Entergy

Entergy Operations, Inc.
1448 S.R. 333
Russellville, AR 72802
Tel 479-858-3110

Timothy G. Mitchell
Vice President, Operations
Arkansas Nuclear One

1CAN100701

October 22, 2007

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

SUBJECT: License Amendment Request
Technical Specification Changes Regarding Mode Change Limitations and Associated Bases Using the Consolidated Line Item Improvement Process
Arkansas Nuclear One, Unit 1
Docket No. 50-313
License No. DPR-51

Dear Sir or Madam:

Pursuant to 10 CFR 50.90, Entergy Operations, Inc. (Entergy) hereby requests the following amendment for Arkansas Nuclear One, Unit 1 (ANO-1). The proposed amendment would modify Technical Specification (TS) requirements for mode change limitations in Limiting Condition for Operation (LCO) 3.0.4 and Surveillance Requirement (SR) 3.0.4. The modification of these specifications results in changes to various other ANO-1 TSs as described in the attachments to this submittal.

The proposed change is based on Technical Specification Task Force (TSTF)-359, Revision 9. The NRC approved adoption of TSTF-359 using the Consolidated Line Item Improvement Process (CLIIP). Subsequent to the notice of availability for TSTF-359, the industry noted that an additional change to TS Section 1.4 was required to eliminate conflicting wording. Entergy is also adopting this wording change, in accordance with TSTF 485, Revision 0. TSTF-485 was approved by the NRC as an editorial correction.

Attachment 1 provides a description of the proposed change (including a table of affected TSs with a brief descriptor of the change), the requested confirmation of applicability, and plant specific verifications. Attachment 2 provides the existing TS pages marked up to illustrate the proposed change. Attachment 3 provides revised (clean) TS pages. Attachment 4 provides a summary of the regulatory commitments made in this submittal. Attachment 5 provides the existing TS Bases pages marked up to show the proposed change.

The proposed change has been evaluated in accordance with 10 CFR 50.91(a)(1) using criteria in 10 CFR 50.92(c) and it has been determined that the change involves no significant hazards consideration. The bases for these determinations are included in the attached submittal.

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The proposed change includes a new commitment, as described in Attachment 4 of this submittal.

Entergy requests approval of the proposed amendment by April 1, 2008. Once approved, the amendment shall be implemented within 60 days. Although this request is neither exigent nor emergency, your prompt review is requested.

If you have any questions or require additional information, please contact David Bice at 479-858-5338.

I declare under penalty of perjury that the foregoing is true and correct. Executed on October 22, 2007.

Sincerely,

TGM/dbb

Attachments:
1. Analysis of Proposed Technical Specification Change
2. Proposed Technical Specification Changes (mark-up)
3. Revised Technical Specification Pages
4. List of Regulatory Commitments
5. Proposed Technical Specification Bases Changes (mark-up)

cc: Mr. Elmo E. Collins
Regional Administrator
U. S. Nuclear Regulatory Commission
Region IV Office
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011-8064

NRC Senior Resident Inspector
Arkansas Nuclear One
P. O. Box 310
London, AR 72847

U. S. Nuclear Regulatory Commission
Attn: Mr. Alan B. Wang
MS O-7 D1
Washington, DC 20555-0001

Mr. Bernard R. Bevill
Director Division of Radiation
Control and Emergency Management
Arkansas Department of Health & Human Services
P.O. Box 1437
Slot H-30
Little Rock, AR 72203-1437

Attachment 1

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Analysis of Proposed Technical Specification Change

1.0 DESCRIPTION

This letter is a request to amend Operating License DPR-51 for Arkansas Nuclear One, Unit 1 (ANO-1).

The proposed amendment would modify Technical Specifications (TS) requirements for mode change limitations in Limiting Condition for Operation (LCO) 3.0.4 and Surveillance Requirement (SR) 3.0.4. Changes to these specifications results in changes to various other ANO-1 TSs as discussed in Section 2.0 below.

The changes are consistent with Nuclear Regulatory Commission (NRC) approved Industry/Technical Specification Task Force (TSTF) Standard Technical Specification (STS) change TSTF-359 Revision 8, as modified by the notice in the *Federal Register* published on April 4, 2003. That *Federal Register* notice announced the availability of this TS improvement through the Consolidated Line Item Improvement Process (CLIIP). Following the aforementioned notice, the TSTF submitted Revision 9 to TSTF-359, incorporating the changes as modified in the above Federal Register notice. The NRC accepted this revision on May 12, 2003. The changes proposed in this submittal are, therefore, based on TSTF-359, Revision 9.

Following approval of TSTF-359, the industry noted conflicting wording contained within TS Section 1.4, Frequencies, Example 1.4-1. As a result, TSTF-485, Revision 0, was approved by the NRC as an editorial change to the STS on December 6, 2005, which corrected the wording conflict. Entergy is, therefore, adopting TSTF-485 in conjunction with TSTF-359. In addition, a typographical error (misspelling) was noted during the preparation of TSTF-485 pages. This error is proposed for correction in this submittal and is included in the appropriate letter attachments. Because this error correction and TSTF-485 are editorial changes, no further discussion is included with regard to these changes in this submittal.

2.0 ASSESSMENT

2.1 Applicability of Published Safety Evaluation

Entergy Operations, Inc. (Entergy) has reviewed the safety evaluation dated March 28, 2003 as part of the CLIIP. This review included a review of the NRC staff's evaluation, as well as the supporting information provided to support TSTF-359 Revision 8 (and subsequently, Revision 9 to TSTF-359). Entergy has concluded that the justifications presented in the TSTF proposal and the safety evaluation prepared by the NRC staff are applicable to ANO-1 and justify this amendment for the incorporation of the changes to the ANO-1 TS.

