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2CAN031303

March 26, 2013

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

SUBJECT: License Amendment Request
Adoption of Technical Specification Task Force (TSTF)-422, Revision 2
‘‘Change in Technical Specifications End States (CE NPSD-1186)’
Arkansas Nuclear One, Unit 2
Docket No. 50-368
License No. NPF-6

Dear Sir or Madam:

In accordance with the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.90, Entergy Operations, Inc. (Entergy) is submitting a request for an amendment to Arkansas Nuclear One, Unit 2 (ANO-2) Technical Specifications (TS) to incorporate the NRC-approved TSTF-422, Revision 2, “Change in Technical Specifications End States (CE NPSD-1186).” The proposed amendment would modify TS to risk-inform requirements regarding selected Required Action End States.

Attachment 1 provides a description and assessment of the proposed change, the requested confirmation of applicability, and plant-specific verifications. Attachment 2 summarizes the regulatory commitments made in this submittal. Attachment 3 provides markup pages of existing TS and TS Bases to show the proposed change. Attachment 4 provides revised (clean) TS pages.

Entergy requests approval of the proposed license amendment by April 1, 2014, with the amendment being implemented within 90 days of approval.

In accordance with 10 CFR 50.91(a)(1), “Notice for public comment,” the analysis about the issue of no significant hazards consideration (NSHC) using the standards in 10 CFR 50.92 is being provided to the Commission in accordance with the distribution requirements in 10 CFR 50.4.

In accordance with 10 CFR 50.91(b)(1), a copy of this application and the reasoned analysis about NSHC is being provided to the designated Arkansas state official.

If you have any questions or require additional information, please contact Stephenie Pyle at 479-858-4704.

I declare under penalty of perjury that the foregoing is true and correct.
Executed on March 26, 2013.

Sincerely,

ORIGINAL SIGNED BY JEREMY G. BROWNING

JGB/dbb

Attachments:

1. Description and Assessment of the Proposed Changes
2. List of Regulatory Commitments
3. Proposed Technical Specification and Bases Changes (mark-up)
4. Revised (clean) Technical Specification Pages

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Attachment 1 to

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Description and Assessment of the Proposed Changes

DESCRIPTION AND ASSESSMENT OF THE PROPOSED CHANGES

1.0 DESCRIPTION

The proposed amendment would modify Technical Specifications (TS) to risk-inform requirements regarding selected Required Action End States. The changes are consistent with Nuclear Regulatory Commission (NRC)-approved Technical Specification Task Force (TSTF) traveler TSTF-422, Revision 2, "Change in Technical Specifications End States (CE NPSD-1186)," dated December 22, 2009 (ADAMS Accession Number ML093570241) (Reference 1). The *Federal Register* notice published on April 7, 2011 (76 FR 19510) (Reference 2), announced the availability of this TS improvement as part of the consolidated line item improvement process (CLIIP).

2.0 ASSESSMENT

2.1 Applicability of Topical Report, TSTF-422, and Model Safety Evaluation

Entergy Operations, Inc. (Entergy) has reviewed Combustion Engineering (CE) Topical Report (TR) NPSD-1186 (Reference 3), TSTF-422, Revision 2, and the NRC staff's model safety evaluation (SE) (Reference 4) as part of the CLIIP. Entergy has concluded that the information in TR NPSD-1186, TSTF-422, Revision 2, and the NRC staff's model SE are applicable to Arkansas Nuclear One, Unit 2 (ANO-2) and justify this license amendment request (LAR) for the incorporation of the changes to the ANO-2 TS.

2.2 Optional Changes and Variations

Entergy is proposing variations or deviations from TR NPSD-1186, the TS changes described in the TSTF-422, Revision 2, or the NRC staff's model SE referenced in the *Federal Register* on April 7, 2011 (76 FR 19510), as part of the CLIIP Notice of Availability.

Entergy has reviewed TSTF-422, Revision 2, and the model SE referenced in the Federal Register Notice of Availability published on April 7, 2011 (76 FR 19510), as part of the CLIIP. The review included verification of compliance with Section 11 of NUMARC 93-01, "Industry Guidance for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," Nuclear Management and Resource Council, Revision 3, July 2000, as well as the supporting WCAP-16364-NP, Revision 2, "Implementation Guidance for Risk Informed Modification to Selected Required Action End States at Combustion Engineering NSSS Plants (TSTF-422)," dated May 2010. Entergy fleet procedure EN-DC-203, "Maintenance Rule Program," references NUMARC 93-01, as endorsed by Regulatory Guide (RG) 1.160, as the governing guidance for the Entergy Maintenance Rule program. ANO Operations directive COPD-024, "Risk Assessment Guidelines," currently meets the majority of the implementation guidance presented in WCAP-16364-NP, Revision 2; however, this directive will be further enhanced prior to implementation of this amendment, as committed to in Attachment 2 of this letter.

Because the ANO-2 TSs have not been converted to the standard TSs (STS) of NUREG-1432, "Standard Technical Specifications – Combustion Engineering Plants" (on which TSTF-422 markups are based), the layout of the specifications, when compared to TSTF-422, may differ significantly in format. However, the technical differences are minor. In addition, ANO-2 is a "digital" plant and, therefore, only "digital" STSs are applicable. Differences are as follows.

1. The STSs use terms such as “Required Action” and “Completion Time” where the ANO-2 TSs use equivalent terms of “Action” and “Allowed Outage Time.” While the ANO-2 terms are maintained in the TSs for consistency, the STS and equivalent ANO-2 TS terms may be used interchangeably throughout this letter. These differences do not invalidate the applicability of TSTF-422 and the model SE to ANO-2.

2. Changes may have required the movement of information from one TS page to another. This difference does not invalidate the applicability of TSTF-422 and the model SE to ANO-2.

3. In general, the ANO-2 TSs use the Mode noun names (i.e., “Hot Shutdown” in lieu of “Mode 4”). The use of noun names does not invalidate the applicability of TSTF-422 and the model SE to ANO-2.

4. TS 3.3.2.1, Table 3.3-3, Actions 9 and 13 currently state that under certain conditions, action must be taken to “exit the mode of applicability.” Action 9 is associated with Engineered Safety Feature Actuation System (ESFAS) Manual Trip and Initiation Logics. Action 13 is associated with ESFAS Actuation Logics. This terminology was previously employed because Actions 9 and 13 are related to TS requirements that are applicable in either Modes 1, 2, and 3, or Modes 1, 2, 3, and 4. With the adoption of TSTF-422, there is no longer a need to differentiate between the two Applicabilities because the required end state will be Mode 4 (or Hot Shutdown) for all of the related TS requirements. Therefore, consistent with TSTF-422, these actions are revised to refer to Hot Shutdown (Mode 4). This difference does not invalidate the applicability of TSTF-422 and the model SE to ANO-2.

   In addition, Actions 9, 12 (ESFAS Matrix Logics), and 13 currently permit 6 hours to reach Mode 3 (Hot Standby) and an additional 30 hours to reach the non-applicable mode. The Actions do not contain a time to reach Mode 4. Therefore, upon updating the Actions to refer to Mode 4 (where applicable), the 30-hour period is also reduced to 6 hours, consistent with TSTF-422. This difference does not invalidate the applicability of TSTF-422 and the model SE to ANO-2.

   Finally, the ANO-2 TSs do not contain an Action for two ESFAS Actuation Logics being inoperable at the same time. Adopting such an Action is beyond the scope of TSTF-422; therefore, no changes related to the STS Required Action are required for ANO-2. As is the case for Manual Trip and Initiation Logics, LCO 3.0.3 is applicable when channels are inoperable that exceed that permitted by the current Actions in the ANO-2 TSs. This difference maintains the ANO-2 TSs more restrictive than the STS and does not invalidate the applicability of TSTF-422 and the model SE to ANO-2.

5. ANO-2 does not have a Containment Purge Isolation Signal (CPIS) specification (STS 3.3.8). Containment purge valves are required to be closed with key removed from the Control Room handswitches in Modes 1, 2, 3, and 4 in accordance with ANO-2 TS 3.6.1.6, “Containment Ventilation System.” Therefore, no TSTF-422 changes related to CPIS are incorporated into the ANO-2 TSs. This difference does not invalidate the applicability of TSTF-422 and the model SE to ANO-2.

6. The ANO-2 TSs do not contain a separate specification for the Control Room Isolation Signal (CRIS) function (STS 3.3.9). The ANO-2 Control Room is isolated upon receipt of high radiation signal. The associated radiation monitors are included in ANO-2 TS 3.3.3.1, "Radiation Monitoring Instrumentation." Actions 17 and 20 associated with the corresponding ANO-2 TS Table 3.3-6 have been modified consistent with TSTF-422. This difference does not invalidate the applicability of TSTF-422 and the model SE to ANO-2.

   The markup and clean version of this TS page included in Attachments 3 and 4 of this letter, respectively, are based on a revised version currently under NRC review, but not yet approved by the NRC. This version is based on Entergy letter dated July 9, 2012, "Technical Specification (TS) Change Related to Revised Fuel Assembly Drop Analysis and Adoption of TSTF-51, TSTF-272, TSTF-286, and TSTF-471." Should the changes reflected in Entergy's July 9, 2012, letter not be approved, a revised version of this TS page will be forward to the NRC at the appropriate time. With respect to this unapproved version of TS Page 3/4 3-26, a place-holder has been inserted in the footer (Amendment No. "xxx") with the assumption that the July 9, 2012, Entergy amendment request will be approved.

7. The markup and clean version of this TS Page 3/4 4-2a of ANO-2 TS 3.4.1.3, "Reactor Coolant System – Shutdown" (STS 3.4.6), included in Attachments 3 and 4 of this letter, respectively, are based on a revised version currently under NRC review, but not yet approved by the NRC. This version is based on Entergy letter dated July 9, 2012, "Technical Specification (TS) Change Related to Revised Fuel Assembly Drop Analysis and Adoption of TSTF-51, TSTF-272, TSTF-286, and TSTF-471." Should the changes reflected in Entergy's July 9, 2012, letter not be approved, a revised version of this TS page will be forward to the NRC at the appropriate time. With respect to this unapproved version of TS Page 3/4 4-2a, a place-holder has been inserted in the footer (Amendment No. "xxx") with the assumption that the July 9, 2012, Entergy amendment request will be approved.

8. The ANO-2 TSs do not contain a separate Action for not meeting Refueling Water Tank (RWT) boron concentration and/or temperature limits. Adopting these Actions is beyond the scope of TSTF-422. Because the TSTF-422 changes are related only to these Actions, no TSTF-422 related changes are adopted for ANO-2 TS 3.5.4, "Refueling Water Tank."

9. For formatting purposes only, the shutdown statements (currently repeated three times) in ANO-2 TS 3.6.1.2, "Containment Air Locks" (STS 3.6.2), is removed from each individual Action and inserted as a "cover all" at the end of all Actions. This is an administrative change which provides greater consistency with STS format and has no technical impact on the specification. TSTF-422 related changes are adopted as presented in the TSTF.

10. Containment Pressure and Containment Air Temperature are separate specifications in the STS (STS 3.6.4 and 3.6.5). For ANO-2, these limits are contained in a single specification (TS 3.6.1.4). Therefore, the TSTF-422 related changes are incorporated into the single ANO-2 TS. This difference does not invalidate the applicability of TSTF-422 and the model SE to ANO-2.

11. STS 3.6.6A contains requirements for both Containment Spray and Containment Cooling Systems. These requirements are contained in separate specifications for ANO-2: TS 3.6.2.1, "Containment Spray System," and TS 3.6.2.3, "Containment Cooling System." There are no deviations related to TSTF-422 adoption for the ANO-2 Containment Cooling System TS. The ANO-2 Containment Spray System TS, however, is only applicable in

Modes 1, 2, and 3. Therefore, the TSTF-422 Note restricting entry into Mode 4 is not required for this specification because Hot Shutdown is not a Mode of Applicability. As a result, the TSTF-422 Note is not adopted for this specification. This deviation does not invalidate the applicability of TSTF-422 and the model SE to ANO-2.

