations, or requirements of regulations (e.g., prior to entering MODE 1 after each fuel loading, or in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions, etc.) is discovered to not have been performed when specified, SR 3.0.3 allows for the full delay period of up to the specified Frequency to perform the Surveillance. However, since there is not a time interval specified, the missed Surveillance should be performed at the first reasonable opportunity.

SR 3.0.3 provides a time limit for, and allowances for the performance of, Surveillances that become applicable as a consequence of MODE changes imposed by Required Actions.

SR 3.0.3 is only applicable if there is a reasonable expectation the associated equipment is Operable or that variables are within limits, and it is expected that the Surveillance will be met when performed. Many factors should be considered, such as the period of time since the Surveillance was last performed, or whether the Surveillance, or a portion thereof, has ever been performed, and any other indications, tests, or activities that might support the expectation that the Surveillance will be met when performed. An example would be a relay contact that has never been tested in accordance with a particular SR, but the adjacent, physically connected relay contacts have been tested, the relay contacts have been tested by another SR, or historical operation of the actuated equipment has been successful. The rigor of determining whether there is a reasonable expectation a Surveillance will be met when performed should increase based on the length of time since the last performance of the Surveillance. A review of the Surveillance history may be sufficient to provide a reasonable expectation that the Surveillance will be met when performed. For Surveillances that have never been performed, a more rigorous evaluation, documented in sufficient detail to explain the basis

for the determination, should be completed to compensate for the lack of performance history.

Failure to comply with specified Frequencies for SRs is expected to be an infrequent occurrence. Use of the delay period established by SR 3.0.3 is a flexibility which is not intended to be used ~~as an operational convenience~~ to extend Surveillance intervals. While up to 24 hours or the limit of the specified Frequency is provided to perform the missed Surveillance, it is expected that the missed Surveillance will be performed at the first reasonable opportunity. The determination of the first reasonable opportunity should include consideration of the impact on plant risk (from delaying the Surveillance as well as any plant configuration changes required or shutting the plant down to perform the Surveillance) and impact on any analysis assumptions, in addition to unit conditions, planning, availability of personnel, and the time required to perform the Surveillance. This 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.” This Regulatory Guide addresses consideration of temporary and

BASES

SR 3.0.3 (continued)

aggregate risk impacts, determination of risk management action thresholds, and risk management action up to and including plant shutdown. The missed Surveillance should be treated as an emergent condition as discussed in the Regulatory Guide. The risk evaluation may use quantitative, qualitative, or blended methods. The degree of depth and rigor of the evaluation should be commensurate with the importance of the component. Missed Surveillances for important components should be analyzed quantitatively. If the results of the risk evaluation determine the risk increase is significant, this evaluation should be used to determine the safest course of action. All missed Surveillances will be placed in the licensee's Corrective Action Program.

If a Surveillance is not completed within the allowed delay period, then the equipment is considered inoperable or the variable is considered outside the specified limits and the Completion Times of the Required Actions for the applicable LCO Conditions begin immediately upon expiration of the delay period. If a Surveillance is failed within the delay period, then the equipment is inoperable, or the variable is outside the specified limits and the Completion Times of the Required Actions for the applicable LCO Conditions begin immediately upon the failure of the Surveillance.

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. 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 a Surveillance not being met in accordance with LCO 3.0.4.

BASES

SR 3.0.4 (continued)

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.

1.0 USE AND APPLICATION

1.3 Completion Times

PURPOSE	The purpose of this section is to establish the Completion Time convention and to provide guidance for its use.
BACKGROUND	Limiting Conditions for Operation (LCOs) specify minimum requirements for ensuring safe operation of the unit. The ACTIONS associated with an LCO state Conditions that typically describe the ways in which the requirements of the LCO can fail to be met. Specified with each stated Condition are Required Action(s) and Completion Time(s).
DESCRIPTION	The Completion Time is the amount of time allowed for completing a Required Action. It is referenced to the time of discovery of a situation ~~(e.g., inoperable equipment or variable not within limits)~~ that requires entering an ACTIONS Condition unless otherwise specified, providing the unit is in a MODE or specified condition stated in the Applicability of the LCO. The time of discovery is when the LCO is declared not met. The time of discovery is subsequent to both the time of occurrence of a degraded or nonconforming condition and the time of identification and evaluation of the degraded or nonconforming condition. For example, it may be established that a component is inoperable following improper maintenance performed in the past. The time of discovery (when the LCO is declared not met) is subsequent to both the time of occurrence (the improper maintenance), the time when it is identified that the component is degraded or nonconforming, and the time required to determine that the degraded or nonconforming component is inoperable. Required Actions must be completed prior to the expiration of the specified Completion Time. An ACTIONS Condition remains in effect and the Required Actions apply until the Condition no longer exists or the unit is not within the LCO Applicability. If situations are discovered that require entry into more than one Condition at a time within a single LCO (multiple Conditions), the Required Actions for each Condition must be performed within the associated Completion Time. When in multiple Conditions, separate Completion Times are tracked for each Condition starting from the time of discovery of the situation that required entry into the Condition. 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, unless specifically stated. The Required Actions of the Condition continue to apply to each additional failure, with Completion Times based on initial entry into the Condition. However, when a subsequent division, subsystem, component, or variable expressed in the Condition is discovered to be inoperable or not