2.2 Optional Changes and Variations

Entergy is not proposing any major variations or deviations from the TS changes described in the modified TSTF-359 Revision 8 (as captured in Revision 9 to TSTF-359) and the NRC Staff's model safety evaluation (SE) dated March 28, 2003, other than the two editorial changes associated with Section 1.4 of the TSs (described above).

Additional details relating to each affected specification are outlined in Section 2.3 below.

2.3 Itemization and Brief Description of Changes

ANO-1 TS REFERENCE	DESCRIPTION OF CHANGE
1.4 (Frequency Description, Item c)	Typographical: changed "no" to "not."
1.4 (Frequency Example 1.4-1)	Editorial changes in accordance with TSTF-485.
LCO 3.0.4 (LCO Applicability)	Changed in accordance with TSTF-359.
SR 3.0.4 (SR Applicability)	Changed in accordance with TSTF-359.
3.3.15 (PAM Instrumentation)	Changed in accordance with TSTF-359.
3.4.12 (RCS Specific Activity)	LCO 3.0.4.c applicability added in accordance with TSTF-359.
3.4.15 (RCS Leakage Detection Instrumentation)	Changed in accordance with TSTF-359.
3.5.3 (ECCS – Shutdown)	Changed in accordance with TSTF-359.
3.7.5 (EFW System)	Changed in accordance with TSTF-359.
3.8.1 (AC Sources – Operating)	Changed in accordance with TSTF-359.

The NUREG 1430 STS mark-up contained in TSTF-359 included deletions of the phrase "LCO 3.0.4 is not applicable" from STS 3.3.18 (Remote Shutdown System), 3.6.8 (Hydrogen Recombiners), and 3.7.4 (Atmospheric Dump Valves). There are no proposed changes to the ANO-1 TSs related to these specifications either due to the phrase not being present within the respective ANO-1 specification or because ANO-1 does not have an equivalent TS.

The mark-up of the bases associated with LCO 3.0.4 and SR 3.0.4 as presented in NUREG 1430 and TSTF-359 are included in Attachment 5 for information purposes. These bases will be revised in accordance with the ANO-1 TS Bases Control Program during implementation of this amendment, once approved, as committed to in Attachment 4 of this submittal.

3.0 REGULATORY ANALYSIS

3.1 Applicable Regulatory Requirements/Criteria

The proposed changes have been evaluated to determine whether applicable regulations and requirements continue to be met.

The proposed changes are applicable to the Technical Specifications (TSs) as governed by 10 CFR 50.36 and do not impact any General Design Criteria (GDC) as described in 10 CFR 50, Appendix A. 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.

In conclusion, Entergy has determined that the proposed changes do not require any exemptions or relief from regulatory requirements, other than the TS, and does not affect conformance with any GDC differently than described in the Safety Analysis Report (SAR).

3.2 No Significant Hazards Consideration

A change is proposed to the Arkansas Nuclear One, Unit 1 (ANO-1) Technical Specifications (TSs) to adopt Technical Specification Task Force (TSTF) No. 359, Revision 9, "Increase Flexibility in Mode Restraints," under the Consolidated Line Item Improvement Process (CLIIP). The proposed change would permit increasing plant mode of operation with certain inoperable TS-related equipment provided overall risk is shown to be acceptable.

Entergy Operations, Inc. (Entergy) has reviewed the proposed no significant hazards consideration determination (NSHCD) published in the *Federal Register* as part of the CLIIP. Entergy has concluded that the proposed NSHCD presented in the Federal Register notice is applicable to ANO-1 and is hereby incorporated by reference to satisfy the requirements of 10 CFR 50.91(a).

3.3 Verification and Commitments

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

Entergy will establish ANO-1 TS Bases for Limiting Condition for Operation (LCO) 3.0.4 and Surveillance Requirement (SR) 3.0.4, which state that use of the TS mode change limitation flexibility established by LCO 3.0.4 and SR 3.0.4 is not to be interpreted as endorsing the failure to exercise the good practice of restoring systems or components to operable status before entering an associated mode or other specified condition in the TS Applicability.

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

that upon entry into a mode or other specified condition in the Applicability with the LCO not met, LCO 3.0.1 and LCO 3.0.2 require entry in to the applicable Conditions and Required Actions for no more than the duration of the applicable Completion Time or until the LCO is met or the unit is not within the Applicability of the TS. The bases also state that SR 3.0.4 does not restrict changing modes or other specified conditions 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 CLIIP for TSTF-359 required a utility to have both a bases control program and wording consistent with SR 3.0.1 of the STS. ANO-1 currently has a bases control program and SR 3.0.1 wording consistent with the STS of NUREG 1430, Revision 3.1, with the exception of reference to LCO 3.0.8 (related to snubbers). ANO-1 has not yet adopted LCO 3.0.8 into its TSs.

4.0 ENVIRONMENTAL CONSIDERATIONS

Entergy Operations, Inc. (Entergy) has reviewed the environmental evaluation included in the model safety evaluation dated March 28, 2003 as part of the CLIIP. Entergy has concluded that the staff's findings presented in that evaluation are applicable to ANO-1 and the evaluation is hereby incorporated by reference for this application.

Attachment 2

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Proposed Technical Specification Changes (mark-up)

1.4 Frequency

DESCRIPTION (continued)

a. The Surveillance is not required to be met in the MODE or other specified condition to be entered: or

b. The Surveillance is required to be met in the MODE or other specified condition to be entered, but has been performed within the specified Frequency (i.e., it is current) and is known not to be failed; or

c. The Surveillance is required to be met, but not performed, in the MODE or other specified condition to be entered, and is known not to be failed.

