

Required Action B.2 is 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 allowed Completion Times are reasonable based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

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(continued)

BASES (continued)

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- REFERENCES
1. 10 CFR 50.2.
  2. 10 CFR 50.55a(c).
  3. 10 CFR 50, Appendix A, Section V, GDC 55.
  4. WASH-1400 (NUREG-75/014), Appendix V, October 1975.
  5. NUREG-0677, May 1980.
  6. Not Used
  7. ASME Code for Operation and Maintenance of Nuclear Power Plants, 2001 Edition including 2002 and 2003 Addenda.
  8. 10 CFR 50.55a(g).
  9. AR A0569744.
  10. WCAP-16294-NP-A, Rev. 1, "Risk-Informed Evaluation of Changes to Technical Specification Required Action Endstates for Westinghouse NSSS PWRs," June 2010.
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BASES

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ACTIONS  
(continued)

D.1, D.2.1, D.2.2, and D.2.3

With any containment sump monitor, the containment atmosphere particulate radioactivity monitor, and the CFCU condensate collection monitor inoperable, the only means of detecting LEAKAGE is the containment gaseous radioactivity monitor. The containment atmosphere gaseous radioactivity monitor typically cannot detect a 1 gpm leak within four hours when RCS activity is low. In addition, this configuration does not provide the required diverse means of leakage detection. Indirect methods of monitoring RCS leakage must be implemented. Grab samples of the containment atmosphere must be taken and analyzed to provide alternate periodic information. The 12 hour interval is sufficient to detect increasing RCS leakage. The Required Action provides 7 days to restore another RCS leakage monitor to OPERABLE status to regain the intended leakage detection diversity. The 7 day Completion Time ensures that the plant will not be operated in a degraded configuration for a lengthy time period.

E.1

With all required monitors inoperable, (LCO a, b, and c) no means of monitoring leakage are available, and immediate plant shutdown in accordance with LCO 3.0.3 is required.

F.1 and F.2

If a Required Action of Condition A, B, C, D, or E cannot be met, the plant must be brought to a MODE in which overall plant risk is reduced~~the requirement does not apply~~. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE ~~5-4~~ 5-4 within ~~36-12~~ 12 hours.

Remaining within the Applicability of the LCO is acceptable to accomplish short duration repairs to restore inoperable equipment because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. 8). In MODE 4 the Steam Generators and Residual Heat Removal System are available to remove decay heat, which provides diversity and defense in depth. As stated in Reference 8, the steam turbine driven Auxiliary Feedwater Pump must be available to remain in MODE 4. Should Steam Generator cooling be lost while relying on this Required Action, there are preplanned actions to ensure long-term decay heat removal. Voluntary entry into MODE 5 may be made as it is also acceptable from a risk perspective.

Required Action F.2 is 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 allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

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(continued)

BASES (continued)

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SURVEILLANCE  
REQUIREMENTS

SR 3.4.15.1

SR 3.4.15.1 requires the performance of a CHANNEL CHECK of the required containment atmosphere radioactivity monitors. The check gives reasonable confidence that the channels are operating properly. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

SR 3.4.15.2

SR 3.4.15.2 requires the performance of a CHANNEL FUNCTIONAL TEST (CFT) on the required containment atmosphere radioactivity monitors. The test ensures that the monitors can perform their function in the desired manner including alarm functions. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

SR 3.4.15.3, SR 3.4.15.4, and SR 3.4.15.5

These SRs require the performance of a CHANNEL CALIBRATION for each of the RCS leakage detection instrumentation channels. The calibration verifies the accuracy of the instrument string, including the instruments located inside containment. The Frequency of 24 months (except for the containment atmosphere particulate and gaseous radioactivity monitors which have a frequency of 18 months) is consistent with refueling cycle and considers channel reliability. Again, operating experience has proven that this Frequency is acceptable.

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REFERENCES

1. 10 CFR 50, Appendix A, Section IV, GDC 30.
2. Regulatory Guide 1.45, Revision 0, "Reactor Coolant Pressure Boundary Leakage Detection Systems," May 1973.
3. FSAR, Section 5.2.7.
4. NUREG-609, "Asymmetric Blowdown Loads on PWR Primary System," 1981.
5. Generic Letter 84-04, "Safety Evaluation of Westinghouse Topical Reports Dealing with Elimination of Postulated Breaks in PWR Primary Main Loops."
6. FSAR, Section 3.6B.
7. NUREG-1061, Volume 3, "Report of the U.S. Nuclear Regulatory Commission Piping Review Committee," 1984.
8. WCAP-16294-NP-A, Rev. 1, "Risk-Informed Evaluation of Changes to Technical Specification Required Action Endstates for

Westinghouse NSSS PWRs," June 2010.

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BASES

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ACTIONS

A.1 (continued)

With both RHR pumps and heat exchangers inoperable, it would be unwise to require the plant to go to MODE 5, where the only available heat removal system is the RHR. Therefore, the appropriate action is to initiate measures to restore one ECCS RHR subsystem and to continue the actions until the subsystem is restored to OPERABLE status.

Opening the containment recirculation sump strainer system access ports, or lower plenum drain valve (SI-1-294 for Unit 1 or SI-2-295 for Unit 2) without pipe cap or inlet strainer (STR-440) installed, in MODE 4 is considered to be a condition which is outside the accident analysis. Therefore, LCO 3.0.3 must be immediately entered.

B-1

With no ECCS centrifugal charging subsystem OPERABLE, due to the inoperability of the centrifugal charging pump or flow path from the RWST, the plant is not prepared to provide high pressure response to Design Basis Events requiring SI. The 4-hour Completion Time of immediately to initiate actions that would restore at least one ECCS centrifugal charging subsystem to OPERABLE status ensures that prompt action is taken to provide the required cooling capacity or to initiate actions to place the plant in MODE 5, where an ECCS train is not required.

Remaining within the Applicability of the LCO is acceptable to accomplish short duration repairs to restore inoperable equipment because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. 2). In MODE 4 the Steam Generators and Residual Heat Removal System are available to remove decay heat, which provides diversity and defense in depth. As stated in Reference 2, the steam turbine driven Auxiliary Feedwater Pump must be available to remain in MODE 4. Should Steam Generator cooling be lost while relying on this Required Action, there are preplanned actions to ensure long-term decay heat removal. Voluntary entry into MODE 5 may be made as it is also acceptable from a risk perspective.

Required Action A.1 is 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.