3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

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, LCO 3.0.7, and LCO 3.0.8.
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.
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 MODE or other specified condition in the Applicability shall only be made: a. When the associated ACTIONS to be entered following entry into the MODE or other specified condition in the Applicability will 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.

LCO Applicability

LCO 3.0.4 (continued)

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.

LCO 3.0.5

The Required Actions of Conditions ~~Equipment removed from service or declared inoperable to comply with ACTIONS may be~~ are not required to be met ~~returned to service~~ under administrative control solely to perform testing required to demonstrate the LCO is met or that other LCOs are met~~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~~the LCO is met or that other LCOs are met.

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 5.5.12, "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.

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.

LCO 3.0.7

Special Operations LCOs in Section 3.10 allow specified Technical Specifications (TS) requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TS requirements remain LCO 3.0.7 unchanged. Compliance with Special Operations LCOs is optional. When a Special Operations LCO is desired to be met but is not met, the ACTIONS of the Special Operations LCO shall be met. When a Special Operations LCO is not desired to be met, entry into a MODE or other specified condition in the Applicability shall only be made in accordance with the other applicable Specifications.

LCO Applicability

LCO 3.0.8 When one or more required snubbers are unable to perform their associated support function(s), any affected supported LCO(s) are not required to be declared not met solely for this reason if risk is assessed and managed, and:

a. the snubbers not able to perform their associated support function(s) are associated with only one train or subsystem of a multiple train or subsystem supported system or are associated with a single train or subsystem supported system and are able to perform their associated support function within 72 hours; or

b. the snubbers not able to perform their associated support function(s) are associated with more than one train or subsystem of a multiple train or subsystem supported system and are able to perform their associated support function within 12 hours.

At the end of the specified period the required snubbers must be able to perform their associated support function(s), or the affected supported system LCO(s) shall be declared not met.

B 3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

BASES

LCOs	LCO 3.0.1 through LCO 3.0.8 establish the general requirements applicable to all Specifications in Section 3.1 through 3.10 and apply at all times, unless otherwise stated.
LCO 3.0.1	LCO 3.0.1 establishes the Applicability statement within each individual Specification as the requirement for when the LCO is required to be met (i.e., when the unit is in the MODES or other specified conditions of the Applicability statement of each Specification).
LCO 3.0.2	LCO 3.0.2 establishes that upon discovery of a failure to meet an LCO, the associated ACTIONS shall be met. The time of discovery is when the LCO is declared not met. The time of discovery is subsequent to both the time of occurrence of a degraded or nonconforming condition and the time of identification and evaluation of the degraded or nonconforming condition. The Completion Time of each Required Action for an ACTIONS Condition is applicable from the point in time that an ACTIONS Condition is entered unless otherwise specified. The Required Actions establish those remedial measures that must be taken within specified Completion Times when the requirements of an LCO are not met. This Specification establishes that: a. Completion of the Required Actions within the specified Completion Times constitutes compliance with a Specification and b. Completion of the Required Actions is not required when an LCO is met within the specified Completion Time, unless otherwise specified. There are two basic types of Required Actions. The first type of Required Action specifies a time limit in which the LCO must be met. This time limit is the Completion Time to restore an inoperable system or component to OPERABLE status or to restore variables to within specified limits. If this type of Required Action is not completed within the specified Completion Time, a shutdown may be required to place the unit in a MODE or condition in which the Specification is not applicable. (Whether stated as a Required Action or not, correction of the entered Condition is an action that may always be considered upon entering ACTIONS.) The second type of Required Action specifies the remedial measures that permit continued operation of the unit that is not further restricted by the Completion Time. In this case, compliance with the Required Actions provides an acceptable level of safety for continued operation. Completing the Required Actions is not required when an LCO is met or is no longer applicable, unless otherwise stated in the individual Specifications.