Examples 1.4-3, 1.4-4, 1.4-5, and 1.4-6 discuss these special situations.

EXAMPLES

The following examples illustrate the various ways that Frequencies are specified. In these examples, the Applicability of the LCO (LCO not shown) is MODES 1, 2, and 3.

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Perform CHANNEL CHECK.	12 hours

Example 1.4-1 contains the type of SR most often encountered in the Technical Specifications (TS). The Frequency specifies an interval (12 hours) during which the associated Surveillance must be performed at least one time. Performance of the Surveillance initiates the subsequent interval. Although the Frequency is stated as 12 hours, an extension of the time interval to 1.25 times the stated Frequency is allowed by SR 3.0.2 for operational flexibility. The measurement of this interval continues at all times, even when the SR is not required to be met per SR 3.0.1 (such as when the equipment is inoperable, a variable is outside specified limits, or the unit is outside the Applicability of the LCO). If the interval specified by SR 3.0.2 is exceeded while the unit is in a MODE or other specified condition in the Applicability of the LCO, and the performance of the Surveillance is not otherwise modified (refer to Example 1.4-3), then SR 3.0.3 becomes applicable.

If the interval as specified by SR 3.0.2 is exceeded while the unit is not in a MODE or other specified condition in the Applicability of the LCO for which performance of the SR is required, then SR 3.0.4 becomes applicable. T~~t~~he Surveillance must be performed within the Frequency requirements of SR 3.0.2, as modified by SR 3.0.3, prior to entry into the MODE or other specified condition or the LCO is considered not met (in accordance with SR 3.0.1) and LCO~~. Failure to do so would result in a violation of SR~~ 3.0.4 becomes applicable.

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 and LCO 3.0.7.

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~~not~~ be made:

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

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

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.

~~Exceptions to this Specification are stated in the individual Specifications.~~

~~LCO 3.0.4 is only applicable for entry into a MODE or other specified condition in the Applicability in MODES 1, 2, 3 and 4.~~

LCO 3.0.5

Equipment removed from service or declared inoperable to comply with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to LCO 3.0.2 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY.

LCO 3.0.6

When a supported system LCO is not met solely due to a support system LCO not being met, the Conditions and Required Actions associated with this supported system are not required to be entered. Only the support system LCO ACTIONS are required to be entered. This is an exception to LCO 3.0.2 for the supported system. In this event, an evaluation shall be performed in accordance with Specification 5.5.15, "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 3.1.9 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 SR APPLICABILITY

SR 3.0.4

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

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

~~SR 3.0.4 is only applicable for entry into a MODE or other specified condition in the Applicability in MODES 1, 2, 3, and 4.~~

3.3 INSTRUMENTATION

3.3.15 Post Accident Monitoring (PAM) Instrumentation

LCO 3.3.15 The PAM instrumentation for each Function in Table 3.3.15-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

----------NOTES----------

~~1. LCO 3.0.4 is not applicable~~

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

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one required channel inoperable.	A.1 Restore required channel to OPERABLE status.	30 days
B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate action to prepare and submit a Special Report.	Immediately
C. One or more Functions with two required channels inoperable.	C.1 Restore one channel to OPERABLE status.	7 days
D. Required Action and associated Completion Time of Condition C not met.	D.1 Enter the Condition referenced in Table 3.3.15-1 for the channel.	Immediately

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.12 RCS Specific Activity

LCO 3.4.12 The specific activity of the reactor coolant shall be:

a. ≤ 3.5 μCi/gm DOSE EQUIVALENT I-131; and

b. ≤ 72/$\bar{E}$ μCi/gm total.

APPLICABILITY: MODES 1 and 2,
MODE 3 with RCS average temperature (T_{avg}) ≥ 500°F.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Specific activity not within limits.	A.1 ----------NOTE---------- LCO 3.0.4.c is applicable. ---------- Restore specific activity to within limit(s).	24 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3 with T_{avg} < 500°F.	6 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.12.1	Verify reactor coolant gross specific activity ≤ 72/$\bar{E}$ μCi/gm.	7 days
SR 3.4.12.2	----------NOTE---------- Only required to be performed in MODE 1. ---------- Verify reactor coolant DOSE EQUIVALENT I-131 specific activity ≤ 3.5 μCi/gm.	14 days

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.15 RCS Leakage Detection Instrumentation

LCO 3.4.15 The following RCS leakage detection instrumentation shall be OPERABLE:

a. One reactor building sump monitor; and

b. One reactor building atmosphere radioactivity monitor (gaseous or particulate).

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

~~NOTE~~

~~LCO 3.0.4 is not applicable.~~

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required reactor building sump monitor inoperable.	A.1 ----------NOTE---------- Not required until 12 hours after establishment of steady state operation at or near operating pressure. ---------- Perform SR 3.4.13.1.	Once per 24 hours
	AND	
	A.2 Restore required reactor building sump monitor to OPERABLE status.	30 days

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.3 ECCS - Shutdown

LCO 3.5.3 Two LPI trains shall be OPERABLE.

----------NOTE----------
An LPI train may be considered OPERABLE during alignment and when aligned for decay heat removal, if capable of being manually realigned to the LPI mode of operation.

APPLICABILITY: MODE 3 with Reactor Coolant System (RCS) temperature ≤ 350°F, MODE 4.