C.1

~~When the Required Actions of Condition B cannot be completed within the required Completion Time, a controlled shutdown should be initiated. Twenty four hours is a reasonable time, based on operating experience, to reach MODE 5 in an orderly manner and without challenging plant systems or operators.~~

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SURVEILLANCE  
REQUIREMENTS

SR 3.5.3.1

The applicable Surveillance descriptions from Bases 3.5.2 apply.

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REFERENCES

1. Abnormal Response Guideline, ARG- 2, Rev. 0, Feb. 28, 1992.
2. WCAP-16294-NP-A, Rev. 1, "Risk-Informed Evaluation of Changes to Technical Specification Required Action Endstates for Westinghouse NSSS PWRs," June 2010.

Note: The applicable references from BASES 3.5.2 also apply.

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BASES

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ACTIONS

A.1 (continued)

- \* The requirement for RWST temperature is to be greater than or equal to the minimum required temperature. The expression "within the required limits", applied to RWST temperature is satisfied when the temperature is greater than or equal to the minimum.

B.1

With the RWST inoperable for reasons other than Condition A (e.g., water volume), it must be restored to OPERABLE status within 1 hour.

In this Condition, neither the ECCS nor the CS System can perform its design function. Therefore, prompt action must be taken to restore the tank to OPERABLE status or to place the plant in a MODE in which the RWST is not required. The short time limit of 1 hour to restore the RWST to OPERABLE status is based on this condition simultaneously affecting redundant trains and that borated water volume can be restored more rapidly than boron concentration or temperature.

C.1 and C.2

If the RWST cannot be returned to OPERABLE status within the associated Completion Time, the plant must be brought to a MODE in which overall plant risk is reduced~~the LCO does not apply~~. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE ~~5-4~~ 5-4 within ~~36-12~~ 36-12 hours.

Remaining within the Applicability of the LCO is acceptable to accomplish short duration repairs to restore inoperable equipment because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. 8). In MODE 4 the Steam Generators and Residual Heat Removal System are available to remove decay heat, which provides diversity and defense in depth. As stated in Reference 8, the steam turbine driven Auxiliary Feedwater Pump must be available to remain in MODE 4. Should Steam Generator cooling be lost while relying on this Required Action, there are preplanned actions to ensure long-term decay heat removal. Voluntary entry into MODE 5 may be made as it is also acceptable from a risk perspective.

Required Action C.2 is 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 allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

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SURVEILLANCE  
REQUIREMENTS

SR 3.5.4.1.

The RWST borated water temperature should be verified to be above the minimum assumed in the accident analyses. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

The SR is modified by a Note that eliminates the requirement to perform this Surveillance when ambient air temperature is above the minimum temperature for the RWST. With ambient air temperature above the minimum temperature, the RWST temperature should not exceed the limit.

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BASES

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SURVEILLANCE  
REQUIREMENTS  
(continued)

SR 3.5.4.2

The RWST water volume should be verified to be above the required minimum level in order to ensure that a sufficient initial supply is available for ECCS injection and CS System pump operation and to support continued ECCS on recirculation. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

To ensure the minimum contained borated water volume of 455,300 gallons (equivalent to 93.6% RWST level uncorrected for uncertainty) is met, the RWST level shall be maintained  $\geq 94.25\%$  using the local digital indicator on LT-920, LT-921, or LT-922 (lowest reading).

SR 3.5.4.3

The boron concentration of the RWST should be verified to be within the required limits. This SR ensures that the reactor will remain subcritical following a LOCA. Further, it assures that the resulting sump pH will be maintained in an acceptable range so that boron precipitation in the core will not occur and the effect of chloride and caustic stress corrosion on mechanical systems and components will be minimized. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

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REFERENCES

1. FSAR, Chapter 6 and Chapter 15.
  2. Surveillance Test Procedure R-20, "Boric Acid Inventory."
  3. Calc STA-255, "Minimum Required RWST Level for GE Sump Strainers."
  4. Calc N-227, "Post-LOCA Minimum Containment Sump Level."
  5. Calc J-153, "RWST Level Using Temporary Gauge."
  6. Calc J-143A, "RWST Level Instrument Channels with 3051N Transmitters."
  7. License Amendment 199/200, "Issuance of Amendments Re: Technical Specification 3.5.4, "Refueling Water Storage Tank (RWST).""
  8. WCAP-16294-NP-A, Rev. 1, "Risk-Informed Evaluation of Changes to Technical Specification Required Action Endstates for Westinghouse NSSS PWRs," June 2010.
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BASES

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ACTIONS  
(continued)

B.1 and B.2

If the inoperable containment spray train cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which overall plant risk is reduced~~the LCO does not apply~~. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE ~~5-4~~ within ~~84-54~~ hours.

Remaining within the Applicability of the LCO is acceptable to accomplish short duration repairs to restore inoperable equipment because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. 9). In MODE 4 the Steam Generators and Residual Heat Removal System are available to remove decay heat, which provides diversity and defense in depth. As stated in Reference 9, the steam turbine driven Auxiliary Feedwater Pump must be available to remain in MODE 4. Should Steam Generator cooling be lost while relying on this Required Action, there are preplanned actions to ensure long-term decay heat removal. Voluntary entry into MODE 5 may be made as it is also acceptable from a risk perspective.

Required Action B.2 is 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 allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems. The extended interval to reach MODE ~~5-4~~ allows 48 hours to restore additional time for attempting restoration of the containment spray train to OPERABLE status in MODE 3. This and is reasonable when considering the driving force for a release of radioactive material from the Reactor Coolant System is reduced in MODE 3.

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BASES

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ACTIONS  
(continued)

C.1

With one CFCU system inoperable such that a minimum of two CFCUs remain operable, restore the required CFCUs to OPERABLE status within 7 days. The components in this degraded condition are capable of providing at least 100% of the heat removal needs. The 7 day Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System and the low probability of DBA occurring during this period.

D.1 and D.2

With one train of containment spray inoperable and the CFCUs system inoperable such that a minimum of two CFCUs remain OPERABLE, restore one required train of containment spray or CFCU system to OPERABLE status within 72 hours. The components remaining in OPERABLE status in this degraded condition provide iodine removal capabilities and are capable of providing at least 100% of the heat removal needs after an accident. The 72 hour Completion Time was developed taking into account the redundant heat removal capabilities afforded by combinations of the Containment Spray System and Containment Cooling System, the iodine removal function of the Containment Spray System, and the low probability of DBA occurring during this period.