BASES

LCO 3.0.2 (continued)

The nature of some Required Actions of some Conditions necessitates that, once the Condition is entered, the Required Actions must be completed even though the associated Conditions no longer exist. The individual LCO's ACTIONS specify the Required Actions where this is the case. An example of this is in LCO 3.4.11, "RCS Pressure and Temperature (P/T) Limits."

The Completion Times of the Required Actions are also applicable when a system or component is removed from service intentionally. The reasons for intentionally relying on the ACTIONS include, but are not limited to, performance of Surveillances, preventive maintenance, corrective maintenance, or investigation of operational problems. Entering ACTIONS for these reasons must be done in a manner that does not compromise safety. Intentional entry into ACTIONS should be done in a manner that examines and balances the net effect on safety. Intentional entry into ACTIONS should not be ~~made~~ used for ~~operational convenience. Additionally, if intentional entry into ACTIONS~~ voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant ~~equipment~~ systems or components being inoperable~~, alternatives should be used instead~~. Doing so limits the time both subsystems/divisions of a safety function are inoperable and limits the time conditions exist which may result in LCO 3.0.3 being entered. Individual Specifications may specify a time limit for performing an SR when equipment is removed from service or bypassed for testing. In this case, the Completion Times of the Required Actions are applicable when this time limit expires, if the equipment remains removed from service or bypassed.

When a change in MODE or other specified condition is required to comply with Required Actions, the unit may enter a MODE or other specified condition in which another Specification becomes applicable. In this case, the Completion Times of the associated Required Actions would apply from the point in time that the new Specification becomes applicable, and the ACTIONS Condition(s) are entered.

LCO 3.0.3

LCO 3.0.3 establishes the actions that must be implemented when an LCO is not met and:

a. An associated Required Action and Completion Time is not met and no other Condition applies or

BASES

LCO 3.0.3 (continued)

b. The condition of the unit is not specifically addressed by the associated ACTIONS. This means that no combination of Conditions stated in the ACTIONS can be made that exactly corresponds to the actual condition of the unit. Sometimes, possible combinations of Conditions are such that entering LCO 3.0.3 is warranted; in such cases, the ACTIONS specifically state a Condition corresponding to such combinations and also that LCO 3.0.3 be entered immediately.

This Specification delineates the time limits for placing the unit in a safe MODE or other specified condition when operation cannot be maintained within the limits for safe operation as defined by the LCO and its ACTIONS. It is not intended to be used ~~as an operational convenience that permits~~ to permit routine voluntary removal of redundant systems or components from service in lieu of other alternatives that would not result in redundant systems or components being inoperable.

Upon entering LCO 3.0.3, 1 hour is allowed to prepare for an orderly shutdown before initiating a change in unit operation. This includes time to permit the operator to coordinate the reduction in electrical generation with the load dispatcher to ensure the stability and availability of the electrical grid. The time limits specified to ~~reach~~ enter lower MODES of operation permit the shutdown to proceed in a controlled and orderly manner that is well within the specified maximum cooldown rate and within the capabilities of the unit, assuming that only the minimum required equipment is OPERABLE. This reduces thermal stresses on components of the Reactor Coolant System and the potential for a plant upset that could challenge safety systems under conditions to which this Specification applies. The use and interpretation of specified times to complete the actions of LCO 3.0.3 are consistent with the discussion of Section 1.3, Completion Times.

A unit shutdown required in accordance with LCO 3.0.3 may be terminated and LCO 3.0.3 exited if any of the following occurs:

a. The LCO is now met,

b. The LCO is no longer applicable.

c~~b~~. A Condition exists for which the Required Actions have now been performed, or

d~~c~~. ACTIONS exist that do not have expired Completion Times. These Completion Times are applicable from the point in time that the Condition is initially entered and not from the time LCO 3.0.3 is exited.