ACTIONS

----------NOTE----------
LCO 3.0.4.b is not applicable to ECCS DHR loops.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One LPI train inoperable.	A.1 Restore LPI train to OPERABLE status.	48 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 ----------NOTE---------- Only required if one DHR train is OPERABLE. ---------- Be in MODE 5.	24 hours
C. Two LPI trains inoperable.	C.1 Initiate action to restore one LPI train to OPERABLE status.	Immediately
	AND	
	C.2 ----------NOTE---------- Only required if one DHR train is OPERABLE. ---------- Be in MODE 5.	24 hours

3.7 PLANT SYSTEMS

3.7.5 Emergency Feedwater (EFW) System

LCO 3.7.5 Two EFW trains shall be OPERABLE.

----------NOTE----------
Only one EFW train, which includes a motor driven pump, is required to be OPERABLE in MODE 4.

APPLICABILITY: MODES 1, 2, and 3,
MODE 4 when steam generator is relied upon for heat removal.

ACTIONS

----------NOTE----------
LCO 3.0.4.b is not applicable when entering Mode 1.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One steam supply to turbine driven EFW pump inoperable. OR ----------NOTE---------- Only applicable if MODE 2 has not been entered following refueling. ---------- Turbine driven EFW pump inoperable in MODE 3 following refueling.	A.1 Restore affected equipment to OPERABLE status.	7 days AND 10 days from discovery of failure to meet the LCO
B. One EFW train inoperable for reasons other than Condition A in MODE 1, 2, or 3.	B.1 Restore EFW train to OPERABLE status.	72 hours AND 10 days from discovery of failure to meet the LCO

3.8 ELECTRICAL POWER SYSTEMS

3.8.1 AC Sources - Operating

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

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

b. Two diesel generators (DGs) each capable of supplying one train of the onsite Class 1E AC Electrical Power Distribution System.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

----------NOTE----------
LCO 3.0.4.b is not applicable to DGs.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required offsite circuit inoperable.	A.1 Perform SR 3.8.1.1 for OPERABLE required offsite circuit.	1 hour AND Once per 12 hours thereafter
	AND	
	A.2 Declare required feature(s) with no offsite power available inoperable when its redundant required feature(s) is inoperable.	24 hours from discovery of no offsite power to one train concurrent with inoperability of redundant required feature(s)
	AND	

Attachment 3

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Revised Technical Specification Pages

1.4 Frequency

DESCRIPTION (continued)

a. The Surveillance is not required to be met in the MODE or other specified condition to be entered: or

b. The Surveillance is required to be met in the MODE or other specified condition to be entered, but has been performed within the specified Frequency (i.e., it is current) and is known not to be failed; or

c. The Surveillance is required to be met, but not performed, in the MODE or other specified condition to be entered, and is known not to be failed.

Examples 1.4-3, 1.4-4, 1.4-5, and 1.4-6 discuss these special situations.

EXAMPLES

The following examples illustrate the various ways that Frequencies are specified. In these examples, the Applicability of the LCO (LCO not shown) is MODES 1, 2, and 3.

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Perform CHANNEL CHECK.	12 hours

Example 1.4-1 contains the type of SR most often encountered in the Technical Specifications (TS). The Frequency specifies an interval (12 hours) during which the associated Surveillance must be performed at least one time. Performance of the Surveillance initiates the subsequent interval. Although the Frequency is stated as 12 hours, an extension of the time interval to 1.25 times the stated Frequency is allowed by SR 3.0.2 for operational flexibility. The measurement of this interval continues at all times, even when the SR is not required to be met per SR 3.0.1 (such as when the equipment is inoperable, a variable is outside specified limits, or the unit is outside the Applicability of the LCO). If the interval specified by SR 3.0.2 is exceeded while the unit is in a MODE or other specified condition in the Applicability of the LCO, and the performance of the Surveillance is not otherwise modified (refer to Example 1.4-3), then SR 3.0.3 becomes applicable.

If the interval as specified by SR 3.0.2 is exceeded while the unit is not in a MODE or other specified condition in the Applicability of the LCO for which performance of the SR is required, then SR 3.0.4 becomes applicable. The Surveillance must be performed within the Frequency requirements of SR 3.0.2, as modified by SR 3.0.3, prior to entry into the MODE or other specified condition or the LCO is considered not met (in accordance with SR 3.0.1) and LCO 3.0.4 becomes applicable.

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 and LCO 3.0.7.

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 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	Equipment removed from service or declared inoperable to comply with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to LCO 3.0.2 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY.
LCO 3.0.6	When a supported system LCO is not met solely due to a support system LCO not being met, the Conditions and Required Actions associated with this supported system are not required to be entered. Only the support system LCO ACTIONS are required to be entered. This is an exception to LCO 3.0.2 for the supported system. In this event, an evaluation shall be performed in accordance with Specification 5.5.15, "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 3.1.9 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 SR APPLICABILITY

SR 3.0.4

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

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

3.3 INSTRUMENTATION

3.3.15 Post Accident Monitoring (PAM) Instrumentation

LCO 3.3.15 The PAM instrumentation for each Function in Table 3.3.15-1 shall be OPERABLE.

APPLICABILITY: MODES 1, 2, and 3.

ACTIONS

----------NOTE----------
Separate Condition entry is allowed for each Function.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more Functions with one required channel inoperable.	A.1 Restore required channel to OPERABLE status.	30 days
B. Required Action and associated Completion Time of Condition A not met.	B.1 Initiate action to prepare and submit a Special Report.	Immediately
C. One or more Functions with two required channels inoperable.	C.1 Restore one channel to OPERABLE status.	7 days
D. Required Action and associated Completion Time of Condition C not met.	D.1 Enter the Condition referenced in Table 3.3.15-1 for the channel.	Immediately

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.12 RCS Specific Activity

LCO 3.4.12 The specific activity of the reactor coolant shall be:

a. ≤ 3.5 μCi/gm DOSE EQUIVALENT I-131; and

b. ≤ 72/$\bar{E}$ μCi/gm total.