Unrelated to TSTF-422, Entergy desires to remove the 7-day allowed outage time for the Containment Spray Pumps as specified in the TS 3.6.2.1 Action Note. This allowance only applied in ANO-2 Operating Cycles 19 and 20. ANO-2 is currently in Operating Cycle 23. Removal of this Note eliminates possible human performance traps. This change is administrative in nature and does not invalidate the applicability of TSTF-422 and the model SE to ANO-2.

12. Similar to Item 9 above, for formatting purposes only, the shutdown statements (currently repeated five times) in ANO-2 TS 3.6.2.3, "Containment Cooling System" (STS 3.6.6A), is removed from each individual Action and inserted as a "cover all" at the end of all Actions. This is an administrative change which provides greater consistency with STS format and has no technical impact on the specification. TSTF-422 related changes are adopted as presented in the TSTF.

13. ANO-2 does not have a Component Cooling Water (CCW) specification (STS 3.7.7). Therefore, no TSTF-422 changes related to CCW are incorporated into the ANO-2 TSs. This difference does not invalidate the applicability of TSTF-422 and the model SE to ANO-2.

14. The ANO-2 Ultimate Heat Sink (Emergency Cooling Pond) does not include cooling towers; therefore, TSTF-422 related changes (reference STS 3.7.9) are not applicable to ANO-2 TS 3.7.4.1. This difference does not invalidate the applicability of TSTF-422 and the model SE to ANO-2.

15. ANO-2 does not have a Essential Chilled Water (ESW) specification (STS 3.7.10) or system. Therefore, no TSTF-422 related changes are applicable to ANO-2. This difference does not invalidate the applicability of TSTF-422 and the model SE to ANO-2.

16. The Control Room Emergency Air Cleanup System (STS 3.7.11) and the Control Room Emergency Air Temperature Control System (STS 3.7.12) requirements are contained in a single specification for ANO-2: TS 3.7.6.1, "Control Room Emergency Ventilation and Air Conditioning System." Therefore, the TSTF-422 related changes are incorporated into the single ANO-2 TS. This difference does not invalidate the applicability of TSTF-422 and the model SE to ANO-2.

    The markup and clean version of this TS page included in Attachments 3 and 4 of this letter, respectively, are based on a revised version currently under NRC review, but not yet approved by the NRC. This version is based on Entergy letter dated July 9, 2012, "Technical Specification (TS) Change Related to Revised Fuel Assembly Drop Analysis and Adoption of TSTF-51, TSTF-272, TSTF-286, and TSTF-471." Should the changes reflected in Entergy's July 9, 2012, letter not be approved, a revised version of this TS page will be forward to the NRC at the appropriate time. With respect to this unapproved version of TS Page 3/4 7-17, a place-holder has been inserted in the footer (Amendment No. "xxx") with the assumption that the July 9, 2012, Entergy amendment request will be approved.

17. ANO-2 does not have TS requirements associated with an Emergency Core Cooling System Pump Room Exhaust Air Cleanup System (STS 3.7.13). Therefore, no TSTF-422 related changes are applicable to ANO-2. This difference does not invalidate the applicability of TSTF-422 and the model SE to ANO-2.

18. ANO-2 does not have TS requirements associated with a Penetration Room Exhaust Air Cleanup System (STS 3.7.15). Therefore, no TSTF-422 related changes are applicable to ANO-2. This difference does not invalidate the applicability of TSTF-422 and the model SE to ANO-2.

19. Similar to Item 9 above, for formatting purposes only, the shutdown statements (currently repeated several times) in ANO-2 TS 3.8.1.1, "A.C. Sources" (STS 3.8.1), Actions "c", "d", and "e" are removed from each individual Action and inserted as a "cover all" at the end of each Action. This is an administrative change which provides greater consistency with STS format and has no technical impact on the specification. TSTF-422 related changes are adopted as presented in the TSTF.

20. The markup and clean version of TS Page 3/4 8-8 included in Attachments 3 and 4 of this letter, respectively, are based on a revised version currently under NRC review, but not yet approved by the NRC. This version is based on Entergy letter dated January 28, 2013, "Adoption of Technical Specification Task Force (TSTF)-500, Revision 2." Should the changes reflected in Entergy's January 28, 2013, letter not be approved, a revised version of this TS page will be forward to the NRC at the appropriate time. With respect to this unapproved version of the TS page, a place-holder has been inserted in the footer (Amendment No. "xxx") with the assumption that the January 28, 2013, Entergy amendment request will be approved.

21. ANO-2 does not have TS requirements associated with Inverters (STS 3.8.7). Therefore, no TSTF-422 related changes are applicable to ANO-2. This difference does not invalidate the applicability of TSTF-422 and the model SE to ANO-2.

22. Because the ANO-2 TSs have not been converted to the STS version, the associated TS Bases for each specification change is modified as necessary to be consistent with both the current ANO-2 TS Bases and that presented in TSTF-422. This difference does not invalidate the applicability of TSTF-422 and the model SE to ANO-2.

3.0 REGULATORY ANALYSIS

3.1 No Significant Hazards Consideration Determination

Entergy Operations, Inc. (Entergy) has evaluated the proposed changes to the TS using the criteria in 10 CFR 50.92 and has determined that the proposed changes do not involve a significant hazards consideration.

Description of Amendment Request: A change is proposed to the TS of Arkansas Nuclear One, Unit 2 (ANO-2), consistent with TSTF-422, Revision 2, to allow, for some systems, entry into hot shutdown rather than cold shutdown to repair equipment, if risk is assessed and managed consistent with the program in place for complying with the requirements of 10 CFR 50.65(a)(4). Changes proposed in TSTF-422 will be made to the ANO-2 TS for selected Required Action end states providing this allowance.

Basis for no significant hazards consideration determination: As required by 10 CFR 50.91(a), Entergy analysis of the issue of no significant hazards consideration is presented 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 allows a change to certain required end states when the Technical Specification (TS) Completion Times (CTs) for remaining in power operation are exceeded. Most of the requested TS changes are to permit an end state of hot shutdown (Mode 4) rather than an end state of cold shutdown (Mode 5) contained in the current TS. The request was limited to: (1) those end states where entry into the shutdown mode is for a short interval, (2) entry is initiated by inoperability of a single train of equipment or a restriction on a plant operational parameter, unless otherwise stated in the applicable TS, and (3) the primary purpose is to correct the initiating condition and return to power operation as soon as is practical. Risk insights from both the qualitative and quantitative risk assessments were used in specific TS assessments. Such assessments are documented in Section 5.5 of CE NPSD-1186, Rev 0, "Technical Justification for the Risk-Informed Modification to Selected Required Action End States for CEOG Member PWRs." The assessments provide an integrated discussion of deterministic and probabilistic issues, focusing on specific TSs, which are used to support the proposed TS end state and associated restrictions. Therefore, the probability of an accident previously evaluated is not significantly increased, if at all. The consequences of an accident after adopting proposed TSTF-422 are no different than the consequences of an accident prior to adopting TSTF-422. Therefore, the consequences of an accident previously evaluated are not significantly affected by this change. The addition of a requirement to assess and manage the risk introduced by this change will further minimize possible concerns.

   Therefore, 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 does not involve a physical alteration of the plant (no new or different type of equipment will be installed). Allowing a change to certain required end states when the TS CTs for remaining in power operation are exceeded, i.e., entry into hot shutdown rather than cold shutdown to repair equipment, if risk is assessed and managed, will not introduce new failure modes or effects and will not, in the absence of other unrelated failures, lead to an accident whose consequences exceed the consequences of accidents previously evaluated. The addition of a requirement to assess and manage the risk introduced by this change and the commitment by the licensee to adhere to the guidance in WCAP-16364-NP, Revision 2, "Implementation Guidance for Risk Informed Modification to Selected Required Action End States at Combustion Engineering NSSS Plants (TSTF-422)," will further minimize possible concerns.

   Therefore, this change does not create the possibility of a new or different kind of accident from an accident previously evaluated.

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

Response: No

The proposed change allows, for some systems, entry into hot shutdown rather than cold shutdown to repair equipment, if risk is assessed and managed. The CEOG's risk assessment approach is comprehensive and follows NRC staff guidance as documented in Regulatory Guides (RGs) 1.174 and 1.177. In addition, the analyses show that the criteria of the three-tiered approach for allowing TS changes are met. The risk impact of the proposed TS changes was assessed following the three-tiered approach recommended in RG 1.177. A risk assessment was performed to justify the proposed TS changes. The net change to the margin of safety is insignificant.

Therefore, this change does not involve a significant reduction in a margin of safety.

Based upon the reasoning presented above, Entergy concludes that the requested change involves no significant hazards consideration, as set forth in 10 CFR 50.92(c), "Issuance of Amendment."

3.2 Verifications, Commitments, and Additional Information Needed

Entergy commits to the regulatory commitments in Attachment 2. In addition, Entergy has proposed TS Bases consistent with TSTF-422, Revision 2, which provides guidance and details on how to implement the new requirements. Implementation of TSTF-422 requires that risk be managed and assessed, and the configuration risk management program is adequate to satisfy this requirement. The risk assessment need not be quantified, but may be a qualitative assessment of the vulnerability of systems and components when one or more systems are not able to perform their associated function. Finally, Entergy has a Bases Control Program consistent with Section 5.5 of the Standard TSs (STS).

4.0 ENVIRONMENTAL CONSIDERATION

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 Part 20, and 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.

5.0 REFERENCES

1. TSTF-422, Revision 2, “Change in Technical Specifications End States (CE NPSD-1186),” dated December 22, 2009 (ADAMS Accession No. ML093570241).

2. *Federal Register*, [Vol. 76, No. 67, p. 19510], “Notice of Availability of the Models for Plant-Specific Adoption of Technical Specifications Task Force (TSTF) Traveler TSTF-422, Revision 2, “Change in Technical Specifications End States (CE NPSD-1186)’ for Combustion Engineering Plants Using the Consolidated Line Item Improvement Process,” April 7, 2011 (ADAMS Accession No. ML103270159).

3. CE NPSD-1186, Rev 0, “Technical Justification for the Risk-Informed Modification to Selected Required Action End States for CEOG Member PWRs,” April 2000 (ADAMS Package Accession No. ML010540231).

4. NRC Model Safety Evaluation of TSTF-422, Revision 2 (ADAMS Accession No. ML103270197).

Attachment 2

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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
	ONE-TIME ACTION	CONTINUING COMPLIANCE	
Entergy will modify the Technical Specification Bases for the revised specifications as adopted with the applicable license amendment.	✓		Upon implementation of the approved TS amendment
Entergy will follow the guidance established in Section 11 of NUMARC 93-01, "Industry Guidance for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," Nuclear Management and Resource Council, Revision 3, July 2000.		✓	Ongoing
Entergy will follow the guidance established in WCAP-16364-NP, Revision 2, "Implementation Guidance for Risk Informed Modification to Selected Required Action End States at Combustion Engineering NSSS Plants (TSTF-422)," dated May 2010.		✓	Upon implementation of the approved TS amendment, when the TS Required Action End State remains within the Applicability of the TS

Attachment 3 to

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Proposed Technical Specification and Bases Changes (mark-up)

TABLE 3.3-3 (Continued)

TABLE NOTATION

(a) Trip function may be bypassed in this MODE when pressurizer pressure is below 400 psia; bypass shall be automatically removed before pressurizer pressure exceeds 500 psia.

(b) An SIAS signal is first necessary to enable CSAS logic.

(c) Remote manual not provided for RAS. These are local manuals at each ESF auxiliary relay cabinet.