BASES

LCO 3.0.3 (continued)

The time limits of LCO 3.0.3 allow 37 hours for the unit to be in MODE 4 when a shutdown is required during MODE 1 operation. If the unit is in a lower MODE of operation when a shutdown is required, the time limit for ~~reaching~~ entering the next lower MODE applies. If a lower MODE is ~~reached~~ entered in less time than allowed, however, the total allowable time to ~~reach~~ enter MODE 4, or other applicable MODE, is not reduced. For example, if MODE 2 is ~~reached~~ entered in 2 hours, then the time allowed for ~~reaching~~ entering MODE 3 is the next 11 hours, because the total time for ~~reaching~~ entering MODE 3 is not reduced from the allowable limit of 13 hours. Therefore, if remedial measures are completed that would permit a return to MODE 1, a penalty is not incurred by having to ~~reach~~ enter a lower MODE of operation in less than the total time allowed.

In MODES 1, 2, and 3, LCO 3.0.3 provides actions for Conditions not covered in other Specifications. The requirements of LCO 3.0.3 do not apply in MODES 4 and 5 because the unit is already in the most restrictive Condition required by LCO 3.0.3. The requirements of LCO 3.0.3 do not apply 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.

Exceptions to LCO 3.0.3 are provided in instances where requiring a unit shutdown, in accordance with LCO 3.0.3, would not provide appropriate remedial measures for the associated condition of the unit. An example of this is in LCO 3.7.7, "Fuel Pool Water Level." LCO 3.7.7 has an Applicability of "During movement of irradiated fuel 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 allows placing the unit in a MODE or other specified condition stated in that Applicability (e.g., the Applicability desired to be entered) when unit conditions are such that the requirements of the LCO would not be met, in accordance with either LCO 3.0.4.a, LCO 3.0.4.b, or LCO 3.0.4.c.

BASES

LCO 3.0.4 (continued)

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~~ following entry into the MODE or other specified condition in the Applicability will permit continued operation within the MODE or other specified condition for an unlimited period of time. Compliance with ~~Required Actions~~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.

For example, LCO 3.0.4.a may be used when the Required Action states that an inoperable subsystem be restored to OPERABLE status within the Completion Time, and the subsequent default ACTION ("Required Action and associated Completion Time not met") allows the OPERABLE subsystem to be placed in operation. Use of LCO 3.0.4.a is acceptable because the associated ACTIONS to be entered following entry into the MODE include ACTIONS (place the OPERABLE subsystem in operation) that permit plant operation for an unlimited period of time in the MODE or other specified condition to be entered.

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 to 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.

BASES

LCO 3.0.4 (continued)

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 systems 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~~[Containment Air Temperature, Containment Pressure, MCPR, Moderator Temperature Coefficient]~~), 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.

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. 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.

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~~ provides an exception to LCO 3.0.2 (e.g., to not comply with the applicable Required Action(s)) ~~to allow~~ under administrative controls for the sole purpose of allowing the performance of required testing to demonstrate:

a. The LCO is met, ~~OPERABILITY of the equipment being returned to service~~ or

b. Other LCOs are met~~The OPERABILITY of other equipment~~.

LCO 3.0.5 allows Required Actions to not be followed temporarily in order to demonstrate an LCO is met without exiting the Applicability of the Specification.

The administrative controls ensure the time the Required Actions are not met ~~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~~the LCO is met. This Specification does not provide time to perform any other preventive or corrective maintenance. LCO 3.0.5 should not be used in lieu of other

practicable alternatives that comply with ACTIONS and that do not require changing MODE and other specified conditions in the Applicability, in order to demonstrate the LCO is met or that other LCOs are met. LCO 3.0.5 is not intended to be used repeatedly.

An example of demonstrating the LCO is met ~~OPERABILITY of the equipment~~ with the Required Actions not met is opening a manual valve that was closed to comply with Required Actions to isolate a flowpath with excessive Reactor Coolant System (RCS) Pressure Isolation Valve (PIV) leakage in order to perform testing to demonstrate that RCS PIV leakage is now within limit.~~being returned to service is reopening a containment isolation valve that has been closed to comply with Required Actions and must be reopened to perform the required testing.~~

BASES

LCO 3.0.5 (continued)

Another example of demonstrating the LCO is met ~~OPERABILITY of other equipment~~ is taking an inoperable channel or trip system out of the tripped condition to prevent the trip function from occurring during the performance of required testing on another channel in the other trip system. ~~A similar example of demonstrating the OPERABILITY of other equipment is taking an inoperable channel or trip system out of the tripped condition to permit the logic to function and indicate the appropriate response during the performance of required testing on another channel in the same trip system.~~

LCO 3.0.6

LCO 3.0.6 establishes an exception to LCO 3.0.2 for supported systems that have a support system LCO specified in the Technical Specifications (TS). This exception is provided because LCO 3.0.2 would require that the Conditions and Required Actions of the associated inoperable supported system LCO be entered solely due to the inoperability of the support system. This exception is justified because the actions that are required to ensure the plant is maintained in a safe condition are specified in the support system LCO's Required Actions. These Required Actions may include entering the supported system's Conditions and Required Actions or may specify other Required Actions.