APPLICABILITY: MODES 1 and 2,
MODE 3 with RCS average temperature (T_{avg}) ≥ 500°F.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Specific activity not within limits.	A.1 ----------NOTE---------- LCO 3.0.4.c is applicable. ---------- Restore specific activity to within limit(s).	24 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3 with T_{avg} < 500°F.	6 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.12.1	Verify reactor coolant gross specific activity ≤ 72/$\bar{E}$ μCi/gm.	7 days
SR 3.4.12.2	----------NOTE---------- Only required to be performed in MODE 1. ---------- Verify reactor coolant DOSE EQUIVALENT I-131 specific activity ≤ 3.5 μCi/gm.	14 days

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.15 RCS Leakage Detection Instrumentation

LCO 3.4.15 The following RCS leakage detection instrumentation shall be OPERABLE:

a. One reactor building sump monitor; and

b. One reactor building atmosphere radioactivity monitor (gaseous or particulate).

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Required reactor building sump monitor inoperable.	A.1 ----------NOTE---------- Not required until 12 hours after establishment of steady state operation at or near operating pressure. ----------	
	Perform SR 3.4.13.1.	Once per 24 hours
	AND	
	A.2 Restore required reactor building sump monitor to OPERABLE status.	30 days

3.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3.5.3 ECCS - Shutdown

LCO 3.5.3 Two LPI trains shall be OPERABLE.

----------NOTE----------
An LPI train may be considered OPERABLE during alignment and when aligned for decay heat removal, if capable of being manually realigned to the LPI mode of operation.

APPLICABILITY: MODE 3 with Reactor Coolant System (RCS) temperature ≤ 350°F, MODE 4.

ACTIONS

----------NOTE----------
LCO 3.0.4.b is not applicable to ECCS DHR loops.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One LPI train inoperable.	A.1 Restore LPI train to OPERABLE status.	48 hours
B. Required Action and associated Completion Time of Condition A not met.	B.1 ----------NOTE---------- Only required if one DHR train is OPERABLE. ---------- Be in MODE 5.	24 hours
C. Two LPI trains inoperable.	C.1 Initiate action to restore one LPI train to OPERABLE status.	Immediately
	AND	
	C.2 ----------NOTE---------- Only required if one DHR train is OPERABLE. ---------- Be in MODE 5.	24 hours

3.7 PLANT SYSTEMS

3.7.5 Emergency Feedwater (EFW) System

LCO 3.7.5 Two EFW trains shall be OPERABLE.

----------NOTE----------
Only one EFW train, which includes a motor driven pump, is required to be OPERABLE in MODE 4.

APPLICABILITY: MODES 1, 2, and 3,
MODE 4 when steam generator is relied upon for heat removal.

ACTIONS

----------NOTE----------
LCO 3.0.4.b is not applicable when entering Mode 1.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One steam supply to turbine driven EFW pump inoperable. OR ----------NOTE---------- Only applicable if MODE 2 has not been entered following refueling. ---------- Turbine driven EFW pump inoperable in MODE 3 following refueling.	A.1 Restore affected equipment to OPERABLE status.	7 days AND 10 days from discovery of failure to meet the LCO
B. One EFW train inoperable for reasons other than Condition A in MODE 1, 2, or 3.	B.1 Restore EFW train to OPERABLE status.	72 hours AND 10 days from discovery of failure to meet the LCO

3.8 ELECTRICAL POWER SYSTEMS

3.8.1 AC Sources - Operating

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

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

b. Two diesel generators (DGs) each capable of supplying one train of the onsite Class 1E AC Electrical Power Distribution System.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

----------NOTE----------
LCO 3.0.4.b is not applicable to DGs.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required offsite circuit inoperable.	A.1 Perform SR 3.8.1.1 for OPERABLE required offsite circuit.	1 hour AND Once per 12 hours thereafter
	AND	
	A.2 Declare required feature(s) with no offsite power available inoperable when its redundant required feature(s) is inoperable.	24 hours from discovery of no offsite power to one train concurrent with inoperability of redundant required feature(s)
	AND	

Attachment 4

1CAN100701

List of Regulatory Commitments

List of Regulatory Commitments

The following table identifies those actions committed to by Entergy in this document. Any other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments.

COMMITMENT	TYPE (Check one)		SCHEDULED COMPLETION DATE (If Required)
	ONE-TIME ACTION	CONTINUING COMPLIANCE	
Entergy will establish the Technical Specification Bases for LCO 3.0.4 and SR 4.0.4 as adopted with the applicable license amendment.	To be implemented with amendment		

Attachment 5

1CAN100701

Proposed Technical Specification Bases Changes (mark-up)

BASES

LCO APPLICABILITY (continued)

LCO 3.0.3 (continued)

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 3.7.12, "Fuel Handling Area Ventilation System." LCO 3.7.12 has an Applicability of "During movement of irradiated fuel assemblies in the fuel handling area." Therefore, this LCO can be applicable in any or all MODES. If the LCO and the Required Actions of LCO 3.7.12 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 3.7.12 of "Suspend movement of irradiated fuel assemblies in the fuel handling area" 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~~precludes~~ 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 LCO 3.0.4.a, LCO 3.0.4.b, or LCO 3.0.4.c.~~the following exist:~~

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

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

LCO 3.0.4.a allows entry into a MODE or other specified condition in the Applicability with the LCO not met when the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time. Compliance with Required Actions that permit continued operation of the unit for an unlimited period of time in a MODE or other specified condition provides an acceptable level of safety for continued operation. This is without regard to the status of the unit before or after the MODE change. Therefore, in such cases, entry into a MODE or other specified condition in the Applicability may be made in accordance with the provisions of the Required Actions.