ACTION STATEMENTS

ACTION 9 – With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN~~exit the MODE(s) ofApplicability~~ within the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

ACTION 10 – With the number of channels OPERABLE one less than the Total Number of Channels, operation in the applicable MODES may continue provided the inoperable channel is placed in the bypassed or tripped condition within 1 hour. If the inoperable channel is bypassed for greater than 48 hours, the desirability of maintaining this channel in the bypassed condition shall be reviewed as soon as possible but no later than the next regularly scheduled OSRC meeting in accordance with the Quality Assurance Program Manual (QAPM). The channel shall be returned to OPERABLE status prior to startup following the next COLD SHUTDOWN.

If an inoperable Steam Generator ΔP or RWT Level – Low channel is placed in the tripped condition, remove the inoperable channel from the tripped condition within 48 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 30 hours.

With a channel process measurement circuit that affects multiple functional units inoperable or in test, bypass or trip all associated functional units as listed below.

Process Measurement Circuit	Functional Unit Bypassed
1. Containment Pressure – NR	Containment Pressure – High (RPS) Containment Pressure – High (ESFAS) Containment Pressure – High-High (ESFAS)
2. Steam Generator 1 Pressure	Steam Generator 1 Pressure – Low Steam Generator 1 ΔP (ESFAS 1) Steam Generator 2 ΔP (ESFAS 2)
3. Steam Generator 2 Pressure	Steam Generator 2 Pressure – Low Steam Generator 1 ΔP (ESFAS 1) Steam Generator 2 ΔP (ESFAS 2)

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4.	Steam Generator 1 Level	Steam Generator 1 Level – Low Steam Generator 1 ΔP (EFAS 1)
5.	Steam Generator 2 Level	Steam Generator 2 Level – Low Steam Generator 2 ΔP (EFAS 2)

TABLE 3.3-3 (Continued)

TABLE NOTATION

ACTION 10 (continued)

	Process Measurement Circuit	Functional Unit Bypassed
From previous page	4. Steam Generator 1 Level	Steam Generator 1 Level – Low Steam Generator 1 ΔP (EFAS 1)
	5. Steam Generator 2 Level	Steam Generator 2 Level – Low Steam Generator 2 ΔP (EFAS 2)

ACTION 11 – With the number of channels OPERABLE one less than the Minimum Channels OPERABLE requirement, operation in the applicable MODES may continue provided the following conditions are satisfied:

a. Verify that one of the inoperable channels has been bypassed and place the other inoperable channel in the tripped condition within 1 hour, and

b. All functional units affected by the bypassed/tripped channel shall also be placed in the bypassed/tripped condition as listed below:

Process Measurement Circuit	Functional Unit Bypassed/Tripped
1. Containment Pressure – NR	Containment Pressure – High (RPS) Containment Pressure – High (ESFAS) Containment Pressure – High-High (ESFAS)
2. Steam Generator 1 Pressure	Steam Generator 1 Pressure – Low Steam Generator 1 ΔP (EFAS 1) Steam Generator 2 ΔP (EFAS 2)
3. Steam Generator 2 Pressure	Steam Generator 2 Pressure – Low Steam Generator 1 ΔP (EFAS 1) Steam Generator 2 ΔP (EFAS 2)
4. Steam Generator 1 Level	Steam Generator 1 Level – Low Steam Generator 1 ΔP (EFAS 1)
5. Steam Generator 2 Level	Steam Generator 2 Level – Low Steam Generator 2 ΔP (EFAS 2)

If an inoperable Steam Generator ΔP or RWT Level - Low channel is placed in the tripped condition, remove the inoperable channel from the tripped condition within 48 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 30 hours.

Operation in the applicable MODES may continue until the performance of the next required CHANNEL FUNCTIONAL TEST. Subsequent operation in the applicable MODES may continue if one channel is restored to OPERABLE status and the provisions of ACTION 10 are satisfied.

ACTION 12 – With the number of OPERABLE channels one less than the Minimum Channels OPERABLE, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

ACTION 13 – With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN~~exit the MODE(s) of Applicability~~ within the following 6~~30~~ hours; however, one channel may be bypassed for up to 1 hour for surveillance testing provided the other channel is OPERABLE. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

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TABLE 3.3-3 (Continued)

TABLE NOTATION

ACTION 12 – With the number of OPERABLE channels one less than the Minimum Channels OPERABLE, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

ACTION 13 – With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN~~exit the MODE(s) of Applicability~~ within the following 6~~30~~ hours; however, one channel may be bypassed for up to 1 hour for surveillance testing provided the other channel is OPERABLE. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

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TABLE 3.3-6 (Continued)

TABLE NOTATION

ACTION 13 – With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per 24 hours.

ACTION 16 – With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, complete the following:

a. If moving recently irradiated fuel assemblies or moving new fuel assemblies over recently irradiated fuel assemblies within the Containment Building, secure the Containment Purge System or suspend the movement of recently irradiated fuel assemblies and movement of new fuel assemblies over recently irradiated fuel assemblies within the Containment Building.

b. If a Containment PURGE is in progress, secure the Containment Purge System.

c. If continuously ventilating the Containment Building, verify the associated SPING monitor operable or perform the applicable ACTION(s) of the Offsite Dose Calculation Manual; otherwise, secure the Containment Purge System.

ACTION 17 – In MODE 1, 2, 3, or 4, with no channels OPERABLE, within 1 hour initiate and maintain operation of the control room emergency ventilation system (CREVS) in the recirculation mode of operation or be in HOT STANDBY within the next 6 hours and HOT~~COLD~~ SHUTDOWN in the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

ACTION 18 – With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, (1) either restore the inoperable channel to OPERABLE status within 7 days or (2) prepare and submit a Special Report to the NRC within 30 days following the event, outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the system to OPERABLE status. With both channels inoperable, initiate alternate methods of monitoring the containment radiation level within 72 hours in addition to the actions described above.

ACTION 19 – With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements, initiate the preplanned alternate method of monitoring the appropriate parameter(s), within 72 hours, and:

1) either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

2) prepare and submit a Special Report to the NRC within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

ACTION 20 – In MODE 1, 2, 3, or 4 with the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, within 7 days restore the inoperable channel to OPERABLE status or initiate and maintain the CREVS in the recirculation mode of operation. Otherwise, be in HOT STANDBY within the next 6 hours and HOT~~COLD~~ SHUTDOWN in the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

ACTION 21 - During movement of irradiated fuel assemblies or movement of new fuel assemblies over irradiated fuel assemblies with one or two channels inoperable, immediately place one OPERABLE CREVS train in the emergency recirculation mode or immediately suspend the movement of irradiated fuel assemblies or movement of new fuel assemblies over irradiated fuel assemblies.

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TABLE NOTATION

ACTION 20 – In MODE 1, 2, 3, or 4 with the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, within 7 days restore the inoperable channel to OPERABLE status or initiate and maintain the CREVS in the recirculation mode of operation. Otherwise, be in HOT STANDBY within the next 6 hours and HOT~~COLD~~ SHUTDOWN in the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

ACTION 21 - During movement of irradiated fuel assemblies or movement of new fuel assemblies over irradiated fuel assemblies with one or two channels inoperable, immediately place one OPERABLE CREVS train in the emergency recirculation mode or immediately suspend the movement of irradiated fuel assemblies or movement of new fuel assemblies over irradiated fuel assemblies.

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REACTOR COOLANT SYSTEM

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.4.1.3 a. At least two of the coolant loops listed below shall be OPERABLE:

1. Reactor Coolant Loop (A) and its associated steam generator and at least one associated reactor coolant pump.
2. Reactor Coolant Loop (B) and its associated steam generator and at least one associated reactor coolant pump.
3. Shutdown Cooling Loop (A) #.
4. Shutdown Cooling Loop (B) #.

b. At least one of the above coolant loops shall be in operation.*

APPLICABILITY: Modes 4 and 5.

ACTION:

a. With less than the above required coolant loops OPERABLE, immediately initiate corrective action to return the required coolant loops to OPERABLE status as soon as possible~~;~~ and initiate action to make at least one steam generator available for decay heat removal via natural circulation~~be in COLD SHUTDOWN within 20 hours~~. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

b. With no coolant loop in operation, suspend all operations that would cause introduction of coolant into the RCS with boron concentration less than required to meet SDM of LCO 3.1.1.1 or LCO 3.1.1.2, as applicable, and immediately initiate corrective action to return the required coolant loop to operation.

SURVEILLANCE REQUIREMENTS

4.4.1.3.1 The required shutdown cooling loop(s) shall be determined OPERABLE per the Inservice Testing Program.

4.4.1.3.2 The required reactor coolant pump(s), if not in operation, shall be determined to be OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.

4.4.1.3.3 The required steam generator(s) shall be determined OPERABLE by verifying the secondary side water level to be $\geq$ 23% indicated level at least once per 12 hours.

4.4.1.3.4 At least one coolant loop shall be verified to be in operation and circulating reactor coolant at least once per 12 hours.

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* All reactor coolant pumps and decay heat removal pumps may be de-energized for up to 1 hour provided (1) no operations are permitted that would cause introduction of coolant into the RCS with boron concentration less than required to meet SDM of LCO 3.1.1.1 or LCO 3.1.1.2, as applicable, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

The normal or emergency power source may be inoperable in Mode 5.

CONTAINMENT AIR LOCKS

LIMITING CONDITION FOR OPERATION

3.6.1.3 Each containment air lock shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one containment air lock door inoperable in one or more containment air locks[1,2]:

1. Verify that at least the OPERABLE air lock door is closed in the affected air lock within one hour and either restore the inoperable air lock door to OPERABLE status within 24 hours or lock the OPERABLE air lock door closed[3].

2. Operation may then continue provided that the OPERABLE air lock door is verified to be locked closed at least once per 31 days.

~~3. Otherwise, be in at least HOT STANDBY within the next six hours and in COLD SHUTDOWN within the following 30 hours.~~

b. With the containment air lock interlock inoperable in one or more containment air locks[1]:

1. Verify that at least one OPERABLE air lock door is closed in the affected air lock within one hour and restore the inoperable air lock interlock to OPERABLE status within 24 hours or lock an OPERABLE air lock door closed[4].

2. Operation may then continue provided that the OPERABLE air lock door is verified to be locked closed at least once per 31 days.

~~3. Otherwise, be in at least HOT STANDBY within the next six hours and in COLD SHUTDOWN within the following 30 hours.~~

c. With one or more air locks inoperable for reasons other than those addressed in ACTION a. or b.:

1. Immediately initiate action to evaluate overall containment leakage per LCO 3.6.1.2.

2. Verify that at least one door in the affected air lock is closed within one hour and restore the affected air lock to OPERABLE status within 24 hours.

~~3.~~ Otherwise, be in at least HOT STANDBY within the next six hours and in HOT~~COLD~~ SHUTDOWN within the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

[1] Separate ACTION entry is allowed for each air lock.
[2] With both air locks inoperable, entry and exit is permissible for seven days under administrative controls.
[3] Entry and exit is permissible to perform repairs on the affected air lock components.
[4] Entry and exit is permissible under the control of a dedicated individual.

CONTAINMENT SYSTEMS

INTERNAL PRESSURE AND AIR TEMPERATURE

LIMITING CONDITION FOR OPERATION

3.6.1.4 The combination of containment internal pressure and average air temperature shall be maintained within the region of acceptable operation shown on Figure 3.6-1.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the point defined by the combination of containment internal pressure and average air temperature outside the region of acceptable operation shown on Figure 3.6-1, restore the combination of containment internal pressure and average air temperature to within the above limits within 1 hour or be in at least HOT STANDBY within the next 6 hours and in HOT~~COLD~~ SHUTDOWN within the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

SURVEILLANCE REQUIREMENTS

4.6.1.4 The primary containment internal pressure and average air temperature shall be determined to be within the limits at least once per 12 hours. The containment average air temperature shall be the temperature of the air in the containment HVAC common return air duct upstream of the fan/cooler units.