When a support system is inoperable and there is an LCO specified for it in the TS, the supported system(s) are required to be declared inoperable if determined to be inoperable as a result of the support system inoperability. However, it is not necessary to enter into the supported systems' Conditions and Required Actions unless directed to do so by the support system's Required Actions. The potential confusion and inconsistency of requirements related to the entry into multiple support and supported systems' LCOs' Conditions and Required Actions are eliminated by providing all the actions that are necessary to ensure the plant is maintained in a safe condition in the support system's Required Actions.

However, there are instances where a support system's Required Action may either direct a supported system to be declared inoperable or direct entry into Conditions and Required Actions for the supported system. This may occur immediately or after some specified delay to perform some other Required Action. Regardless of whether it is immediate or after some delay, 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.

BASES

LCO 3.0.6 (continued)

Specification 5.5.12, "Safety Function Determination Program (SFDP)," ensures loss of safety function is detected and appropriate actions are taken. Upon entry into LCO 3.0.6, an evaluation shall be made to determine if loss of safety function exists. Additionally, other limitations, remedial actions, or compensatory actions may be identified as a result of the support system inoperability and corresponding exception to entering supported system Conditions and Required Actions. The SFDP implements the requirements of LCO 3.0.6.

Cross division checks to identify a loss of safety function for those support systems that support safety systems are required. The cross division check verifies that the supported systems of the redundant OPERABLE support system are OPERABLE, thereby ensuring safety function is retained. [A loss of safety function may exist when a support system is inoperable, and:

a. A required system redundant to system(s) supported by the inoperable support system is also inoperable (EXAMPLE B 3.0.6-1),

b. A required system redundant to system(s) in turn supported by the inoperable supported system is also inoperable (EXAMPLE B 3.0.6-2), or

c. A required system redundant to support system(s) for the supported systems (a) and (b) above is also inoperable (EXAMPLE B 3.0.6-3).

<u>EXAMPLE B 3.0.6-1</u>

If System 2 of Train A is inoperable and System 5 of Train B is inoperable, a loss of safety function exists in supported System 5.

<u>EXAMPLE B 3.0.6-2</u>

If System 2 of Train A is inoperable, and System 11 of Train B is inoperable, a loss of safety function exists in System 11 which is in turn supported by System 5.

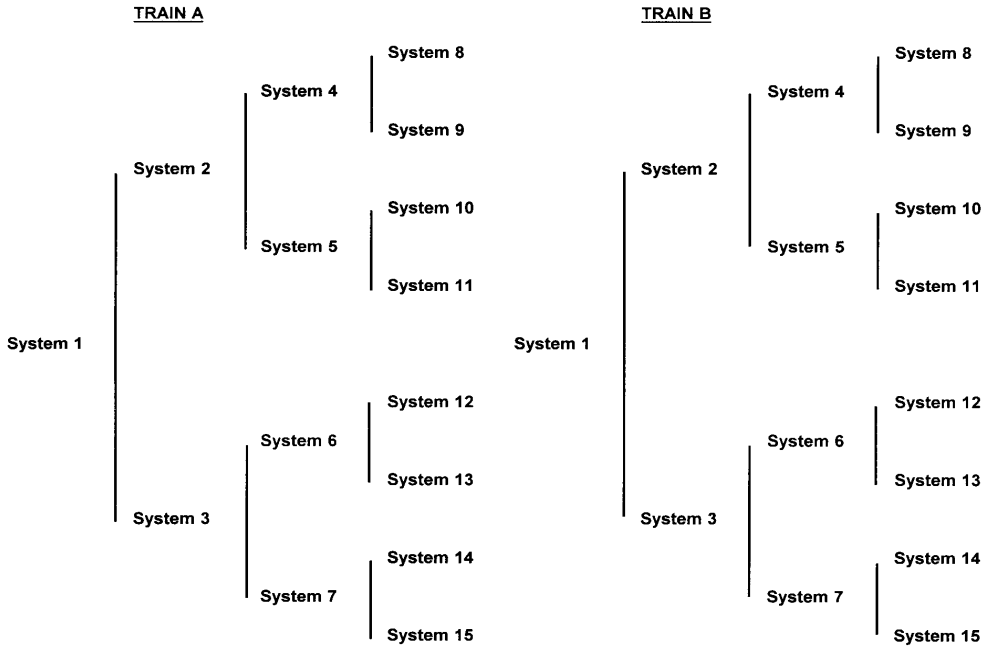
<u>EXAMPLE B 3.0.6-3</u>

If System 2 of Train A is inoperable, and System 1 of Train B is inoperable, a loss of safety function exists in Systems 2, 4, 5, 8, 9, 10 and 11.]