E.1 and E.2

If the Required Action and associated Completion Time of Condition C or D of this LCO are not met, the plant must be brought to a MODE in which overall plant risk is reduced the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE ~~5-4~~ within ~~36-12~~ hours.

Remaining within the Applicability of the LCO is acceptable to accomplish short duration repairs to restore inoperable equipment because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. 9). In MODE 4 the Steam Generators and Residual Heat Removal System are available to remove decay heat, which provides diversity and defense in depth. As stated in Reference 9, the steam turbine driven Auxiliary Feedwater Pump must be available to remain in MODE 4. Should Steam Generator cooling be lost while relying on this Required Action, there are preplanned actions to ensure long-term decay heat removal. Voluntary entry into MODE 5 may be made as it is also acceptable from a risk perspective.

Required Action E.2 is 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 allowed Completion Times are reasonable, based on operating experience, to reach the required plant conditions from full power conditions in an orderly manner and without challenging plant systems.

F.1

With two containment spray trains or one containment spray train inoperable and two CFCU systems inoperable such that one or less CFCUs remain OPERABLE or one or less CFCUs are OPERABLE, the unit is in a condition outside the accident analysis. Therefore, LCO 3.0.3 must be entered immediately.

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(continued)

BASES

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SURVEILLANCE  
REQUIREMENTS  
(continued)

SR 3.6.6.7

This SR requires verification that each CFCU actuates upon receipt of an actual or simulated safety injection signal. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

SR 3.6.6.8

With the containment spray inlet valves closed and the spray header drained of any solution, low pressure air or smoke can be blown through test connections. This SR ensures that each spray nozzle is unobstructed and provides assurance that spray coverage of the containment during an accident is not degraded. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

SR 3.6.6.9

The CFCUs are designed to start or restart in low speed upon receipt of an SI signal. This SR ensures that this feature is functioning properly. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

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REFERENCES

1. FSAR, Appendix 3.1A
  2. 10 CFR 50, Appendix K.
  3. FSAR, Section 6.2.1.
  4. FSAR, Section 6.2.2.
  5. ASME Code for Operation and Maintenance of Nuclear Power Plants, 2001 Edition including 2002 and 2003 Addenda.
  6. License Amendment 89/88, April 16, 1996.
  7. Calculation STA-075, "Minimum ECCS Flow and Minimum Recirculation Spray Flow During the Sump Recirculation Phases."
  8. License Amendment 202/203, December 31, 2008.
  9. WCAP-16294-NP-A, Rev. 1, "Risk-Informed Evaluation of Changes to Technical Specification Required Action Endstates for Westinghouse NSSS PWRs," June 2010.
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BASES (continued)

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ACTIONS

A.1

If the Spray Additive System is inoperable, it must be restored to OPERABLE within 72 hours. The pH adjustment of the Containment Spray System flow for corrosion protection and iodine removal enhancement is reduced in this condition. The Containment Spray System would still be available and would remove some iodine from the containment atmosphere in the event of a DBA. The 72 hour Completion Time takes into account the redundant flow path capabilities and the low probability of the worst case DBA occurring during this period.

B.1 and B.2

If the Spray Additive System cannot be restored to OPERABLE status within the required Completion Time, the plant must be brought to a MODE in which overall plant risk is reduced ~~the LCO does not apply~~. To achieve this status, the plant must be brought to at least MODE 3 within 6 hours and to MODE ~~5-4~~ 5-4 within ~~84-54~~ 84-54 hours.

Remaining within the Applicability of the LCO is acceptable to accomplish short duration repairs to restore inoperable equipment because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. 2). In MODE 4 the Steam Generators and Residual Heat Removal System are available to remove decay heat, which provides diversity and defense in depth. As stated in Reference 2, the steam turbine driven Auxiliary Feedwater Pump must be available to remain in MODE 4. Should Steam Generator cooling be lost while relying on this Required Action, there are preplanned actions to ensure long-term decay heat removal. Voluntary entry into MODE 5 may be made as it is also acceptable from a risk perspective.

Required Action B.2 is 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 allowed Completion Time of 6 hours is reasonable, based on operating experience, to reach MODE 3 from full power conditions in an orderly manner and without challenging plant systems. The extended interval to reach MODE ~~5-4~~ 5-4 allows 48 hours for restoration ~~to restore~~ the Spray Additive System to OPERABLE status in MODE 3 and ~~36 hours to reach MODE 5~~. This is reasonable when considering the reduced pressure and temperature conditions in MODE 3 for the release of radioactive material from the Reactor Coolant System.

BASES

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SURVEILLANCE  
REQUIREMENTS  
(continued)

SR 3.6.7.5

To ensure correct operation of the Spray Additive System, flow from the spray additive tank to the eductors is verified. This SR is performed by verifying that the solution flow path is not blocked from the spray additive tank through test valve 8993, from the RWST through test valve 8993 for each of the two flow paths, and from the RWST to the eductors. This SR provides assurance that NaOH will be metered into the flow path upon Containment Spray System initiation. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

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REFERENCES

1. FSAR, Chapter 6.2.
  2. WCAP-16294-NP-A, Rev. 1, "Risk-Informed Evaluation of Changes to Technical Specification Required Action Endstates for Westinghouse NSSS PWRs," June 2010.
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BASES

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ACTIONS  
(continued)

B.1 and B.2

If the vital CCW loop cannot be restored to OPERABLE status within the associated Completion Time, the unit must be placed in a MODE in which overall plant risk is reduced. ~~the LCO does not apply.~~ To achieve this status, the unit must be placed in at least MODE 3 within 6 hours and in MODE ~~5-4~~ within ~~36-12~~ hours.

Remaining within the Applicability of the LCO is acceptable to accomplish short duration repairs to restore inoperable equipment because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. 4). In MODE 4 the Steam Generators and Residual Heat Removal System are available to remove decay heat, which provides diversity and defense in depth. As stated in Reference 4, the steam turbine driven Auxilliary Feedwater Pump must be available to remain in MODE 4. Should Steam Generator cooling be lost while relying on this Required Action, there are preplanned actions to ensure long-term decay heat removal. Voluntary entry into MODE 5 may be made as it is also acceptable from a risk perspective.

Required Action B.2 is 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 allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

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SURVEILLANCE  
REQUIREMENTS

SR 3.7.7.1

This SR is modified by a Note indicating that the isolation of the CCW flow to individual components may render those components inoperable but does not affect the OPERABILITY of the CCW System. A possible exception to this note, is isolation of CCW to the CFCUs. Isolation of CCW to the CFCUs could potentially affect the flow balance and requires evaluation to ensure continued operability.