3/4.6.2 DEPRESSURIZATION, COOLING, AND pH CONTROL SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two independent containment spray systems shall be OPERABLE with each spray system capable of taking suction from the RWT on a Containment Spray Actuation Signal (CSAS) and automatically transferring suction to the containment sump on a Recirculation Actuation Signal (RAS). Each spray system flow path from the containment sump shall be via an OPERABLE shutdown cooling heat exchanger.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

With one containment spray system inoperable, restore the inoperable spray system to OPERABLE status within 72 hours ~~(Note 1)~~ or be in at least HOT STANDBY within the next 6 hours and in HOT~~COLD~~ SHUTDOWN within the following 6~~30~~ hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each containment spray system shall be demonstrated OPERABLE:

a. At least once per 31 days by:

1. Verify each containment spray manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.

2. Verifying that the system piping is full of water from the RWT to at least elevation 505' (equivalent to > 12.5% indicated narrow range level) in the risers within the containment.

b. Verify each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head when tested pursuant to the Inservice Testing Program.

~~Note 1: For fuel cycles 19 and 20, each train of the containment spray system may be removed from service for up to 7 days or one train may be removed from service two times. The 7-day allowance may be applied only twice.~~

CONTAINMENT SYSTEMS

CONTAINMENT COOLING SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.3 Two independent containment cooling groups shall be OPERABLE with two operational cooling units in each group.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one group of the above required containment cooling units inoperable and both containment spray systems OPERABLE, restore the inoperable group of cooling units to OPERABLE status within 7 days ~~or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours~~.

b. With two groups of the above required containment cooling units inoperable and both containment spray systems OPERABLE, restore at least one group of cooling units to OPERABLE status within 72 hours ~~or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours~~. Restore both above required groups of cooling units to OPERABLE status within 7 days of initial loss ~~or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours~~.

c. With one group of the above required containment cooling units inoperable and one containment spray system inoperable, restore the inoperable spray system to OPERABLE status within 72 hours ~~or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours~~. Restore the inoperable group of containment cooling units to OPERABLE status within 7 days of initial loss.

~~or~~Otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT~~COLD~~ SHUTDOWN within the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3.1 Each containment isolation valve shall be OPERABLE.*

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one or more isolation valve(s) inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and either:

a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or

b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or

c. Isolate the affected penetration within 4 hours by use of at least one closed manual valve or blind flange; or

d. Be in at least HOT STANDBY within the next 6 hours and in HOT~~COLD~~ SHUTDOWN within the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

SURVEILLANCE REQUIREMENTS

4.6.3.1.1 Each containment isolation valve shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of a cycling test and verification of isolation time.

* Locked or sealed closed valves may be opened on an intermittent basis under administrative control.

3/4.7.3 SERVICE WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.3.1 At least two independent service water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one service water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT~~COLD~~ SHUTDOWN within the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

SURVEILLANCE REQUIREMENTS

4.7.3.1 At least two service water loops shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) servicing safety related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.

b. At least once per 18 months during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on CCAS, MSIS and RAS test signals.

3/4.7.6 CONTROL ROOM EMERGENCY VENTILATION AND AIR CONDITIONING SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.6.1 Two independent control room emergency ventilation and air conditioning systems shall be OPERABLE. (Note 1)

APPLICABILITY: MODES 1, 2, 3, 4, or during movement of irradiated fuel assemblies or movement of new fuel assemblies over irradiated fuel assemblies.

ACTION:

MODES 1, 2, 3, and 4

a. With one control room emergency air conditioning system (CREACS) inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours and in HOT~~COLD~~ SHUTDOWN within the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

b. With one control room emergency ventilation system (CREVS) inoperable for reasons other than ACTION d, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in HOT~~COLD~~ SHUTDOWN within the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

c. With one CREVS inoperable for reasons other than ACTION d and one CREACS inoperable, restore the inoperable CREVS to OPERABLE status within 7 days and restore the inoperable CREACS to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours and in HOT~~COLD~~ SHUTDOWN within the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

d. With one or more CREVS inoperable due to an inoperable CRE boundary:

1. Immediately initiate action to implement mitigating actions, and

2. Verify mitigating actions ensure CRE occupant exposures to radiological, chemical, and smoke hazards will not exceed limits within 24 hours, and

3. Restore the CRE boundary to OPERABLE status within 90 days

Otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT~~COLD~~ SHUTDOWN within the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

e. With two CREVS inoperable for reasons other than ACTION d or with two CREACS inoperable, enter Specification 3.0.3.

Note 1: The control room envelope (CRE) boundary may be open intermittently under administrative controls.

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system and

b. Two separate and independent diesel generators each with:

1. A day fuel tank containing a minimum volume of 300 gallons of fuel,

2. A separate fuel storage system, and

3. A separate fuel transfer pump.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

NOTE: Specification 3.0.4.b is not applicable to diesel generators.

a. With one offsite A.C. circuit of the above required A.C. electrical power sources inoperable, perform the following:

1. Demonstrate the OPERABILITY of the remaining offsite A.C. circuit by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter, and

2. Restore the offsite A.C. circuit to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT~~COLD~~ SHUTDOWN within the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN. Startup Transformer No. 2 may be removed from service for up to 30 days as part of a preplanned preventative maintenance schedule. The 30-day allowance may be applied not more than once in a 10-year period.

3/4.8.1 A.C. SOURCES

LIMITING CONDITION FOR OPERATION

b. With one diesel generator of the above required A.C. electrical power source inoperable, perform the following:

1. Demonstrate the OPERABILITY of both the offsite A.C. circuits by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter, and

2. Demonstrate the OPERABILITY of the remaining OPERABLE diesel generator within 24 hours by:

i. Determining the OPERABLE diesel generator is not inoperable due to a common cause failure, or

ii. Perform Surveillance Requirement 4.8.1.1.2.a.4 unless:

a. The remaining diesel generator is currently in operation, or

b. The remaining diesel generator has been demonstrated OPERABLE within the previous 24 hours, and

3. Restore the diesel generator to OPERABLE status within 14 days (See Note 1) or be in at least HOT STANDBY within the next 6 hours and in HOT~~COLD~~ SHUTDOWN within the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

Note 1 - If the Alternate A.C. Diesel Generator (AACDG) is determined to be inoperable during this period, then a 72 hour restoration period is applicable until either the AACDG or the diesel generator is returned to operable status (not to exceed 14 days from the initial diesel generator inoperability).

c. With one offsite A.C. circuit and one diesel generator of the above required A.C. electrical power sources inoperable, perform the following:

1. Demonstrate the OPERABILITY of the remaining offsite A.C. circuit by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; and,

2. If the diesel generator became inoperable due to any cause other than preplanned preventive maintenance or testing, then

i. Demonstrate the OPERABILITY of the remaining OPERABLE diesel generator by performing Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours except when:

a. The remaining diesel generator is currently in operation, or

b. The remaining diesel generator has been demonstrated OPERABLE within the previous 8 hours, and

3. Restore at least one of the inoperable sources to OPERABLE status within 12 hours ~~or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours~~, and

4. Restore the remaining inoperable A.C. Source to an OPERABLE status (Offsite A.C. Circuit within 72 hours or Diesel Generator within 14 days (see b.3, Note 1)) based on the time of the initiating event that caused the inoperability.

Otherwise, ~~or~~ be in at least HOT STANDBY within the next 6 hours and in HOT~~COLD~~ SHUTDOWN within the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

d. With two offsite A.C. circuits of the above required A.C. electrical power sources inoperable, perform the following:

1. Perform Surveillance Requirement 4.8.1.1.2.a.4 on the diesel generators within the next 8 hours except when:

i. The diesel generators are currently in operation, or

ii. The diesel generators have been demonstrated OPERABLE within the previous 8 hours, and

2. Restore one of the inoperable offsite A.C. circuits to OPERABLE status within 24 hours ~~or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours~~, and

3. Restore both A.C. circuits within 72 hours of the initiating event,

Otherwise, ~~or~~ be in at least HOT STANDBY within the next 6 hours and in HOT~~COLD~~ SHUTDOWN within the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

3/4.8.1 A.C. SOURCES

LIMITING CONDITION FOR OPERATION

e. With two diesel generators of the above required A.C. electrical power sources inoperable, perform the following:

1. Demonstrate the OPERABILITY of the two offsite A.C. circuits by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter, and

2. Restore one of the inoperable diesel generators to OPERABLE status within 2 hours ~~or be in a least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours~~, and

3. Restore the remaining inoperable diesel generator within 14 days (see b.3, Note 1) of the initiating event.

Otherwise, ~~or~~ be in at least HOT STANDBY within the next 6 hours and in HOT~~COLD~~ SHUTDOWN within the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

ELECTRICAL POWER SYSTEMS

DC SOURCES – OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.3 The Train A and Train B DC electrical power subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one of the required full capacity chargers inoperable, restore the battery terminal voltage to greater than or equal to the minimum established float voltage within 2 hours.

b. With one of the required battery banks inoperable, restore the inoperable battery bank to OPERABLE status within 2 hours.

c. With one DC electrical power subsystem inoperable for reasons other than ACTION 'a' or 'b' above, restore the inoperable DC electrical power subsystem to OPERABLE status within 2 hours.

Otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT~~COLD~~ SHUTDOWN within the following 6~~30~~ hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

SURVEILLANCE REQUIREMENTS

4.8.2.3.1 At least once per 7 days by verifying that the battery terminal voltage is greater than or equal to the minimum established float voltage.

The bistable for the operating bypasses for the CPC and Logarithmic Power Level - High trips is required to be set within the two decade range allowed by Table 3.3-1 notations (a) and (c) and Table 2.2-1 notations (1) and (5). These limits provide the bistable with the appropriate range to account for the bistable hysteresis and to provide margin for the applicable uncertainties. Regardless of the actual bistable setpoint within the two decade band, the single bistable design ensures that either the CPC or the Logarithmic Power Level - High trips are available to provide reactor trip protection. During testing pursuant to Special Test Exception 3.10.3, the bistable setpoint for these operating bypasses is increased to automatically remove the CPCs from bypass before the logarithmic power level exceeds 1% power.

Tables 2.2-1 notation (2), 3.3-1 notation (b), 3.3-3 notation (a), and 3.3-4 notation (1) allow the Pressurizer Pressure – Low function to be manually bypassed below 400 psia when the operating bypass permissive has been enabled. The margin between the pressurizer pressure and the setpoint is maintained ≤ 200 psia as pressurizer pressure is reduced during controlled plant cooldowns. This allows for controlled depressurization of the RCS while still maintaining an active trip setpoint until the trip is no longer needed to protect the plant. Since the Pressurizer Pressure - Low bistable is shared with RPS, SIAS, and CCAS an inadvertent actuation of these systems due to low pressurizer pressure is prevented while bypassed. The Pressurizer Pressure – Low bypass is required to be automatically removed before RCS pressure exceeds 500 psia. The difference between the 400 psia allowance for the manual bypass and 500 psia automatic bypass removal feature allows for the bistable hysteresis.