If this evaluation determines that a loss of safety function exists, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.

BASES

LCO 3.0.6 (continued)



[Figure B 3.0-1
Configuration of Trains and Systems]

This loss of safety function does not require the assumption of additional single failures or loss of offsite power. Since operations are being restricted in accordance with the ACTIONS of the support system, any resulting temporary loss of redundancy or single failure protection is taken into account. Similarly, the ACTIONS for inoperable offsite circuit(s) and inoperable diesel generator(s) provide the necessary restriction for cross train inoperabilities. This explicit cross train verification for inoperable AC electrical power sources also acknowledges that supported system(s) are not declared inoperable solely as a result of inoperability of a normal or emergency electrical power source (refer to the definition of OPERABILITY).

When loss of safety function is determined to exist, and the SFDP requires entry into the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists, consideration must be given to the specific type of function affected. Where a loss of function is

BASES

LCO 3.0.6 (continued)

solely due to a single Technical Specification support system (e.g., loss of automatic start due to inoperable instrumentation, or loss of pump suction source due to low tank level) the appropriate LCO is the LCO for the support system. The ACTIONS for a support system LCO adequately address the inoperabilities of that system without reliance on entering its supported system LCO. When the loss of function is the result of multiple support systems, the appropriate LCO is the LCO for the supported system.

LCO 3.0.7

There are certain special tests and operations required to be performed at various times over the life of the unit. These special tests and operations are necessary to demonstrate select unit performance characteristics, to perform special maintenance activities, and to perform special evolutions. Special Operations LCOs in Section 3.10 allow specified TS requirements to be changed to permit performances of these special tests and operations, which otherwise could not be performed if required to comply with the requirements of these TS. Unless otherwise specified, all the other TS requirements remain unchanged. This will ensure all appropriate requirements of the MODE or other specified condition not directly associated with or required to be changed to perform the special test or operation will remain in effect.

The Applicability of a Special Operations LCO represents a condition not necessarily in compliance with the normal requirements of the TS. Compliance with Special Operations LCOs is optional. A special operation may be performed either under the provisions of the appropriate Special Operations LCO or under the other applicable TS requirements. If it is desired to perform the special operation under the provisions of the Special Operations LCO, the requirements of the Special Operations LCO shall be followed. When a Special Operations LCO requires another LCO to be met, only the requirements of the LCO statement are required to be met regardless of that LCO's Applicability (i.e., should the requirements of this other LCO not be met, the ACTIONS of the Special Operations LCO apply, not the ACTIONS of the other LCO). However, there are instances where the Special Operations LCO ACTIONS may direct the other LCOs' ACTIONS be met. The Surveillances of the other LCO are not required to be met, unless specified in the Special Operations LCO. If conditions exist such that the Applicability of any other LCO is met, all the other LCO's requirements (ACTIONS and SRs) are required to be met concurrent with the requirements of the Special Operations LCO.

BASES

LCO 3.0.8

LCO 3.0.8 establishes conditions under which systems are considered to remain capable of performing their intended safety function when associated snubbers are not capable of providing their associated support function(s). This LCO states that the supported system is not considered to be inoperable solely due to one or more snubbers not capable of performing their associated support function(s). This is appropriate because a limited length of time is allowed for maintenance, testing, or repair of one or more snubbers not capable of performing their associated support function(s) and appropriate compensatory measures are specified in the snubber requirements, which are located outside of the Technical Specifications (TS) under licensee control. The snubber requirements do not meet the criteria in 10 CFR 50.36(c)(2)(ii), and, as such, are appropriate for control by the licensee.

If the allowed time expires and the snubber(s) are unable to perform their associated support function(s), the affected supported system's LCO(s) must be declared not met and the Conditions and Required Actions entered in accordance with LCO 3.0.2.