Verifying the correct alignment for manual, power operated, and automatic valves in the CCW flow path provides assurance that the proper flow paths exist for CCW operation. The CCW flow path consists of the direct flow path servicing the safety related equipment (e.g., ECCS pump coolers, CFCUs, RHR heat exchanger) and portions of any branch line flow path off the direct flow path that a valve misposition could result in degradation of the system safety function. This SR does not apply to valves that are locked, sealed, or otherwise

BASES

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SURVEILLANCE  
REQUIREMENTS

SR 3.7.7.3

This SR verifies proper automatic operation of the CCW pumps on an actual or simulated safety injection or loss of offsite power (4kV auto transfer) actuation signal. This surveillance requirement applies to the SIS auto-start and the 4kV auto-transfer automatic starts only. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

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REFERENCES

1. FSAR, Section 9.2.2.
  2. FSAR, Section 6.2.
  3. WCAP-14282, Revision 1, "Evaluation of Peak CCW Temperature Scenarios for Diablo Canyon Units 1 and 2," dated December 1997.
  4. WCAP-16294-NP-A, Rev. 1, "Risk-Informed Evaluation of Changes to Technical Specification Required Action Endstates for Westinghouse NSSS PWRs," June 2010.
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BASES (continued)

ACTIONS

A.1

If one ASW train is inoperable, action must be taken to restore OPERABLE status within 72 hours. In this Condition, the remaining OPERABLE ASW train is adequate to perform the heat removal function. However, the overall reliability is reduced because a single failure in the OPERABLE ASW train could result in loss of ASW system function. The Note indicates that the applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops-MODE 4," should be entered if an inoperable ASW train results in an inoperable decay heat removal train. This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components. The 72 hour Completion Time is based on the redundant capabilities afforded by the OPERABLE train, and the low probability of a DBA occurring during this time period.

B.1 and B.2

If the ASW train cannot be restored to OPERABLE status within the associated Completion Times, the unit must be placed in a MODE in which overall plant risk is reduced the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours and in MODE ~~5-4~~ within ~~36-12~~ hours.

Remaining within the Applicability of the LCO is acceptable to accomplish short duration repairs to restore inoperable equipment because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. 4). In MODE 4 the Steam Generators and Residual Heat Removal System are available to remove decay heat, which provides diversity and defense in depth. As stated in Reference 4, the steam turbine driven Auxiliary Feedwater Pump must be available to remain in MODE 4. Should Steam Generator cooling be lost while relying on this Required Action, there are preplanned actions to ensure long-term decay heat removal. Voluntary entry into MODE 5 may be made as it is also acceptable from a risk perspective.

Required Action B.2 is 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 allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

BASES

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SURVEILLANCE  
REQUIREMENTS  
(continued)

SR 3.7.8.2

This SR verifies proper remote manual full stroke operation of the ASW valves. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The 92 day Frequency is based on the IST program frequency and is consistent with the ASME O&M Code testing requirements, and ensures the ability to correctly align the valves. Operating experience has shown that these components usually pass the Surveillance when performed at the 92 day Frequency. Therefore, the Frequency is acceptable from a reliability standpoint.

SR 3.7.8.3

This SR verifies proper automatic operation of the ASW pumps on an actual or simulated safety related actuation signal. The ASW is a normally operating system that cannot be fully actuated as part of normal testing during normal operation. This surveillance requirement applies to the SIS auto-start and the 4kV auto transfer automatic starts only. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

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REFERENCES

1. FSAR, Section 9.2.7.
  2. FSAR, Section 6.2.
  3. NRC Generic Letter 91-13, "Request for Information Related to the Resolution of Generic Issue 130, 'Essential Service Water System Failures at Multi-unit Sites,' Pursuant to 10 CFR 50.54 (F)," dated September 19, 1991.
  4. WCAP-16294-NP-A, Rev. 1, "Risk-Informed Evaluation of Changes to Technical Specification Required Action Endstates for Westinghouse NSSS PWRs," June 2010.
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BASES (continued)

**APPLICABILITY** In MODES 1, 2, 3, and 4, the UHS is required to support the OPERABILITY of the equipment serviced by the UHS and required to be OPERABLE in these MODES.

In MODE 5 or 6, the OPERABILITY requirements of the UHS are determined by the systems it supports.

**ACTIONS**

A.1

If the UHS is inoperable (i.e., inlet water temperature > 64°F), the compensatory action of placing a second CCW heat exchanger in service must be performed within 8 hours. This action provides assurance that the ASW system and the CCW system can operate within its temperature limit. With two heat exchangers in service, operation with elevated UHS temperatures as high as 70°F is acceptable.

The 8 hour Completion Time is reasonable based on the low probability of an accident occurring during the 8 hours that the temperature is > 64°F without two CCW heat exchangers in service and the time required to reasonably complete the Required Action.

B.1 and B.2

If the second heat exchanger cannot be placed in service within the associated Completion Time, the unit must be placed in a MODE in which overall plant risk is reduced ~~the LCO does not apply~~. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours and in MODE ~~5-4~~ within ~~36-12~~ hours.

Remaining within the Applicability of the LCO is acceptable to accomplish short duration repairs to restore inoperable equipment because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. 4). In MODE 4 the Steam Generators and Residual Heat Removal System are available to remove decay heat, which provides diversity and defense in depth. As stated in Reference 4, the steam turbine driven Auxiliary Feedwater Pump must be available to remain in MODE 4. Should Steam Generator cooling be lost while relying on this Required Action, there are preplanned actions to ensure long-term decay heat removal. Voluntary entry into MODE 5 may be made as it is also acceptable from a risk perspective.

Required Action B.2 is 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 allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

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SURVEILLANCE  
REQUIREMENTS

SR 3.7.9.1

Not Used.

SR 3.7.9.2

This SR verifies that adequate long term (30 day) cooling can be maintained. The 24, 12 and 2 hour surveillance Frequencies are based on operating experience related to trending of the temperature variations during the applicable MODES. This SR verifies the temperature of the UHS so that appropriate actions can be taken to assure that the ASW system can continue to assure that the CCW system will not exceed its design temperature profile.

(continued)

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BASES

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SURVEILLANCE REQUIREMENTS (continued)	<u>SR 3.7.9.3</u>
	Not Used.
	<u>SR 3.7.9.4</u>
	Not Used.