Channels not restored to an OPERABLE status in accordance with Actions 9, 12, or 13, the plant must be brought to a MODE in which overall plant risk is minimized. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within the following 6 hours. Remaining within the Applicability of the LCO is acceptable because the plant risk in MODE 4 is similar to or lower than MODE 5 (reference CE NPSD-1186-A, Technical Justification for the Risk Informed Modification to Selected Required Action End States for CEOG PWRs, October, 2001). In MODE 4 there are more accident mitigation systems available and there is more redundancy and diversity in core heat removal mechanisms than in MODE 5. However, voluntary entry into MODE 5 may be made as it is also an acceptable low-risk state. These Actions are modified by a Note that states that LCO 3.0.4.a is not applicable when entering MODE 4. This Note prohibits the use of LCO 3.0.4.a to enter MODE 4 during startup with the LCO not met. However, there is no restriction on the use of LCO 3.0.4.b, if applicable, because LCO 3.0.4.b requires performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering MODE 4, and establishment of risk management actions, if appropriate. LCO 3.0.4 is not applicable to, and the Note does not preclude, changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

3/4.3.3 MONITORING INSTRUMENTATION

3/4.3.3.1 RADIATION MONITORING INSTRUMENTATION

The OPERABILITY of the radiation monitoring channels ensures that 1) the radiation levels are continually measured in the areas served by the individual channels and 2) the alarm or automatic action is initiated when the radiation level trip setpoint is exceeded.

Note 6 to Table 4.3-3 allows up to 3 hours to perform the monthly CHANNEL FUNCTIONAL TEST of the Control Room ventilation intake duct radiation monitors without declaring the LCO not met. If the test is not completed in ≤ 3 hours, affected intake duct monitors must be declared inoperable and applicable ACTION(s) of TS Table 3.3-6 applied.

Channels not restored to an OPERABLE status in accordance with Actions 17 or 20, the plant must be brought to a MODE in which overall plant risk is minimized. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within the following 6 hours. Remaining within the Applicability of the LCO is acceptable because the plant risk in MODE 4 is similar to or lower than MODE 5 (reference CE NPSD-1186-A, Technical Justification for the Risk Informed Modification to Selected Required Action End States for CEOG PWRs, October, 2001). In MODE 4 there are more accident mitigation systems available and there is more redundancy and diversity in core heat removal mechanisms than in MODE 5. However, voluntary entry into MODE 5 may be made as it is also an acceptable low-risk state. These Actions are modified by a Note that states that LCO 3.0.4.a is not applicable when entering MODE 4. This Note prohibits the use of LCO 3.0.4.a to enter MODE 4 during startup with the LCO not met. However, there is no restriction on the use of LCO 3.0.4.b, if applicable, because LCO 3.0.4.b requires performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering MODE 4, and establishment of risk management actions, if appropriate. LCO 3.0.4 is not applicable to, and the Note does not preclude, changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

3/4.3.3.5 REMOTE SHUTDOWN INSTRUMENTATION

The OPERABILITY of the remote shutdown instrumentation ensures that sufficient capability is available to permit shutdown and maintenance of HOT STANDBY of the facility from locations outside of the control room. This capability is required in the event control room habitability is lost and is consistent with General Design Criteria 19 of 10 CFR 50. With regard to CST level, the required Remote Shutdown panel indication is that CST level indication associated with the CST aligned to the EFW system.

3/4.3.3.6 POST-ACCIDENT INSTRUMENTATION

The OPERABILITY of the post-accident instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Plants to Assess Plant Conditions During and Following an Accident," December 1975 and NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short Term Recommendations."

The Reactor Vessel Level Monitor is provided as a means of indicating level in the reactor vessel during accident conditions. A minimum of two operable level sensors in the upper plenum region and one operable level sensor in the dome region are required for RVLMS channel operability. When Reactor Coolant Pumps are running, all except the dome sensors are interlocked to read "invalid" due to flow induced variables that may offset the sensor outputs. If the equipment is inaccessible due to health and industrial safety concerns (for

3/4.4.1 REACTOR COOLANT LOOPS AND COOLANT CIRCULATION

The plant is designed to operate with both reactor coolant loops and associated reactor coolant pumps in operation, and maintain DNBR above the limits specified by Specification 3.2.4 during all normal operations and anticipated transients.

In MODE 3, a single reactor coolant loop provides sufficient heat removal capability for removing decay heat; however, single failure considerations require that two loops be OPERABLE.

In MODES 4 and 5, a single reactor coolant loop or shutdown cooling (SDC) loop provides sufficient heat removal capability for removing decay heat; but single failure considerations require that at least two loops be OPERABLE. Thus, if the reactor coolant loops are not OPERABLE, this specification requires two SDC~~shutdown cooling~~ loops to be OPERABLE.

The operation of one Reactor Coolant Pump or one SDC~~shutdown cooling~~ pump provides adequate flow to ensure mixing, prevent stratification and produce gradual reactivity changes during boron concentration reductions in the Reactor Coolant System (RCS). The reactivity change rate associated with boron reductions will, therefore, be within the capability of operator recognition and control.

With no reactor coolant loop in operation, suspending the introduction of coolant into the RCS with boron concentration less than required to meet the minimum SDM of LCO 3.1.1.1 or LCO 3.1.1.2, as applicable, is required to assure continued safe operation. With coolant added without forced circulation, unmixed coolant could be introduced to the core; however coolant added with boron concentration meeting the minimum SDM maintains acceptable margin to subcritical operations.

If only one required SDC train is OPERABLE and in operation and no required RCS loops are OPERABLE, redundancy for heat removal is lost and the plant must be placed in a configuration that minimizes overall plant risk. This redundancy is obtained by making at least one SG available for decay heat removal via natural circulation because:

1. MODE 4 operation poses overall lower risk of core damage and large early radiation release than does MODE 5 (reference CE NPSD-1186-A, Technical Justification for the Risk Informed Modification to Selected Required Action End States for CEOG PWRs, October, 2001). This is particularly true with SDC impaired.

2. In MODE 4, RCS and steam generator conditions may be maintained such that failure of the operating SDC train may be mitigated by natural circulation heat removal through one or more steam generators.

Remaining within the Applicability of the LCO is acceptable because the plant risk in MODE 4 is similar to or lower than MODE 5. However, voluntary entry into MODE 5 may be made as it is also an acceptable low-risk state. These Actions are modified by a Note that states that LCO 3.0.4.a is not applicable when entering MODE 4. This Note prohibits the use of LCO 3.0.4.a to enter MODE 4 during startup with the LCO not met. However, there is no restriction on the use of LCO 3.0.4.b, if applicable, because LCO 3.0.4.b requires performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of

the acceptability of entering MODE 4, and establishment of risk management actions, if appropriate. LCO 3.0.4 is not applicable to, and the Note does not preclude, 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.

The interlock mechanism OPERABILITY verification required by SR 4.6.1.3.2 is modified by Note 7, which provides an allowance for not performing the verification unless the air lock is being used for containment access. Because each of the air lock doors meet their respective CONTAINMENT INTEGRITY requirements, the opening of a single door does not result in a breach of containment or challenge the interlock mechanism. In addition, challenges to the interlock mechanism are minimized by strict procedural guidance that prohibits the opening of more than one door in the air lock at a time when CONTAINMENT INTEGRITY is required to be maintained. Therefore, accessing the air lock without intention of ingress or egress through both doors of the air lock does not require performance of SR 4.6.1.3.2.

If the inoperable air lock is not restored to an OPERABLE status in accordance with the Actions, the plant must be brought to a MODE in which overall plant risk is minimized. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within the following 6 hours. Remaining within the Applicability of the LCO is acceptable because the plant risk in MODE 4 is similar to or lower than MODE 5 (reference CE NPSD-1186-A, Technical Justification for the Risk Informed Modification to Selected Required Action End States for CEOG PWRs, October, 2001). In MODE 4 there are more accident mitigation systems available and there is more redundancy and diversity in core heat removal mechanisms than in MODE 5. However, voluntary entry into MODE 5 may be made as it is also an acceptable low-risk state. These Actions are modified by a Note that states that LCO 3.0.4.a is not applicable when entering MODE 4. This Note prohibits the use of LCO 3.0.4.a to enter MODE 4 during startup with the LCO not met. However, there is no restriction on the use of LCO 3.0.4.b, if applicable, because LCO 3.0.4.b requires performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering MODE 4, and establishment of risk management actions, if appropriate. LCO 3.0.4 is not applicable to, and the Note does not preclude, changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

3/4.6.1.4 INTERNAL PRESSURE AND AIR TEMPERATURE

The limitations on containment internal pressure and average air temperature, assuming a worst case relative humidity value of 0 %, ensure that 1) the containment structure is prevented from exceeding its design negative pressure differential with respect to the outside atmosphere of 5.0 psi, 2) the containment peak pressure does not exceed the design pressure of 59 psig during design basis conditions, 3) the ECCS analysis assumptions are maintained, and 4) the containment cooling fan motor qualifications are maintained.

The limitation on containment average air temperature ensures that the containment liner plate temperature does not exceed the design temperature of 300°F during LOCA conditions. The containment temperature limit is consistent with the accident analyses. Figure 3.6-1 represents analysis limits and does not account for instrument error.

If containment pressure and/or temperature cannot be restored to within limits, the plant must be brought to a MODE in which overall plant risk is minimized. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within the following 6 hours. Remaining within the Applicability of the LCO is acceptable because the plant risk in MODE 4 is similar to or lower than MODE 5 (reference CE NPSD-1186-A, Technical Justification for the Risk Informed Modification to Selected Required Action End States for CEOG PWRs, October,

2001). In MODE 4 there are more accident mitigation systems available and there is more redundancy and diversity in core heat removal mechanisms than in MODE 5. However, voluntary entry into MODE 5 may be made as it is also an acceptable low-risk state. These Actions are modified by a Note that states that LCO 3.0.4.a is not applicable when entering MODE 4. This Note prohibits the use of LCO 3.0.4.a to enter MODE 4 during startup with the LCO not met. However, there is no restriction on the use of LCO 3.0.4.b, if applicable, because LCO 3.0.4.b requires performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering MODE 4, and establishment of risk management actions, if appropriate. LCO 3.0.4 is not applicable to, and the Note does not preclude, changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

3/4.6.2 DEPRESSURIZATION, COOLING, AND pH CONTROL SYSTEMS

3/4.6.2.1 CONTAINMENT SPRAY SYSTEM

The OPERABILITY of the containment spray system (CSS) ensures that containment depressurization and cooling capability will be available in the event of a LOCA. The pressure reduction and resultant lower containment leakage rate are consistent with the assumptions used in the accident analyses.

The CSS and the containment cooling system (CCS) provide post accident cooling and mixing of the containment atmosphere; however, the CCS is not redundant to the CSS. The CSS also provides a mechanism for removing iodine from the containment atmosphere and therefore the time requirements for restoring an inoperable spray system to OPERABLE status have been maintained consistent with that assigned other inoperable ESF equipment.