LCO 3.0.8.a applies when one or more snubbers are not capable of providing their associated support function(s) to a single train or subsystem of a multiple train or subsystem supported system or to a single train or subsystem supported system. LCO 3.0.8.a allows 72 hours to restore the snubber(s) before declaring the supported system inoperable. The 72 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system occurring while the snubber(s) are not capable of performing their associated support function and due to the availability of the redundant train of the supported system.

LCO 3.0.8.b applies when one or more snubbers are not capable of providing their associated support function(s) to more than one train or subsystem of a multiple train or subsystem supported system.
LCO 3.0.8.b allows 12 hours to restore the snubber(s) before declaring the supported system inoperable. The 12 hour Completion Time is reasonable based on the low probability of a seismic event concurrent with an event that would require operation of the supported system occurring while the snubber(s) are not capable of performing their associated support function.

LCO 3.0.8 requires that risk be assessed and managed. Industry and NRC guidance on the implementation of 10 CFR 50.65(a)(4) (the Maintenance Rule) does not address seismic risk. However, use of LCO 3.0.8 should be considered with respect to other plant maintenance activities, and integrated into the existing Maintenance Rule process to the extent possible so that maintenance on any unaffected train or

BASES

LCO 3.0.8 (continued)

subsystem is properly controlled, and emergent issues are properly addressed. The risk assessment need not be quantified, but may be a qualitative awareness of the vulnerability of systems and components when one or more snubbers are not able to perform their associated support function.

B 3.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

BASES

SRs	SR 3.0.1 through SR 3.0.4 establish the general requirements applicable to all Specifications in Section 3.1 through 3.10 and apply at all times, unless otherwise stated. SR 3.0.1 through SR 3.0.4 apply in Chapter 5 only when invoked by a Chapter 5 Specification.
SR 3.0.1	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. Surveillances may be performed by means of any series of sequential, overlapping, or total steps provided the entire Surveillance is performed within the specified Frequency. Additionally, the definitions related to instrument testing (e.g., CHANNEL CALIBRATION) specify that these tests are performed by means of any series of sequential, overlapping, or total steps. 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. Unplanned events may satisfy the requirements (including applicable acceptance criteria) for a given SR. In this case, the unplanned event may be credited as fulfilling the performance of the SR. This allowance includes those SRs whose performance is normally precluded in a given MODE or other specified condition.

BASES

SR 3.0.1 (continued)

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.

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 > [800 psi]. 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 [800 psi] 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).

BASES

SR 3.0.2 (continued)

The 25% extension does not significantly degrade the reliability that results from performing the Surveillance at its specified Frequency. This is based on the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the SRs. There are exceptions to SR 3.0.2 for certain ~~are those~~ Surveillances to ~~for~~ which the 25% extension of the interval specified in the Frequency may not be applied~~does not apply~~. These exceptions are stated in the individual Specifications. ~~The requirements of regulations take precedence over the TS.~~ For those Surveillances in Chapter 3 whose Frequency refers to a Program in Section 5.5, the referenced Program specification must be examined to determine if SR 3.0.2 applies. For example, the Diesel Fuel Oil Testing Program is referenced in Specification 3.8.3, "Diesel Fuel Oil, Lube Oil, and Starting Air," and the program invokes SR 3.0.2. An example of where SR 3.0.2 does not apply is in the Primary Containment Leakage Rate Testing Program which does not reference SR 3.0.2. SR 3.0.2 is not applicable because the Program establishes Frequencies to meet the requirements of regulations. ~~An example of where SR 3.0.2 does not apply is in the Primary Containment Leakage Rate Testing Program. This program establishes testing requirements and Frequencies in accordance with the requirements of regulations.~~ The TS cannot in and of themselves extend a test interval specified in the regulations.

As stated in SR 3.0.2, the 25% extension also does not apply to the initial portion of a periodic Completion Time that requires performance on a "once per ..." basis. The 25% extension applies to each performance after the initial performance. The initial performance of the Required Action, whether it is a particular Surveillance or some other remedial action, is considered a single action with a single Completion Time. One reason for not allowing the 25% extension to this Completion Time is that such an action usually verifies that no loss of function has occurred by checking the status of redundant or diverse components or accomplishes the function of the inoperable equipment in an alternative manner.

The provisions of SR 3.0.2 are not intended to be used repeatedly ~~merely as an operational convenience~~ to extend Surveillance intervals (other than those consistent with refueling intervals) or periodic Completion Time intervals beyond those specified.