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REFERENCES	1. FSAR, Section 9.2.5.
	2. FSAR, Sections 2.4.11.5 & 2.4.11.6.
	3. AEC Safety Guide 27.
	4. <u>WCAP-16294-NP-A, Rev. 1, "Risk-Informed Evaluation of Changes to Technical Specification Required Action Endstates for Westinghouse NSSS PWRs," June 2010.</u>

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BASES

ACTIONS

B.1, B.2, and B.3 (continued)

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. Actions must be taken to restore the CRE boundary to OPEARABLE status within 90 days. 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.

C.1 and C.2

In MODE 1, 2, 3, or 4, if the inoperable CRVS train or the CRE boundary cannot be restored to OPERABLE status within the required Completion Time, the unit must be placed in a MODE in which the overall plant risk is reduced that minimizes accident risk. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE ~~5~~<sub>4</sub> within ~~36~~<sub>12</sub> hours.

Remaining within the Applicability of the LCO is acceptable to accomplish short duration repairs to restore inoperable equipment because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. 14). In MODE 4 the Steam Generators and Residual Heat Removal System are available to remove decay heat, which provides diversity and defense in depth. As stated in Reference 14, the steam turbine driven Auxiliary Feedwater Pump must be available to remain in MODE 4. Should Steam Generator cooling be lost while relying on this Required Action, there are preplanned actions to ensure long-term decay heat removal. Voluntary entry into MODE 5 may be made as it is also acceptable from a risk perspective.

Required Action C.2 is 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 allowed Completion Times are reasonable, based on operating

BASES (continued)

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- REFERENCES
1. FSAR, Section 9.4. and 9.5.
  2. FSAR, Chapter 15.
  3. ANSI N510-1980.
  4. NUREG-0800, Section 6.4, Rev. 2, July 1981.
  5. DCM S-23F.
  6. License Amendment 119/117, April 14, 1997.
  7. License Amendment 184/186, January 3, 2006.
  8. Regulatory Guide 1.196.
  9. NEI 99-03, "Control Room Habitability Assessment," June 2001.
  10. Letter from Eric J. Leeds (NRC) to James W. Davis (NEI) dated January 30, 2004, "NEI Draft White Paper, Use of Generic Letter 91-18 Process and Alternative Source Terms in the Context of Control Room Habitability" (ADAMS Accession No. ML040300694)
  11. SAPN 50526526, "Failure to Restore CRE to Operable : ACE Report"
  12. Task Interface Agreement from NRC dated November 20, 2012, "Final Response to Task Interface Agreement 2012-08, Diablo Canyon Power Plant, Unit 1 and 2 – Request Office of Nuclear Reactor Regulation's Review of Operability Issues Associated with Technical Specification 3.7.10, "Control Room Ventilation System"".
  13. Diablo Canyon Power Plant – NRC Integrated Inspection Report 05000275/2012005 and 05000323/2012005, dated February 12, 2013.
  14. WCAP-16294-NP-A, Rev. 1, "Risk-Informed Evaluation of Changes to Technical Specification Required Action Endstates for Westinghouse NSSS PWRs," June 2010.
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BASES (continued)

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APPLICABILITY In MODES 1, 2, 3, and 4, the ABVS is required to be OPERABLE consistent with the OPERABILITY requirements of the ECCS.

In MODE 5 or 6, the ABVS is not required to be OPERABLE since the ECCS is not required to be OPERABLE.

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ACTIONS

A.1

With the common HEPA filter and/or charcoal adsorber bank inoperable, the cooling function of the ABVS for ECCS motors is maintained; however, the filtration system function is lost. Since the entire function of the system is not lost, a 24 hour completion time is provided to restore the filters.

The 24 hour completion time is acceptable because it is a common filter system and the Completion Time is shorter than the ECCS Completion Time. The 24 hour Completion Time is based on the low probability of a DBA occurring during this time period.

B.1

With one ABVS train inoperable, action must be taken to restore OPERABLE status within 7 days. During this time, the remaining OPERABLE train is adequate to perform the ABVS function.

The 7 day Completion Time is appropriate because the risk contribution is less than that for the ECCS (72 hour Completion Time). The 7 day Completion Time is based on the low probability of a DBA occurring during this time period, and ability of the remaining train to provide the required capability.

Concurrent failure of two ABVS trains would result in the loss of both filtration and cooling capability; therefore, LCO 3.0.3 must be entered immediately.

C.1 and C.2

If the ABVS train cannot be restored to OPERABLE status within the associated Completion Time, the unit must be placed in a MODE in which overall plant risk is reduced~~the LCO does not apply~~. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours, and in MODE 5-4 within ~~36-12~~ hours.

Remaining within the Applicability of the LCO is acceptable to accomplish short duration repairs to restore inoperable equipment because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. 8). In MODE 4 the Steam Generators and Residual Heat Removal System are available to remove decay heat, which provides diversity and defense in depth. As stated in Reference 8, the steam turbine driven Auxiliary Feedwater Pump must be available to remain in MODE 4. Should Steam Generator cooling be lost while relying on this Required Action, there are preplanned actions to ensure long-term decay heat removal. Voluntary entry into MODE 5 may be made as it

is also acceptable from a risk perspective.

Required Action C.2 is 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 allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

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(continued)

BASES

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SURVEILLANCE  
REQUIREMENTS  
(continued)

SR 3.7.12.6

This SR verifies the leak tightness of dampers that isolate flow to the normally operating filter train. This SR assures that the flow from the auxiliary building passes through the HEPA filter and charcoal adsorber unit when the ABVS Buildings and Safeguards or Safeguards Only modes have been actuated coincident with an SI. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

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REFERENCES

1. FSAR, Section 9.4.2.
  2. FSAR, Section 15.5.
  3. ASTM D 3803-1989
  4. ANSI N510-1980
  5. 10 CFR 100.11.
  6. NUREG-0800, Section 6.5.1, Rev. 2, July 1981.
  7. DCM S-23B, "Main Auxiliary Building Heating and Ventilation System".
  8. WCAP-16294-NP-A, Rev. 1, "Risk-Informed Evaluation of Changes to Technical Specification Required Action Endstates for Westinghouse NSSS PWRs," June 2010.
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BASES

ACTIONS

G.1 (continued)

be less than that associated with an immediate controlled shutdown (the immediate shutdown could cause grid instability, which could result in a total loss of AC power). Since any inadvertent generator trip could also result in a total loss of offsite AC power, the time allowed for continued operation is severely restricted. The intent here is to avoid the risk associated with an immediate controlled shutdown and to minimize the risk associated with this level of degradation.