~~The ACTION is modified by Note 1. This note permits an extension of the 72-hour AOTassociated with the inoperability of a single CSS train to 7 days. The extension is permitted onlyduring the time period between the beginning of operational Cycle 19 and the end of Cycle 20,and may be applied once to each CSS train OR may be applied twice to a single CSS train. Application to a single train twice is defined as two separate 7-day AOT entries; in no case maya train be out of service for greater than 7 days without entry into the shutdown conditions of theACTION. Any train inoperability beyond the original 72 hours constitutes one use of the 7-dayextension (unused time is not cumulative) unless entry into the 6-hour HOT STANDBY portionof the ACTION is initiated immediately upon exhaustion of the 72-hour AOT.~~

~~When the 7-day extension permitted by Note 1 is applied, the following compensatory measuresshall be established or otherwise verified prior to exceeding 72 hours from the time the train wasdeclared inoperable:~~

~~1. The redundant CSS train and both CCS trains shall be protected and no test ormaintenance that affects equipment reliability of these protected trains shall be scheduledduring the extended CSS AOT.~~

~~2. Other components associated with the containment heat removal function shall not beelectively disabled during the extended CSS AOT.~~

~~3. The redundant CSS train shall be verified to be properly aligned and capable of performingits specified function.~~

~~4. Appropriate plant personnel shall attend a briefing to ensure awareness of the impactassociated with unavailable components and flowpaths associated with the CSS outage. The briefing shall include potential use of backup systems (e.g., containment fan coolers)should the need arise during the CSS outage.~~

~~5. Parts and tools will be pre-staged to minimize out-of-service time where pre-plannedmaintenance or repair is scheduled for the affected CSS train.~~

If the inoperable Containment Spray Pump cannot be restored to an OPERABLE status within the allowable outage time, the plant must be brought to a MODE in which overall plant risk is minimized. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours

and to MODE 4 within the following 6 hours. Remaining within the Applicability of the LCO is acceptable because the plant risk in MODE 4 is similar to or lower than MODE 5 (reference CE NPSD-1186-A, Technical Justification for the Risk Informed Modification to Selected Required Action End States for CEOG PWRs, October, 2001). In MODE 4 there are more accident mitigation systems available and there is more redundancy and diversity in core heat removal mechanisms than in MODE 5. However, voluntary entry into MODE 5 may be made as it is also an acceptable low-risk state. These Actions are modified by a Note that states that LCO 3.0.4.a is not applicable when entering MODE 4. This Note prohibits the use of LCO 3.0.4.a to enter MODE 4 during startup with the LCO not met. However, there is no restriction on the use of LCO 3.0.4.b, if applicable, because LCO 3.0.4.b requires performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering MODE 4, and establishment of risk management actions, if appropriate. LCO 3.0.4 is not applicable to, and the Note does not preclude, 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.

6. Plans should be established for returning the affected CSS train to functional service and, if possible, OPERABLE status should the need arise.

7. Repair or testing of CSS train components (particularly valves) should be placed in the appropriate position (open/closed) that provides the greater level of safety during repair, where practical.

8. The extended CSS AOT shall NOT be entered if any of the following conditions exist:

   a. Seismic event (earthquake) as indicated by the earthquake trigger or noticeable abnormal vibrations in major structures.

   b. Tornado watch or warning for Pope, Yell, Logan, or Johnson counties is in effect.

   c. Tornado is sighted locally.

   d. Loss of Dardanelle Reservoir is forecast[ed].

   e. Flooding or forecasted flooding of Lake Dardanelle.

9. The ignition source probability shall be maintained as low as possible in the turbine building to maintain the availability of off-site power by posting an hourly roving fire watch in the vicinity of turbine building switchgear (2A1/2A2/2A9). A roving fire watch shall also be established in other significant areas outside containment which include: the operable CSS train, the CCS, HPSI, and EFW trains, and the AFW system.

SR 4.6.2.1.d ensures that each spray nozzle is unobstructed and provides assurance that spray coverage of the containment during an accident is not degraded. Confirmation that the spray nozzles are unobstructed may be obtained by such means as foreign materials exclusion (FME) controls during maintenance, a visual inspection of the affected portions of the system, by an air or smoke flow test following maintenance involving opening portions of the system downstream of the containment isolation valves, or by draining/flushing the filled portions of the system inside containment, as appropriate. Maintenance that could result in nozzle blockage is generally a result of a loss of FME control. If loss of FME control occurs, an inspection or flush of the affected portions of the system should be adequate to confirm that the spray nozzles are unobstructed since water flow would be required to transport any debris to the spray nozzles.

3/4.6.2.2 CONTAINMENT SUMP BUFFERING AGENT

A hydrated form of granular sodium tetraborate (NaTB) is employed as a buffering agent and provides a passive form of pH control for post LOCA containment spray and core cooling water to ensure that iodine, which may be dissolved in the recirculated reactor cooling water following a loss of coolant accident (LOCA), remains in solution. The buffering agent also helps inhibit stress corrosion cracking (SCC) of austenitic stainless steel components in containment during the recirculation phase following an accident. Baskets of buffering agent are placed on the floor of the containment building to dissolve from released reactor coolant water and containment sprays after a LOCA. Recirculation of the water for core cooling and containment sprays then provides mixing to achieve a uniform solution pH.

3/4.6.2.3 CONTAINMENT COOLING SYSTEM

The OPERABILITY of the containment cooling system ensures that 1) the containment air temperature will be maintained within limits during normal operation, and 2) adequate heat removal capacity is available when operated in conjunction with the containment spray systems during post-LOCA conditions.

The containment spray system is redundant to the containment cooling system in providing post accident cooling and mixing of the containment atmosphere; however, the containment cooling system is not redundant to the containment spray system. As a result of the redundancy of the containment spray system with the containment cooling system, the allowable out-of-service time requirements for the containment cooling system have been appropriately adjusted. However, the allowable out of service time requirements for the containment spray system have been maintained consistent with that assigned other inoperable ESF equipment since the containment spray system also provides a mechanism for removing Iodine from the containment atmosphere.

The addition of a biocide to the service water system is performed during containment cooler surveillance to prevent buildup of Asian clams in the coolers when service water is pumped through the cooling coils. This is performed when service water temperature is between 60°F and 80°F since in this water temperature range Asian clams can spawn and produce larva which could pass through service water system strainers.

If the components cannot be restored to an OPERABLE status in accordance with Actions “a”, “b”, or “c”, the plant must be brought to a MODE in which overall plant risk is minimized. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within the following 6 hours. Remaining within the Applicability of the LCO is acceptable because the plant risk in MODE 4 is similar to or lower than MODE 5 (reference CE NPSD-1186-A, Technical Justification for the Risk Informed Modification to Selected Required Action End States for CEOG PWRs, October, 2001). In MODE 4 there are more accident mitigation systems available and there is more redundancy and diversity in core heat removal mechanisms than in MODE 5. However, voluntary entry into MODE 5 may be made as it is also an acceptable low-risk state. These Actions are modified by a Note that states that LCO 3.0.4.a is not applicable when entering MODE 4. This Note prohibits the use of LCO 3.0.4.a to enter MODE 4 during startup with the LCO not met. However, there is no restriction on the use of LCO 3.0.4.b, if applicable, because LCO 3.0.4.b requires performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering MODE 4, and establishment of risk management actions, if appropriate. LCO 3.0.4 is not applicable to, and the Note does not preclude, changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves (CIVs) ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment. Containment isolation within the time limits specified ensures that the release of radioactive material to the

With one CIV inoperable, the method of penetration isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Examples of isolation barriers that meet this criterion are a closed and de-activated automatic reactor building isolation valve, a closed manual valve, a blind flange, and a check valve (inside containment) with flow through the valve secured. With two CIVs inoperable, both valves in the penetration must be isolated. Unless there is reason to believe the seating capability of the affected valve(s) has degraded, no verification of leakage through the penetration is required. If seat degradation is suspected, a vent or drain within the penetration boundary may be used to verify sufficient seating has taken place. Any noted leak-by should be evaluated in accordance with the Containment Leakage Rate Testing Program of Specification 6.5.16. CIVs closed due to inoperabilities in the respective penetration must be verified to remain in the isolated position once every 31 days in accordance with Surveillance Requirement 4.6.1.1.a.

With Actions “a”, “b”, or “c” not met (as applicable), the plant must be brought to a MODE in which overall plant risk is minimized. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within the following 6 hours. Remaining within the Applicability of the LCO is acceptable because the plant risk in MODE 4 is similar to or lower than MODE 5 (reference CE NPSD-1186-A, Technical Justification for the Risk Informed Modification to Selected Required Action End States for CEOG PWRs, October, 2001). In MODE 4 there are more accident mitigation systems available and there is more redundancy and diversity in core heat removal mechanisms than in MODE 5. However, voluntary entry into MODE 5 may be made as it is also an acceptable low-risk state. These Actions are modified by a Note that states that LCO 3.0.4.a is not applicable when entering MODE 4. This Note prohibits the use of LCO 3.0.4.a to enter MODE 4 during startup with the LCO not met. However, there is no restriction on the use of LCO 3.0.4.b, if applicable, because LCO 3.0.4.b requires performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering MODE 4, and establishment of risk management actions, if appropriate. LCO 3.0.4 is not applicable to, and the Note does not preclude, changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION

The limitation on steam generator pressure and temperature ensures that the pressure-induced stresses in the steam generators do not exceed the maximum allowable fracture toughness stress limits. The limitations to 90°F and 275 psig are based on a steam generator RTNDT of 30°F and are sufficient to prevent brittle fracture.

3/4.7.3 SERVICE WATER SYSTEM

The OPERABILITY of the service water system ensures that sufficient cooling capacity is available for continued operation of equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the accident analyses.

If the inoperable Service Water Pump cannot be restored to an OPERABLE status within the allowable outage time, the plant must be brought to a MODE in which overall plant risk is minimized. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within the following 6 hours. Remaining within the Applicability of the LCO is acceptable because the plant risk in MODE 4 is similar to or lower than MODE 5 (reference CE NPSD-1186-A, Technical Justification for the Risk Informed Modification to Selected Required Action End States for CEOG PWRs, October, 2001). In MODE 4 there are more accident mitigation systems available and there is more redundancy and diversity in core heat removal mechanisms than in MODE 5. However, voluntary entry into MODE 5 may be made as it is also an acceptable low-risk state. These Actions are modified by a Note that states that LCO 3.0.4.a is not applicable when entering MODE 4. This Note prohibits the use of LCO 3.0.4.a to enter MODE 4 during startup with the LCO not met. However, there is no restriction on the use of LCO 3.0.4.b, if applicable, because LCO 3.0.4.b requires performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering MODE 4, and establishment of risk management actions, if appropriate. LCO 3.0.4 is not applicable to, and the Note does not preclude, changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

3/4.7.4 EMERGENCY COOLING POND

The limitations on the emergency cooling pond volume and temperature are based on worst case initial conditions which could be present considering a simultaneous normal shutdown of Unit 1 and emergency shutdown of Unit 2 following a LOCA in Unit 2, using the ECP as a heat sink. The minimum indicated ECP level of 5.2 feet is based on soundings and includes measurement, calculation, and other uncertainties (equivalent to 0.15 feet) to ensure a minimum contained water volume of 70 acre-feet (equivalent to an indicated level of 5.05 feet), crediting operator action to initiate makeup to the ECP upon a loss of Dardanelle Reservoir event as discussed below. These soundings ensure degradation is within acceptable limits such that the indicated level is consistent with the required volume and the pond meets its design basis. The measured ECP temperature at the discharge from the pond is considered a conservative average of total pond conditions since solar gain, wind speed, and thermal current effects throughout the pond will essentially be at equilibrium conditions under initial stagnant conditions.

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If the unfiltered inleakage of potentially contaminated air past the CRE boundary and into the CRE can result in CRE occupant radiological dose greater than the calculated dose of the licensing basis analyses of DBA consequences (allowed to be up to 5 rem TEDE, or inadequate protection of CRE occupants from hazardous chemicals or smoke, the CRE boundary is inoperable. Actions must be taken to restore an OPERABLE CRE boundary within 90 days.

During the period that the CRE boundary is considered inoperable, action must be initiated to implement mitigating actions to lessen the effect on CRE occupants from the potential hazards of a radiological or chemical event or a challenge from smoke. Actions must be taken within 24 hours to verify that in the event of a DBA, the mitigating actions will ensure that CRE occupant radiological exposures will not exceed the calculated dose of the licensing basis analyses of DBA consequences, and that CRE occupants are protected from hazardous chemicals and smoke. These mitigating actions (i.e., actions that are taken to offset the consequences of the inoperable CRE boundary) should be preplanned for implementation upon entry into the condition, regardless of whether entry is intentional or unintentional. The 24 hour Completion Time is reasonable based on the low probability of a DBA occurring during this time period, and the use of mitigating actions. The 90 day Completion Time is reasonable based on the determination that the mitigating actions will ensure protection of CRE occupants within analyzed limits while limiting the probability that CRE occupants will have to implement protective measures that may adversely affect their ability to control the reactor and maintain it in a safe shutdown condition in the event of a DBA. In addition, the 90 day Completion Time is a reasonable time to diagnose, plan and possibly repair, and test most problems with the CRE boundary.