SR 3.0.3

SR 3.0.3 establishes the flexibility to defer declaring affected equipment inoperable or an affected variable outside the specified limits when a Surveillance has not been ~~completed~~ performed within the specified Frequency. A delay period of up to 24 hours or up to the limit of the specified Frequency, whichever is greater, applies from the point in time that it is discovered that the Surveillance has not been performed in

accordance with SR 3.0.2, and not at the time that the specified Frequency was not met.

BASES

SR 3.0.3 (continued)

This delay period provides adequate time to ~~complete~~ perform Surveillances that have been missed. This delay period permits the completion of a Surveillance before complying with Required Actions or other remedial measures that might preclude ~~completion~~ performance of the Surveillance.

The basis for this delay period includes consideration of unit conditions, adequate planning, availability of personnel, the time required to perform the Surveillance, the safety significance of the delay in completing the required Surveillance, and the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the requirements. When a Surveillance with a Frequency based not on time intervals, but upon specified unit conditions, operating situations, or requirements of regulations (e.g., prior to entering MODE 1 after each fuel loading, or in accordance with 10 CFR 50, Appendix J, as modified by approved exemptions, etc.) is discovered to not have been performed when specified, SR 3.0.3 allows for the full delay period of up to the specified Frequency to perform the Surveillance. However, since there is not a time interval specified, the missed Surveillance should be performed at the first reasonable opportunity.

SR 3.0.3 provides a time limit for, and allowances for the performance of, Surveillances that become applicable as a consequence of MODE changes imposed by Required Actions.

SR 3.0.3 is only applicable if there is a reasonable expectation the associated equipment is Operable or that variables are within limits, and it is expected that the Surveillance will be met when performed. Many factors should be considered, such as the period of time since the Surveillance was last performed, or whether the Surveillance, or a portion thereof, has ever been performed, and any other indications, tests, or activities that might support the expectation that the Surveillance will be met when performed. An example would be a relay contact that has never been tested in accordance with a particular SR, but the adjacent, physically connected relay contacts have been tested, the relay contacts have been tested by another SR, or historical operation of the actuated equipment has been successful. The rigor of determining whether there is a reasonable expectation a Surveillance will be met when performed should increase based on the length of time since the last performance of the Surveillance. A review of the Surveillance history may be sufficient to provide a reasonable expectation that the Surveillance will be met when performed. For Surveillances that have never been performed, a more rigorous evaluation, documented in sufficient detail to explain the basis for the determination, should be completed to compensate for the lack of performance history.

Failure to comply with specified Frequencies for SRs is expected to be an infrequent occurrence. Use of the delay period established by SR 3.0.3 is a flexibility which is not intended to be used ~~as an operational convenience~~ to extend Surveillance intervals. While up to 24 hours or the limit of the specified Frequency is provided to perform the missed Surveillance, it is expected that the missed Surveillance will be performed at the first reasonable opportunity. The determination of the first reasonable opportunity should include consideration of the impact on plant risk (from delaying the Surveillance as well as any plant configuration changes required or shutting the plant down to perform the Surveillance) and impact on any analysis assumptions, in addition to unit conditions, planning, availability of personnel, and the time required to perform the Surveillance. This 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.” This Regulatory Guide addresses consideration of temporary and aggregate risk impacts, determination of risk management action

BASES

SR 3.0.3 (continued)

thresholds, and risk management action up to and including plant shutdown. The missed Surveillance should be treated as an emergent condition as discussed in the Regulatory Guide. The risk evaluation may use quantitative, qualitative, or blended methods. The degree of depth and rigor of the evaluation should be commensurate with the importance of the component. Missed Surveillances for important components should be analyzed quantitatively. If the results of the risk evaluation determine the risk increase is significant, this evaluation should be used to determine the safest course of action. All missed Surveillances will be placed in the licensee's Corrective Action Program.

If a Surveillance is not completed within the allowed delay period, then the equipment is considered inoperable or the variable is considered outside the specified limits and the Completion Times of the Required Actions for the applicable LCO Conditions begin immediately upon expiration of the delay period. If a Surveillance is failed within the delay period, then the equipment is inoperable, or the variable is outside the specified limits and the Completion Times of the Required Actions for the applicable LCO Conditions begin immediately upon the failure of the Surveillance.

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. 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 a Surveillance not being met in accordance with LCO 3.0.4.

BASES

SR 3.0.4 (continued)

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.