H.1 and H.2

If the inoperable AC electric power sources cannot be restored to OPERABLE status within the required Completion Time, the unit must be brought to a MODE in which overall plant risk is reduced~~the LCO does not apply~~. To achieve this status, the unit must be brought to at least MODE 3 within 6 hours and to MODE ~~5-4~~ 5-4 within ~~36-12~~ 36-12 hours.

Remaining within the Applicability of the LCO is acceptable to accomplish short duration repairs to restore inoperable equipment because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. 21). In MODE 4 the Steam Generators and Residual Heat Removal System are available to remove decay heat, which provides diversity and defense in depth. As stated in Reference 21, the steam turbine driven Auxiliary Feedwater Pump must be available to remain in MODE 4. Should Steam Generator cooling be lost while relying on this Required Action, there are preplanned actions to ensure long-term decay heat removal. Voluntary entry into MODE 5 may be made as it is also acceptable from a risk perspective.

Required Action H.2 is 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 allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging plant systems.

I.1

Condition I corresponds to a level of degradation in which all redundancy in the AC electrical power supplies has been lost. At this severely degraded level, further loss of the remaining offsite circuit will

BASES

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SURVEILLANCE  
REQUIREMENTS  
(continued)

SR 3.8.1.20

This Surveillance demonstrates that the DG starting independence has not been compromised. Also, this Surveillance demonstrates that each engine can achieve proper speed within the specified time when the DGs are started simultaneously.

The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

This SR is modified by a Note. The reason for the Note is to minimize wear on the DG during testing. For the purpose of this testing, the DGs must be started from standby conditions, that is, with the engine coolant and oil temperature maintained consistent with manufacturer recommendations of equal to or greater than 90°F but less than 175°F.

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REFERENCES

1. 10 CFR 50, Appendix A, GDC 17.
2. FSAR, Chapter 8.
3. Regulatory Guide 1.9, Rev. 0, March 10, 1971 (Safety Guide 9).
4. FSAR, Chapter 6.
5. FSAR, Chapter 15.
6. Regulatory Guide 1.93, Rev. 0, December 1974.
7. Generic Letter 84-15, "Proposed Staff Actions to Improve and Maintain Diesel Generator Reliability," July 2, 1984.
8. 10 CFR 50, Appendix A, GDC 18.
9. Regulatory Guide 1.108, Rev. 1, August 1977.
10. Regulatory Guide 1.137, Rev. 1, Oct 1979.
11. ASME, Boiler and Pressure Vessel Code, Section XI.
12. Generic Letter 94-01, "Removal of Accelerated Testing and Special Reporting Requirements for Emergency Diesel Generators," May 31, 1994.
13. Diesel Generator Allowed Outage Time Study, LA 44/43, October 4, 1989
14. License Amendment 44/43, October 4, 1989.
15. Regulatory Guide 1.9 Rev. 3, July 1993.
16. Not Used
17. License Amendment 166/167, April 20, 2004.
18. Calculation PRA 02-06, "Diesel Generator LAR for 14-day AOT."
19. License Amendment 174/176, September 28, 2004.
20. Operating Procedure OP J-2:VIII, "Guidelines for Reliable Transmission Service for DCP." "
21. WCAP-16294-NP-A, Rev. 1, "Risk-Informed Evaluation of

Changes to Technical Specification Required Action Endstates  
for Westinghouse NSSS PWRs," June 2010.

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BASES

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ACTIONS  
(continued)

D.1

The design of the 125 VDC electrical power distribution system is such that a battery can have associated with it a dedicated full capacity charger powered from its associated 480 VAC vital bus or a backup full capacity charger powered from another 480 VAC vital bus. Use of the backup full capacity charger results in more than one full capacity charger receiving power simultaneously from a single 480 V vital bus and causes the requirements of independence and redundancy between subsystems to no longer be maintained. Thus, operation with two chargers powered by the same vital bus is limited to 14 days.

E.1 and E.2

If the inoperable DC electrical power subsystem cannot be restored to OPERABLE status within the required Completion Time, the unit must be brought to a MODE in which overall plant risk is reduced~~the LCO does not apply~~. To achieve this status, the unit must be brought to at least MODE 3 within 6 hours and to MODE ~~5-4~~ within ~~36-12~~ hours.

Remaining within the Applicability of the LCO is acceptable to accomplish short duration repairs to restore inoperable equipment because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. 12). In MODE 4 the Steam Generators and Residual Heat Removal System are available to remove decay heat, which provides diversity and defense in depth. As stated in Reference 12, the steam turbine driven Auxiliary Feedwater Pump must be available to remain in MODE 4. Should Steam Generator cooling be lost while relying on this Required Action, there are preplanned actions to ensure long-term decay heat removal. Voluntary entry into MODE 5 may be made as it is also acceptable from a risk perspective.

Required Action E.2 is 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 allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging plant systems. The Completion Time to bring the unit to MODE 5 is consistent with the time required in Regulatory Guide 1.93 (Ref. 7).

BASES

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SURVEILLANCE  
REQUIREMENTS  
(continued)

SR 3.8.4.3

A battery service test is a special test of battery capability, as found, to satisfy the design requirements (battery duty cycle) of the DC electrical power system. The discharge rate and test length should correspond to the design duty cycle requirements as specified in FSAR Chapter 8, (Ref. 4).

The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

This SR is modified by two Notes. Note 1 allows the performance of a modified performance discharge test in lieu of a service test.

The reason for Note 2 is that performing the Surveillance would perturb the electrical distribution system and challenge safety systems.

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REFERENCES

1. 10 CFR 50, Appendix A, GDC 17.
  2. Regulatory Guide 1.6, March 10, 1971.
  3. IEEE Std. 308-1971.
  4. FSAR, Chapter 8.
  5. FSAR, Chapter 6.
  6. FSAR, Chapter 15.
  7. Regulatory Guide 1.93, December 1974.
  8. IEEE Std. 450-1995.
  9. Regulatory Guide 1.32, February 1977.
  10. Regulatory Guide 1.129, December 1974.
  11. Electrical Design Calculations 235A-DC thru 235F-DC.
  12. WCAP-16294-NP-A, Rev. 1, "Risk-Informed Evaluation of Changes to Technical Specification Required Action Endstates for Westinghouse NSSS PWRs," June 2010.
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BASES

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ACTIONS

A.1 (continued)

AC electrical power sources (offsite and onsite). The uninterruptible inverter source to the 120 VAC vital buses is the preferred source for powering instrumentation trip setpoint devices.