With the allowable outage times of Actions “a”, “b”, “c” or “d” not met, the plant must be brought to a MODE in which overall plant risk is minimized. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within the following 6 hours. Remaining within the Applicability of the LCO is acceptable because the plant risk in MODE 4 is similar to or lower than MODE 5 (reference CE NPSD-1186-A, Technical Justification for the Risk Informed Modification to Selected Required Action End States for CEOG PWRs, October, 2001). In MODE 4 there are more accident mitigation systems available and there is more redundancy and diversity in core heat removal mechanisms than in MODE 5. However, voluntary entry into MODE 5 may be made as it is also an acceptable low-risk state. These Actions are modified by a Note that states that LCO 3.0.4.a is not applicable when entering MODE 4. This Note prohibits the use of LCO 3.0.4.a to enter MODE 4 during startup with the LCO not met. However, there is no restriction on the use of LCO 3.0.4.b, if applicable, because LCO 3.0.4.b requires performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering MODE 4, and establishment of risk management actions, if appropriate. LCO 3.0.4 is not applicable to, and the Note does not preclude, 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.

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With both trains of CREVS for reasons other than ACTION d and/or both trains of the CREACS inoperable, the function of the systems has been lost, requiring immediate action to place the unit in a MODE where the specification does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours and in MODE 5 within the following 30 hours. The

The OPERABILITY of the AC and DC power sources and associated distribution systems during operation ensures that sufficient power will be available to supply the safety-related equipment required for 1) the safe shutdown of the facility and 2) the mitigation and control of accident conditions within the facility. The minimum specified independent and redundant AC and DC power sources and distribution systems satisfy the requirements of General Design Criteria 17 of Appendix "A" to 10 CFR 50.

The OPERABILITY of the minimum specified AC and DC power sources and associated distribution systems during shutdown and refueling ensures that 1) the facility can be maintained in the shutdown or refueling condition for extended time periods and 2) sufficient instrumentation and control capability is available for monitoring and maintaining the unit status. Upon loss of a required power source, suspension of the movement of recently irradiated fuel assemblies (i.e., fuel that has occupied part of a critical reactor core within the previous 100 hours), the movement of new fuel assemblies over recently irradiated fuel assemblies, and activities that could result in loss of required SDM (Mode 5) or boron concentration (Mode 6) act to minimize the probability of the occurrence of postulated events. Suspension of these activities shall not preclude placing fuel assemblies in a safe position. Due to radioactive decay, AC/DC electrical power and associated distribution systems are only required to mitigate fuel handling accidents involving movement of recently irradiated fuel assemblies (i.e., fuel that has occupied part of a critical reactor core within the previous 100 hours) or the movement of new fuel assemblies over recently irradiated fuel assemblies.

If the inoperable AC electrical power sources or an inoperable DC electrical power subsystem cannot be restored to an OPERABLE status within the allowable outage times, the plant must be brought to a MODE in which overall plant risk is minimized. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE 4 within the following 6 hours. Remaining within the Applicability of the LCO is acceptable because the plant risk in MODE 4 is similar to or lower than MODE 5 (reference CE NPSD-1186-A, Technical Justification for the Risk Informed Modification to Selected Required Action End States for CEOG PWRs, October, 2001). In MODE 4 there are more accident mitigation systems available and there is more redundancy and diversity in core heat removal mechanisms than in MODE 5. However, voluntary entry into MODE 5 may be made as it is also an acceptable low-risk state. These Actions are modified by a Note that states that LCO 3.0.4.a is not applicable when entering MODE 4. This Note prohibits the use of LCO 3.0.4.a to enter MODE 4 during startup with the LCO not met. However, there is no restriction on the use of LCO 3.0.4.b, if applicable, because LCO 3.0.4.b requires performance of a risk assessment addressing inoperable systems and components, consideration of the results, determination of the acceptability of entering MODE 4, and establishment of risk management actions, if appropriate. LCO 3.0.4 is not applicable to, and the Note does not preclude, 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.

Suspending positive reactivity additions that could result in failure to meet the minimum SDM or boron concentration limit is required to assure continued safe operation. Introduction of coolant inventory must be from sources that have a boron concentration greater than that required in the RCS for minimum SDM or refueling boron concentration. This may result in an overall reduction in RCS boron concentration, but provides acceptable margin to maintaining subcritical operation. Introduction of temperature changes including temperature increases when operating with a positive MTC must also be evaluated to ensure they do not result in a loss of required SDM.

Attachment 4 to

2CAN031303

Revised (clean) Technical Specification Pages

TABLE 3.3-3 (Continued)

TABLE NOTATION

(a) Trip function may be bypassed in this MODE when pressurizer pressure is below 400 psia; bypass shall be automatically removed before pressurizer pressure exceeds 500 psia.

(b) An SIAS signal is first necessary to enable CSAS logic.

(c) Remote manual not provided for RAS. These are local manuals at each ESF auxiliary relay cabinet.

ACTION STATEMENTS

ACTION 9 – With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

ACTION 10 – With the number of channels OPERABLE one less than the Total Number of Channels, operation in the applicable MODES may continue provided the inoperable channel is placed in the bypassed or tripped condition within 1 hour. If the inoperable channel is bypassed for greater than 48 hours, the desirability of maintaining this channel in the bypassed condition shall be reviewed as soon as possible but no later than the next regularly scheduled OSRC meeting in accordance with the Quality Assurance Program Manual (QAPM). The channel shall be returned to OPERABLE status prior to startup following the next COLD SHUTDOWN.

If an inoperable Steam Generator ΔP or RWT Level – Low channel is placed in the tripped condition, remove the inoperable channel from the tripped condition within 48 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 30 hours.

With a channel process measurement circuit that affects multiple functional units inoperable or in test, bypass or trip all associated functional units as listed below.

Process Measurement Circuit	Functional Unit Bypassed
1. Containment Pressure – NR	Containment Pressure – High (RPS) Containment Pressure – High (ESFAS) Containment Pressure – High-High (ESFAS)
2. Steam Generator 1 Pressure	Steam Generator 1 Pressure – Low Steam Generator 1 ΔP (ESFAS 1) Steam Generator 2 ΔP (ESFAS 2)
3. Steam Generator 2 Pressure	Steam Generator 2 Pressure – Low Steam Generator 1 ΔP (ESFAS 1) Steam Generator 2 ΔP (ESFAS 2)

TABLE 3.3-3 (Continued)

TABLE NOTATION

ACTION 10 (continued)

Process Measurement Circuit	Functional Unit Bypassed
4. Steam Generator 1 Level	Steam Generator 1 Level – Low Steam Generator 1 ΔP (EFAS 1)
5. Steam Generator 2 Level	Steam Generator 2 Level – Low Steam Generator 2 ΔP (EFAS 2)

ACTION 11 – With the number of channels OPERABLE one less than the Minimum Channels OPERABLE requirement, operation in the applicable MODES may continue provided the following conditions are satisfied:

a. Verify that one of the inoperable channels has been bypassed and place the other inoperable channel in the tripped condition within 1 hour, and

b. All functional units affected by the bypassed/tripped channel shall also be placed in the bypassed/tripped condition as listed below:

Process Measurement Circuit	Functional Unit Bypassed/Tripped
1. Containment Pressure – NR	Containment Pressure – High (RPS) Containment Pressure – High (ESFAS) Containment Pressure – High-High (ESFAS)
2. Steam Generator 1 Pressure	Steam Generator 1 Pressure – Low Steam Generator 1 ΔP (EFAS 1) Steam Generator 2 ΔP (EFAS 2)
3. Steam Generator 2 Pressure	Steam Generator 2 Pressure – Low Steam Generator 1 ΔP (EFAS 1) Steam Generator 2 ΔP (EFAS 2)
4. Steam Generator 1 Level	Steam Generator 1 Level – Low Steam Generator 1 ΔP (EFAS 1)
5. Steam Generator 2 Level	Steam Generator 2 Level – Low Steam Generator 2 ΔP (EFAS 2)

If an inoperable Steam Generator ΔP or RWT Level - Low channel is placed in the tripped condition, remove the inoperable channel from the tripped condition within 48 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 30 hours.

Operation in the applicable MODES may continue until the performance of the next required CHANNEL FUNCTIONAL TEST. Subsequent operation in the applicable MODES may continue if one channel is restored to OPERABLE status and the provisions of ACTION 10 are satisfied.

TABLE 3.3-3 (Continued)

TABLE NOTATION

ACTION 12 – With the number of OPERABLE channels one less than the Minimum Channels OPERABLE, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

ACTION 13 – With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours; however, one channel may be bypassed for up to 1 hour for surveillance testing provided the other channel is OPERABLE. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

TABLE 3.3-6 (Continued)

TABLE NOTATION

ACTION 13 – With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per 24 hours.

ACTION 16 – With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, complete the following:

a. If moving recently irradiated fuel assemblies or moving new fuel assemblies over recently irradiated fuel assemblies within the Containment Building, secure the Containment Purge System or suspend the movement of recently irradiated fuel assemblies and movement of new fuel assemblies over recently irradiated fuel assemblies within the Containment Building.

b. If a Containment PURGE is in progress, secure the Containment Purge System.

c. If continuously ventilating the Containment Building, verify the associated SPING monitor operable or perform the applicable ACTION(s) of the Offsite Dose Calculation Manual; otherwise, secure the Containment Purge System.

ACTION 17 – In MODE 1, 2, 3, or 4, with no channels OPERABLE, within 1 hour initiate and maintain operation of the control room emergency ventilation system (CREVS) in the recirculation mode of operation or be in HOT STANDBY within the next 6 hours and HOT SHUTDOWN in the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

ACTION 18 – With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, (1) either restore the inoperable channel to OPERABLE status within 7 days or (2) prepare and submit a Special Report to the NRC within 30 days following the event, outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the system to OPERABLE status. With both channels inoperable, initiate alternate methods of monitoring the containment radiation level within 72 hours in addition to the actions described above.

ACTION 19 – With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements, initiate the preplanned alternate method of monitoring the appropriate parameter(s), within 72 hours, and:

1) either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

2) prepare and submit a Special Report to the NRC within 14 days following the event outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

TABLE 3.3-6 (Continued)

TABLE NOTATION

ACTION 20 – In MODE 1, 2, 3, or 4 with the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, within 7 days restore the inoperable channel to OPERABLE status or initiate and maintain the CREVS in the recirculation mode of operation. Otherwise, be in HOT STANDBY within the next 6 hours and HOT SHUTDOWN in the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

ACTION 21 - During movement of irradiated fuel assemblies or movement of new fuel assemblies over irradiated fuel assemblies with one or two channels inoperable, immediately place one OPERABLE CREVS train in the emergency recirculation mode or immediately suspend the movement of irradiated fuel assemblies or movement of new fuel assemblies over irradiated fuel assemblies.

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.4.1.3 a. At least two of the coolant loops listed below shall be OPERABLE:

1. Reactor Coolant Loop (A) and its associated steam generator and at least one associated reactor coolant pump.
2. Reactor Coolant Loop (B) and its associated steam generator and at least one associated reactor coolant pump.
3. Shutdown Cooling Loop (A) #.
4. Shutdown Cooling Loop (B) #.

b. At least one of the above coolant loops shall be in operation.*

APPLICABILITY: Modes 4 and 5.

ACTION:

a. With less than the above required coolant loops OPERABLE, immediately initiate corrective action to return the required coolant loops to OPERABLE status as soon as possible and initiate action to make at least one steam generator available for decay heat removal via natural circulation. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

b. With no coolant loop in operation, suspend all operations that would cause introduction of coolant into the RCS with boron concentration less than required to meet SDM of LCO 3.1.1.1 or LCO 3.1.1.2, as applicable, and immediately initiate corrective action to return the required coolant loop to operation.