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.

BASES

LCO APPLICABILITY (continued)

LCO 3.0.4 (continued)

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 TS 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 (RG) 1.182, "Assessing and Managing Risk Before Maintenance Activities at Nuclear Power Plants." RG 1.182 endorses the guidance in Section 11 of NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." These documents address general guidance for conduct of the risk assessment, quantitative and qualitative guidelines for establishing risk management actions, and example risk management actions. These include actions to plan and conduct other activities in a manner that controls overall risk, increased risk awareness by shift and management personnel, actions to reduce the duration of the condition, actions to minimize the magnitude of risk increases (establishment of backup success paths or compensatory measures), and determination that the proposed MODE change is acceptable. Consideration should also be given to the probability of completing restoration such that the requirements of the LCO would be met prior to the expiration of ACTIONS Completion Times that would require exiting the Applicability.

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

The results of the risk assessment shall be considered in determining the acceptability of entering the MODE or other specified condition in the Applicability, and any corresponding risk management actions. The LCO 3.0.4.b risk assessments do not have to be documented.

The Technical Specifications allow continued operation with equipment unavailable in MODE 1 for the duration of the Completion Time. Since this is allowable, and since in general the risk impact in that particular MODE bounds the risk of transitioning into and through the applicable MODES or other specified conditions in the Applicability of the LCO, the use of the LCO 3.0.4.b allowance should be generally acceptable, as long as the risk is assessed and managed as stated above. However, there is a small subset of systems and components that have been determined to be more important to risk and use of the LCO 3.0.4.b allowance is prohibited. The LCOs governing these system and components contain Notes prohibiting the use of LCO 3.0.4.b by stating that LCO 3.0.4.b is not applicable.

BASES

LCO APPLICABILITY (continued)

LCO 3.0.4 (continued)

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 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 Activity), and may be applied to other Specifications based on NRC plant-specific approval.

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

The provisions of LCO 3.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS. In addition, the provisions of LCO 3.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that result from any unit shutdown. In this context, a unit shutdown is defined as a change in MODE or other specified condition in the Applicability associated with transitioning from MODE 1 to MODE 2, MODE 2 to MODE 3, MODE 3 to MODE 4, and MODE 4 to MODE 5.

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

~~LCO 3.0.4 is only applicable when entering MODE 4 from MODE 5, MODE 3 from MODE 4, MODE 2 from MODE 3, or MODE 1 from MODE 2. Furthermore, LCO 3.0.4 is applicable when entering any other specified condition in the Applicability associated with operation in MODES 1, 2, 3, or 4. The requirements of LCO 3.0.4 do not apply in MODES 5 and 6, or in other specified conditions of the Applicability (unless in MODES 1, 2, 3, or 4) because the ACTIONS of individual Specifications sufficiently define the remedial measures to be taken.~~

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.

BASES

LCO APPLICABILITY (continued)

LCO 3.0.4 (continued)

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

LCO 3.0.5

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

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

b. The OPERABILITY of other equipment.

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

An example of demonstrating the OPERABILITY of the equipment 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.

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

SR APPLICABILITY (continued)

SR 3.0.4 (continued)

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

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

The provisions of SR 3.0.4 shall not prevent entry into MODES or other specified conditions in the Applicability that are required to comply with ACTIONS. In addition, the provisions of SR 3.0.4 shall not prevent changes in MODES or other specified conditions in the Applicability that result from any unit shutdown. In this context, a unit shutdown is defined as a change in MODE or other specified condition in the Applicability associated with transitioning from MODE 1 to MODE 2, MODE 2 to MODE 3, 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 Applicability would have its Frequency specified such that it is not "due" until the specific conditions needed are met. Alternately, the Surveillance may be stated in the form of a Note, as not required (to be met or performed) until a particular event, condition, or time has been reached. Further discussion of the specific formats of SRs' annotation is found in Section 1.4, Frequency.

~~SR 3.0.4 is only applicable when entering MODE 4 from MODE 5, MODE 3 from MODE 4, MODE 2 from MODE 3, or MODE 1 from MODE 2. Furthermore, SR 3.0.4 is applicable when entering any other specified~~

~~condition in the Applicability associated with operation in MODES 1, 2, 3 or 4. The requirements of SR 3.0.4 do not apply in MODES 5 and 6, or in other specified conditions of the Applicability (unless in MODES 1, 2, 3, or 4) because the ACTIONS of individual Specifications sufficiently define the remedial measures to be taken.~~

LCO (continued)

EFW Flow is the primary indication used by the operator to verify that the EFW System is delivering flow to the correct SG.

18. High Pressure Injection Flow

See the discussion for Function 19 below.

19. Low Pressure Injection Flow

High and Low Pressure Injection Flow instrumentation is a Type A, Category I variable provided to support action for long term cooling requirements.

HPI flow may be throttled based on RCS pressure, subcooled margin and pressurizer level, and to balance flow rates between the injection lines. LPI flow information is used to determine when it is acceptable to terminate HPI. High and Low Pressure Injection Flow measurement is provided by two channels each with readout on two indicating recorders for high pressure injection (HPI), and with readout on two indicators and one recorder for low pressure injection (LPI) and on the SPDS. Each HPI channel includes four instruments (one per flow path) which provide flow indication over a range from 0 to 200 gpm, and the LPI channels provide flow indication over a range from 0 to 4500 gpm.

20. Reactor Building Spray Flow

Reactor Building Spray Flow instrumentation is a Type A, Category I variable provided to support action for long term reactor building cooling requirements (e.g., maintain NPSH) and iodine removal. Reactor Building Spray Flow measurement is provided by two channels with readout on two indicators and one recorder and on the SPDS. The channels provide flow indication over a range from 0 to 2000 gpm.