B.1 and B.2

If the inoperable devices or components cannot be restored to OPERABLE status within the required Completion Time, the unit must be brought to a MODE in which overall plant risk is reduced~~the LCO does not apply~~. To achieve this status, the unit must be brought to at least MODE 3 within 6 hours and to MODE ~~5~~4 within ~~36~~12 hours.

Remaining within the Applicability of the LCO is acceptable to accomplish short duration repairs to restore inoperable equipment because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. 4). In MODE 4 the Steam Generators and Residual Heat Removal System are available to remove decay heat, which provides diversity and defense in depth. As stated in Reference 4, the steam turbine driven Auxilliary Feedwater Pump must be available to remain in MODE 4. Should Steam Generator cooling be lost while relying on this Required Action, there are preplanned actions to ensure long-term decay heat removal. Voluntary entry into MODE 5 may be made as it is also acceptable from a risk perspective.

Required Action B.2 is 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 allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging plant systems.

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SURVEILLANCE  
REQUIREMENTS

SR 3.8.7.1

This Surveillance verifies that the inverters are functioning properly with all required circuit breakers closed and 120 VAC vital buses energized from the inverter. The verification of proper voltage output ensures that the required power is readily available for the instrumentation of the RPS and ESFAS connected to the AC vital buses. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control

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Program.

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- REFERENCES
1. FSAR, Chapter 7.
  2. FSAR, Chapter 6.
  3. FSAR, Chapter 15.
  4. WCAP-16294-NP-A, Rev. 1, "Risk-Informed Evaluation of Changes to Technical Specification Required Action Endstates for Westinghouse NSSS PWRs," June 2010.
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BASES

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ACTIONS

C.1 (continued)

- b. The potential for decreased safety by requiring entry into numerous applicable Conditions and Required Actions for components without DC power and not providing sufficient time for the operators to perform the necessary evaluations and actions for restoring power to the affected subsystem; and
- c. The potential for an event in conjunction with a single failure of a redundant component.

The 2 hour Completion Time for DC buses is consistent with Regulatory Guide 1.93 (Ref. 3).

D.1 and D.2

If the inoperable distribution subsystem cannot be restored to OPERABLE status within the required Completion Time, the unit must be brought to a MODE in which ~~overall plant risk is reduced~~ the LCO ~~does not apply~~. To achieve this status, the unit must be brought to at least MODE 3 within 6 hours and to MODE ~~5-4~~ within ~~36-12~~ hours.

Remaining within the Applicability of the LCO is acceptable to accomplish short duration repairs to restore inoperable equipment because the plant risk in MODE 4 is similar to or lower than MODE 5 (Ref. 4). In MODE 4 the Steam Generators and Residual Heat Removal System are available to remove decay heat, which provides diversity and defense in depth. As stated in Reference 4, the steam turbine driven Auxilliary Feedwater Pump must be available to remain in MODE 4. Should Steam Generator cooling be lost while relying on this Required Action, there are preplanned actions to ensure long-term decay heat removal. Voluntary entry into MODE 5 may be made as it is also acceptable from a risk perspective.

Required Action D.2 is 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 allowed Completion Times are reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging plant systems.

(continued)

BASES

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ACTIONS  
(continued)

E.1

Condition E corresponds to two required Class 1E AC, DC, or 120 VAC vital buses with inoperable distribution subsystems that result in a loss of safety function, adequate core cooling, containment OPERABILITY and other vital functions for DBA mitigation would be compromised, and immediate plant shutdown in accordance with LCO 3.0.3 is required.

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SURVEILLANCE  
REQUIREMENTS

SR 3.8.9.1

This Surveillance verifies that the required Class 1E AC, DC, and 120 VAC vital bus electrical power distribution systems are functioning properly, with the correct circuit breaker alignment. The correct breaker alignment ensures the appropriate separation and independence of the electrical divisions is maintained, and the appropriate voltage is available to each required bus. The verification of proper voltage availability on the buses ensures that the required voltage is readily available for motive as well as control functions for critical system loads connected to these buses. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

Table B 3.8.9-1

The table on the next page defines the general features of the AC and DC Electrical Power Distribution System.

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REFERENCES

1. FSAR, Chapter 6.
  2. FSAR, Chapter 15.
  3. Regulatory Guide 1.93, December 1974.
  4. WCAP-16294-NP-A, Rev. 1, "Risk-Informed Evaluation of Changes to Technical Specification Required Action Endstates for Westinghouse NSSS PWRs," June 2010.
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**Proposed Technical Specification Changes for  
Proposed TSTF-505 Technical Specifications**

PG&E submitted and LAR for TSTF-505 in PG&E Letter DCL 13-106, "License Amendment Request 13-02 Revision to Technical Specifications to Adopt Risk Informed Completion Times TSTF-505, Revision 1, 'Provide Risk-Informed Extended Completion Times – RITSTF Initiative 4B,'" dated November 25, 2013. The required revisions to the TS contained in Attachment 2 of the LAR for TSTF-505 to appropriately implement the TSTF-432 changes (for TS conditions where there is no complete loss of safety function) are contained in this attachment. The TS-505 LAR TS Actions to be changed for TSTF-432 are TS 3.3.2, 3.6.6.A, 3.7.7, 3.7.8, 3.8.1, 3.8.4, 3.8.7, and 3.8.9.

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
Z. One channel inoperable.	<p>-----NOTE----- The inoperable channel and one additional channel may be surveillance tested in bypass for up to 12 hours only if any function 1.c channel associated with the inoperable channel is in trip. This note is not intended to allow simultaneous testing of coincident channels on a routine basis. -----</p> <p>Z.1 Place channel in bypass.</p>	72 hours
<p>AA. ----- NOTE ----- Not applicable when two or more channels intentionally made inoperable. ----- Two or more channels inoperable.</p>	<p>AA.1 Restore channels to OPERABLE status.</p> <p><i>F, G, H, I, J, K, L, U, or V</i></p>	<p>1 hour OR In accordance with the Risk Informed Completion Time Program</p>
<p>BB. Required Action and associated Completion Time of Conditions B, C, D, E, S, T, X, Y, Z, or AA not met.</p>	<p>BB.1 Be in MODE 3. AND <i>Insert 1</i> 4 BB.2 Be in MODE <del>3</del>.</p>	<p>6 hours 12 <del>36</del> hours</p>
<p>CC. Required Action and associated Completion Time of Conditions <del>F, G, H, I, J, K, L, U, or V</del> not met. <i>C, E, S, T, X, Y, Z, or AA</i></p>	<p>CC.1 Be in MODE 3. AND 5 CC.2 Be in MODE <del>3</del>.</p>	<p>6 hours 36 <del>12</del> hours</p>
<p>DD. Required Action and associated Completion Time of Conditions M, N, Q, or R not met.</p>	<p>DD.1 Be in MODE 3.</p>	6 hours
<p>EE. Required Action and associated Completion Time of Conditions O or P not met.</p>	<p>EE.1 Be in MODE 2.</p>	6 hours