SURVEILLANCE REQUIREMENTS

4.4.1.3.1 The required shutdown cooling loop(s) shall be determined OPERABLE per the Inservice Testing Program.

4.4.1.3.2 The required reactor coolant pump(s), if not in operation, shall be determined to be OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.

4.4.1.3.3 The required steam generator(s) shall be determined OPERABLE by verifying the secondary side water level to be $\geq$ 23% indicated level at least once per 12 hours.

4.4.1.3.4 At least one coolant loop shall be verified to be in operation and circulating reactor coolant at least once per 12 hours.

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* All reactor coolant pumps and decay heat removal pumps may be de-energized for up to 1 hour provided (1) no operations are permitted that would cause introduction of coolant into the RCS with boron concentration less than required to meet SDM of LCO 3.1.1.1 or LCO 3.1.1.2, as applicable, and (2) core outlet temperature is maintained at least 10 °F below saturation temperature.

\# The normal or emergency power source may be inoperable in Mode 5.

CONTAINMENT SYSTEMS

CONTAINMENT AIR LOCKS

LIMITING CONDITION FOR OPERATION

3.6.1.3 Each containment air lock shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one containment air lock door inoperable in one or more containment air locks[1,2]:

1. Verify that at least the OPERABLE air lock door is closed in the affected air lock within one hour and either restore the inoperable air lock door to OPERABLE status within 24 hours or lock the OPERABLE air lock door closed[3].

2. Operation may then continue provided that the OPERABLE air lock door is verified to be locked closed at least once per 31 days.

b. With the containment air lock interlock inoperable in one or more containment air locks[1]:

1. Verify that at least one OPERABLE air lock door is closed in the affected air lock within one hour and restore the inoperable air lock interlock to OPERABLE status within 24 hours or lock an OPERABLE air lock door closed[4].

2. Operation may then continue provided that the OPERABLE air lock door is verified to be locked closed at least once per 31 days.

c. With one or more air locks inoperable for reasons other than those addressed in ACTION a. or b.:

1. Immediately initiate action to evaluate overall containment leakage per LCO 3.6.1.2.

2. Verify that at least one door in the affected air lock is closed within one hour and restore the affected air lock to OPERABLE status within 24 hours.

Otherwise, be in at least HOT STANDBY within the next six hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

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[1] Separate ACTION entry is allowed for each air lock.

[2] With both air locks inoperable, entry and exit is permissible for seven days under administrative controls.

[3] Entry and exit is permissible to perform repairs on the affected air lock components.

[4] Entry and exit is permissible under the control of a dedicated individual.

CONTAINMENT SYSTEMS

INTERNAL PRESSURE AND AIR TEMPERATURE

LIMITING CONDITION FOR OPERATION

3.6.1.4 The combination of containment internal pressure and average air temperature shall be maintained within the region of acceptable operation shown on Figure 3.6-1.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the point defined by the combination of containment internal pressure and average air temperature outside the region of acceptable operation shown on Figure 3.6-1, restore the combination of containment internal pressure and average air temperature to within the above limits within 1 hour or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

SURVEILLANCE REQUIREMENTS

4.6.1.4 The primary containment internal pressure and average air temperature shall be determined to be within the limits at least once per 12 hours. The containment average air temperature shall be the temperature of the air in the containment HVAC common return air duct upstream of the fan/cooler units.

3/4.6.2 DEPRESSURIZATION, COOLING, AND pH CONTROL SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.1 Two independent containment spray systems shall be OPERABLE with each spray system capable of taking suction from the RWT on a Containment Spray Actuation Signal (CSAS) and automatically transferring suction to the containment sump on a Recirculation Actuation Signal (RAS). Each spray system flow path from the containment sump shall be via an OPERABLE shutdown cooling heat exchanger.

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

With one containment spray system inoperable, restore the inoperable spray system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each containment spray system shall be demonstrated OPERABLE:

a. At least once per 31 days by:

1. Verify each containment spray manual, power operated, and automatic valve in the flow path that is not locked, sealed, or otherwise secured in position is in the correct position.

2. Verifying that the system piping is full of water from the RWT to at least elevation 505' (equivalent to > 12.5% indicated narrow range level) in the risers within the containment.

b. Verify each containment spray pump's developed head at the flow test point is greater than or equal to the required developed head when tested pursuant to the Inservice Testing Program.

CONTAINMENT SYSTEMS

CONTAINMENT COOLING SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.3 Two independent containment cooling groups shall be OPERABLE with two operational cooling units in each group.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one group of the above required containment cooling units inoperable and both containment spray systems OPERABLE, restore the inoperable group of cooling units to OPERABLE status within 7 days.

b. With two groups of the above required containment cooling units inoperable and both containment spray systems OPERABLE, restore at least one group of cooling units to OPERABLE status within 72 hours. Restore both above required groups of cooling units to OPERABLE status within 7 days of initial loss.

c. With one group of the above required containment cooling units inoperable and one containment spray system inoperable, restore the inoperable spray system to OPERABLE status within 72 hours. Restore the inoperable group of containment cooling units to OPERABLE status within 7 days of initial loss.

Otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.6.3.1 Each containment isolation valve shall be OPERABLE.*

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one or more isolation valve(s) inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and either:

a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or

b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or

c. Isolate the affected penetration within 4 hours by use of at least one closed manual valve or blind flange; or

d. Be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

SURVEILLANCE REQUIREMENTS

4.6.3.1.1 Each containment isolation valve shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of a cycling test and verification of isolation time.

* Locked or sealed closed valves may be opened on an intermittent basis under administrative control.

3/4.7.3 SERVICE WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.3.1 At least two independent service water loops shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one service water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

SURVEILLANCE REQUIREMENTS

4.7.3.1 At least two service water loops shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) servicing safety related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.

b. At least once per 18 months during shutdown, by verifying that each automatic valve servicing safety related equipment actuates to its correct position on CCAS, MSIS and RAS test signals.

3/4.7.6 CONTROL ROOM EMERGENCY VENTILATION AND AIR CONDITIONING SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.6.1 Two independent control room emergency ventilation and air conditioning systems shall be OPERABLE. (Note 1)

APPLICABILITY: MODES 1, 2, 3, 4, or during movement of irradiated fuel assemblies or movement of new fuel assemblies over irradiated fuel assemblies.

ACTION:

MODES 1, 2, 3, and 4

a. With one control room emergency air conditioning system (CREACS) inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

b. With one control room emergency ventilation system (CREVS) inoperable for reasons other than ACTION d, restore the inoperable system to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

c. With one CREVS inoperable for reasons other than ACTION d and one CREACS inoperable, restore the inoperable CREVS to OPERABLE status within 7 days and restore the inoperable CREACS to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

d. With one or more CREVS inoperable due to an inoperable CRE boundary:

   1. Immediately initiate action to implement mitigating actions, and

   2. Verify mitigating actions ensure CRE occupant exposures to radiological, chemical, and smoke hazards will not exceed limits within 24 hours, and

   3. Restore the CRE boundary to OPERABLE status within 90 days

   Otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

e. With two CREVS inoperable for reasons other than ACTION d or with two CREACS inoperable, enter Specification 3.0.3.

Note 1: The control room envelope (CRE) boundary may be open intermittently under administrative controls.

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

LIMITING CONDITION FOR OPERATION

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system and

b. Two separate and independent diesel generators each with:

1. A day fuel tank containing a minimum volume of 300 gallons of fuel,

2. A separate fuel storage system, and

3. A separate fuel transfer pump.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

NOTE: Specification 3.0.4.b is not applicable to diesel generators.

a. With one offsite A.C. circuit of the above required A.C. electrical power sources inoperable, perform the following:

1. Demonstrate the OPERABILITY of the remaining offsite A.C. circuit by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter, and

2. Restore the offsite A.C. circuit to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN. Startup Transformer No. 2 may be removed from service for up to 30 days as part of a preplanned preventative maintenance schedule. The 30-day allowance may be applied not more than once in a 10-year period.

3/4.8.1 A.C. SOURCES

LIMITING CONDITION FOR OPERATION

b. With one diesel generator of the above required A.C. electrical power source inoperable, perform the following:

1. Demonstrate the OPERABILITY of both the offsite A.C. circuits by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter, and

2. Demonstrate the OPERABILITY of the remaining OPERABLE diesel generator within 24 hours by:

i. Determining the OPERABLE diesel generator is not inoperable due to a common cause failure, or

ii. Perform Surveillance Requirement 4.8.1.1.2.a.4 unless:

a. The remaining diesel generator is currently in operation, or

b. The remaining diesel generator has been demonstrated OPERABLE within the previous 24 hours, and

3. Restore the diesel generator to OPERABLE status within 14 days (See Note 1) or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

Note 1 - If the Alternate A.C. Diesel Generator (AACDG) is determined to be inoperable during this period, then a 72 hour restoration period is applicable until either the AACDG or the diesel generator is returned to operable status (not to exceed 14 days from the initial diesel generator inoperability).

3/4.8.1 A.C. SOURCES

LIMITING CONDITION FOR OPERATION

c. With one offsite A.C. circuit and one diesel generator of the above required A.C. electrical power sources inoperable, perform the following:

1. Demonstrate the OPERABILITY of the remaining offsite A.C. circuit by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; and,

2. If the diesel generator became inoperable due to any cause other than preplanned preventive maintenance or testing, then

i. Demonstrate the OPERABILITY of the remaining OPERABLE diesel generator by performing Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours except when:

a. The remaining diesel generator is currently in operation, or

b. The remaining diesel generator has been demonstrated OPERABLE within the previous 8 hours, and

3. Restore at least one of the inoperable sources to OPERABLE status within 12 hours, and

4. Restore the remaining inoperable A.C. Source to an OPERABLE status (Offsite A.C. Circuit within 72 hours or Diesel Generator within 14 days (see b.3, Note 1)) based on the time of the initiating event that caused the inoperability.

Otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

d. With two offsite A.C. circuits of the above required A.C. electrical power sources inoperable, perform the following:

1. Perform Surveillance Requirement 4.8.1.1.2.a.4 on the diesel generators within the next 8 hours except when:

i. The diesel generators are currently in operation, or

ii. The diesel generators have been demonstrated OPERABLE within the previous 8 hours, and

2. Restore one of the inoperable offsite A.C. circuits to OPERABLE status within 24 hours, and

3. Restore both A.C. circuits within 72 hours of the initiating event,

Otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

3/4.8.1 A.C. SOURCES

LIMITING CONDITION FOR OPERATION

e. With two diesel generators of the above required A.C. electrical power sources inoperable, perform the following:

1. Demonstrate the OPERABILITY of the two offsite A.C. circuits by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter, and

2. Restore one of the inoperable diesel generators to OPERABLE status within 2 hours, and

3. Restore the remaining inoperable diesel generator within 14 days (see b.3, Note 1) of the initiating event.

Otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

ELECTRICAL POWER SYSTEMS

DC SOURCES – OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.3 The Train A and Train B DC electrical power subsystems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With one of the required full capacity chargers inoperable, restore the battery terminal voltage to greater than or equal to the minimum established float voltage within 2 hours.

b. With one of the required battery banks inoperable, restore the inoperable battery bank to OPERABLE status within 2 hours.

c. With one DC electrical power subsystem inoperable for reasons other than ACTION ‘a’ or ‘b’ above, restore the inoperable DC electrical power subsystem to OPERABLE status within 2 hours.

Otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. LCO 3.0.4.a is not applicable when entering HOT SHUTDOWN.

SURVEILLANCE REQUIREMENTS

4.8.2.3.1 At least once per 7 days by verifying that the battery terminal voltage is greater than or equal to the minimum established float voltage.