APPLICABILITY

The PAM instrumentation LCO is applicable in MODES 1, 2, and 3. These variables are related to the diagnosis and preplanned actions required for safe shutdown and to determine that safety systems are performing their intended function when required. In MODES 4, 5, and 6, unit conditions are such that the likelihood of an event occurring that would require PAM instrumentation is low; therefore, the PAM instrumentation is not required to be OPERABLE in these MODES.

ACTIONS

~~The ACTIONS are modified by two Notes. Note 1 is added to the ACTIONS to exclude the MODE change restriction of LCO 3.0.4. This exception allows entry into an applicable MODE while relying on the ACTIONS even though the ACTIONS may eventually require a unit shutdown. This exception is acceptable due to the passive function of the instruments, the operator's ability to respond to an accident utilizing alternate instruments and methods, and the low probability of an event requiring these instruments.~~

ACTIONS (continued)

A Note ~~2~~ is added to the ACTIONS to clarify the application of Completion Time rules. The Conditions of this Specification may be entered independently for each Function listed in Table 3.3.15-1. The Completion Time(s) of the inoperable channels of a Function will be tracked separately for each Function starting from the time the Condition was entered for that Function. This Note is also applicable for Table 3.3.15-1 items 12a, 12b, 12c, 12d, 13a, 13b, 17a and 17b, each of which is considered a separate Function.

A.1

When one or more Functions have one required channel inoperable, the inoperable channel must be restored to OPERABLE status within 30 days. The 30 day Completion Time is based on operating experience. This takes into account the remaining OPERABLE channel, the passive nature of the instrument (no critical automatic action is assumed to occur from these instruments), and the low probability of an event requiring PAM instrumentation during this interval.

B.1

Required Action B.1 specifies initiation of actions to prepare and submit a Special Report to the NRC. This report discusses the results of the root cause evaluation of the inoperability and identifies proposed restorative actions. The Special Report is to be submitted in accordance with 10 CFR 50.4 within 30 days of entering Condition B. This action is appropriate in lieu of a shutdown requirement since alternative actions are identified before loss of functional capability and given the likelihood of unit conditions that would require information provided by this instrumentation. The Completion Time of "Immediately" for Required Action B.1 identifies the start of the "clock" for submittal of the Special Report. Condition B is modified by a Note requiring Required Action B.1 to be completed whenever the Condition is entered. The Note ensures the requirement to prepare and submit the report is completed. Restoration alone per Required Action A.1 after the initial Completion Time of 30 days does not alleviate the need to report the extended inoperability to the NRC.

ACTIONS

A.1

With the specific activity of the reactor coolant greater than the LCO limits, the specific activity must be restored to within limits within 24 hours. The Completion Time of 24 hours is adequate to determine and implement appropriate actions to return specific activity to within limits.

A Note permits the use of the provisions of LCO 3.0.4.c. This allowance permits entry into the applicable MODE(S) while relying on the ACTIONS. This allowance is acceptable due to the significant conservatism incorporated into the specific activity limit, the low probability of an event which is limiting due to exceeding this limit, and the ability to restore transient specific activity excursions while the plant remains at, or proceeds to power operation.

B.1

If the Required Action and associated Completion Time are not met, the reactor must be brought to MODE 3 with RCS average temperature < 500°F within 6 hours. Placing the unit in MODE 3 and RCS average temperature < 500°F lowers the saturation pressure of the reactor coolant below the setpoints of the main steam safety valves, and prevents venting the SG to the environment in an SGTR event. The Completion Time of 6 hours is required to reach MODE 3 from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE REQUIREMENTS

SR 3.4.12.1

SR 3.4.12.1 requires performing a gamma isotopic analysis as a measure of the gross specific activity of the reactor coolant at least once per 7 days. The gross specific activity analysis consists of the quantitative measurement of the total activity of the primary coolant in units of microcuries per gram (μCi/gm). The total primary coolant activity is the sum of the degassed beta-gamma activity and the total of all identified gaseous activities 15 minutes after the primary system is sampled and any identified beta emitters (i.e., tritium, SR89, SR90, etc.). This Surveillance provides an indication of any increase in gross specific activity.

Trending the results of this Surveillance allows proper remedial action to be taken before reaching the LCO limit under normal operating conditions. The Surveillance is applicable in MODES 1 and 2, and in MODE 3 with RCS average temperature at least 500°F. The 7 day Frequency is based on the low probability of a gross fuel failure during that time period.

APPLICABLE SAFETY ANALYSES (continued)

The safety significance of RCS LEAKAGE varies widely depending on its source, rate, and duration. Therefore, detecting and monitoring reactor coolant LEAKAGE into the reactor building are necessary.

In MODES 1 and 2, RCS leakage detection instrumentation satisfies Criterion 1 of 10 CFR 50.36 (Ref. 4). In MODES 3 and 4, RCS leakage detection instrumentation satisfies Criterion 4 of 10 CFR 50.36.

LCO

One method of protecting against large RCS LEAKAGE derives from the ability of instruments to rapidly detect small leaks. This LCO requires instruments of diverse monitoring principles to be OPERABLE to provide a high degree of confidence that small leaks are detected in time to allow actions to place the unit in a safe condition when RCS LEAKAGE indicates possible RCPB degradation.

The LCO requirements are satisfied when monitors of diverse measurement means are available. Thus, the reactor building sump monitor, in combination with a particulate or gaseous radioactivity monitor, provides an acceptable minimum.

APPLICABILITY

Because of elevated RCS temperature and pressure in MODES 1, 2, 3, and 4, RCS leakage detection instrumentation is required to be OPERABLE.

In MODE 5 or 6, the temperature and pressure are maintained low. Since the temperatures and pressures are lower than those for MODES 1, 2, 3, and 4, the likelihood of leakage and crack propagation is sufficiently smaller. Therefore, the requirements of this LCO are not applicable in MODES 5 and 6.

ACTIONS

~~The Actions are modified by a Note indicating that the provisions of LCO 3.0.4 do not apply. As a result, a MODE change is allowed when the sump and required radiation monitors are inoperable. This allowance is provided because other instrumentation is available to monitor RCS LEAKAGE.~~

A.1 and A.2

With the required reactor building sump monitor inoperable, no other form of sampling can provide the equivalent information.

LCO (continued)

This LCO is modified by a Note that allows a Decay Heat Removal (DHR) train to be considered OPERABLE during alignment, when aligned, or when operating for decay heat removal, if it is capable of being manually (locally or remotely) realigned to the LPI mode of operation and is not otherwise inoperable. This provision is necessary because of the dual requirements of the components that comprise the low pressure injection/decay heat removal system.

APPLICABILITY

In MODES 1 and 2 and MODE 3 with RCS temperature > 350°F, the OPERABILITY requirements for the ECCS are covered by LCO 3.5.2.

In MODE 3 with RCS temperature ≤ 350°F and in MODE 4, two OPERABLE LPI trains are acceptable on the basis of the stable reactivity condition of the reactor and the limited core cooling requirements.

In MODES 5 and 6, unit conditions are such that the probability of an event requiring LPI ~~injection~~ is extremely low. Core cooling requirements in MODE 5 are addressed by LCO 3.4.7, "RCS Loops - MODE 5, Loops Filled," and LCO 3.4.8, "RCS Loops – MODE 5, Loops Not Filled." MODE 6 core cooling requirements are addressed by LCO 3.9.4, "Decay Heat Removal (DHR) and Coolant Circulation - High Water Level," and LCO 3.9.5, "Decay Heat Removal (DHR) and Coolant Circulation - Low Water Level."

ACTIONS

A Note prohibits the application of LCO 3.0.4.b to inoperable ECCS DHR loops when entering MODE 4 from MODE 5. There is an increased risk associated with entering MODE 4 from MODE 5 with DHR inoperable and the provisions of LCO 3.0.4.b, which allow entry into a MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in this circumstance.

A.1

If one LPI train is inoperable, the unit is not prepared to provide redundant, single failure proof LPI in response to events requiring ESAS. The 48 hour Completion Time to restore the LPI subsystem to OPERABLE status ensures that prompt action is taken to provide the required cooling capacity or to initiate actions to place the unit in MODE 5, where an LPI train is not required.

B.1

When the Required Action and associated Completion Time of Condition A are not met, a controlled cooldown should be initiated. The allowed Completion Time of 24 hours is reasonable, based on operating experience, to reach MODE 5 from MODE 3 with RCS temperature ≤ 350°F in an orderly manner and without challenging unit systems.

APPLICABILITY (continued)

In MODE 4, the EFW System must be OPERABLE when the steam generators are relied upon for decay heat removal since EFW is the safety related source of feedwater to the steam generators. In MODE 4, the steam generators are normally used for heat removal until the DHR System is in operation.

In MODES 5 and 6, the steam generators are not used for DHR and the EFW System is not required.

ACTIONS

A Note prohibits the application of LCO 3.0.4.b to an inoperable EFW train when entering MODE 1. There is an increased risk associated with entering MODE 1 with EFW inoperable and the provisions of LCO 3.0.4.b, which allow entry into a MODE or other specified condition in the Applicability with the LCO not met after performance of a risk assessment addressing inoperable systems and components, should not be applied in this circumstance.

A.1

With one of the two steam supplies to the turbine driven EFW pump inoperable, or if the turbine driven EFW pump is inoperable in MODE 3 immediately following refueling, action must be taken to restore the steam supply to OPERABLE status within 7 days. The 7 day Completion Time is reasonable, based on the following reasons:

a. For the inoperability of a steam supply to the turbine driven EFW pump, the 7 day Completion Time is reasonable since there is a redundant steam line for the turbine driven pump.

b. For the inoperability of the turbine driven EFW pump while in MODE 3 immediately subsequent to a refueling, the 7 day Completion Time is reasonable due to the minimal decay heat levels in this situation.

c. For both the inoperability of a steam supply line to the turbine driven pump and an inoperable turbine driven EFW pump while in MODE 3 immediately following a refueling, the 7 day Completion Time is reasonable due to the availability of the redundant OPERABLE motor driven EFW pump; and due to the low probability of an event requiring the use of the turbine driven EFW pump.

The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of required EFW components to be inoperable during any continuous failure to meet this LCO.

The 10 day Completion Time provides a limitation on the time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions A and B are entered concurrently. The AND connector between 7 days and 10 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.

LCO (continued)

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

This LCO does not apply to the Alternate AC DG nor to the security DG.

APPLICABILITY

The AC sources are required to be OPERABLE in MODES 1, 2, 3, and 4 to ensure that:

a. Acceptable fuel design limits and reactor coolant pressure boundary limits are not exceeded as a result of abnormalities or abnormal transients; and

b. Adequate core cooling is provided and reactor building OPERABILITY and other vital functions are maintained in the event of a postulated DBA.

The AC power requirements for MODES 5 and 6 are addressed by the definition of OPERABILITY for each required supported load.

ACTIONS

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

A.1

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

The Completion Time provides for a prompt confirmation of the OPERABILITY of the remaining offsite circuit. This is considered to be acceptable because of other indications, which are available in the control room for loss of the remaining offsite circuit.