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ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
<p>D. One containment spray train inoperable and the CFCU system inoperable such that a minimum of two CFCUs remain OPERABLE.</p>	<p>D.1 Restore containment spray train to OPERABLE status, <u>OR</u> D.2 Restore the CFCU system to OPERABLE status such that four CFCUs or three CFCUs, each supplied by a different vital bus, are OPERABLE.</p>	<p>72 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program 72 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program</p>
<p>E. ----- NOTE ----- Not applicable when second containment spray train or fourth CFCU intentionally made inoperable. ----- Two containment spray trains inoperable. <u>OR</u> One containment spray train inoperable and the CFCU system inoperable such that one or less CFCUs remain OPERABLE. <u>OR</u> The CFCU system inoperable such that one or less CFCUs remain OPERABLE.</p>	<p>E.1 Restore containment spray trains and the CFCU system to OPERABLE status.</p>	<p>1 hour <u>OR</u> In accordance with the Risk Informed Completion Time Program</p>
<p>F. Required Action and associated Completion Time of Condition C, D, or E not met.</p>	<p>F.1 Be in MODE 3 <u>AND</u> <u>Insert 1</u> 4 F.2 Be in MODE 3</p>	<p>6 hours 12 36 hours</p>

Insert 2

3.7 PLANT SYSTEMS

3.7.7 Vital Component Cooling Water (CCW) System

LCO 3.7.7 Two vital CCW loops shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One vital CCW loop inoperable.	A.1 -----NOTE----- Enter applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops - MODE 4," for residual heat removal loops made inoperable by CCW. ----- Restore vital CCW loop to OPERABLE status.	72 hours  <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. ----- NOTE ----- Not applicable when second vital CCW loop intentionally made inoperable. ----- Two vital CCW loops inoperable.	B.1 Restore vital CCW loops to OPERABLE status.	1 hour  <u>OR</u> In accordance with the Risk Informed Completion Time Program
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3. <u>AND</u> <i>Insert 1</i> C.2 <i>Be in MODE 4.</i>	6 hours  <i>12</i> <del>36</del> hours

*of Condition A*

*Insert 3*

*te*  
*te*  
*te*  
*te*

3.7 PLANT SYSTEMS

3.7.8 Auxiliary Saltwater (ASW) System

LCO 3.7.8 Two ASW trains shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One ASW train inoperable.	A.1 -----NOTE----- Enter applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops - MODE 4," for residual heat removal loops made inoperable by ASW. ----- Restore ASW train to OPERABLE status	72 hours  <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. ----- NOTE ----- Not applicable when second ASW train intentionally made inoperable. ----- Two ASW trains inoperable.	B.1 Restore ASW trains to OPERABLE status.	1 hour  <u>OR</u> In accordance with the Risk Informed Completion Time Program
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3. <u>AND</u> <i>Insert 1</i> C.2 Be in MODE 5.	6 hours  <i>12</i> <i>36</i> hours

*of Condition A*

*Insert 3*

*te*  
*te*  
*te*  
*te*

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
F. One supply train of the DFO transfer system inoperable.	F.1 Restore the DFO transfer system to OPERABLE status.	72 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
G. Two supply trains of the DFO transfer system inoperable.	G.1 Restore one train of the DFO transfer system to OPERABLE status.	1 hour <u>OR</u> In accordance with the Risk Informed Completion Time Program
H. ----- NOTE ----- Not applicable when offsite circuit or second DG intentionally made inoperable. ----- Two or more DGs inoperable. <u>AND</u> One or more required offsite circuits inoperable.	H.1 Restore required AC sources to OPERABLE status.	1 hour <u>OR</u> In accordance with the Risk Informed Completion Time Program
I. ----- NOTE ----- Not applicable when DG or second offsite circuit intentionally made inoperable. ----- One or more DGs inoperable. <u>AND</u> Two required offsite circuits inoperable.	I.1 Restore required AC sources to OPERABLE status.	1 hour <u>OR</u> In accordance with the Risk Informed Completion Time Program
J. Required Action and associated Completion Time not met.	J.1 Be in MODE 3. <u>AND</u> <u>Insert 1</u> J.2 Be in MODE 5.	6 hours 12 36 hours

*Of Conditions A, B, C, D, E, F, or G*

Insert 4

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. One battery inoperable.	B.1 Restore battery to OPERABLE status.	2 hours  <u>OR</u> In accordance with the Risk Informed Completion Time Program
C. One DC electrical power subsystem inoperable for reasons other than Condition A or B.	C.1 Restore DC electrical power subsystem to OPERABLE status.	2 hours  <u>OR</u> In accordance with the Risk Informed Completion Time Program
D. More than one full capacity charger receiving power simultaneously from a single 480 V vital bus.	D.1 Restore the DC electrical power subsystem to a configuration wherein each charger is powered from its associated 480 volt vital bus.	14 days
E. ----- NOTE ----- Not applicable when second DC electrical power subsystem intentionally made inoperable.  ----- Two DC electrical power subsystems inoperable.	E.1 Restore at least one DC electrical power subsystem to OPERABLE status.  <i>of Conditions A, B, C, or D</i>	1 hour  <u>OR</u> In accordance with the Risk Informed Completion Time Program
F. Required Action and Associated Completion Time not met.	F.1 Be in MODE 3. <u>AND</u> <i>Insert 1</i> F.2 Be in MODE <sup>4</sup> / <sub>3</sub> .	6 hours  <i>12</i> <del>36</del> hours

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*Insert 2*

3.8 ELECTRICAL POWER SYSTEMS

3.8.7 Inverters-Operating

LCO 3.8.7 Four Class 1E Vital 120 V UPS inverters shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One required inverter inoperable.	A.1 -----NOTE----- Enter applicable Conditions and Required Actions of LCO 3.8.9, "Distribution Systems - Operating" with any vital 120 V AC bus de-energized.  Restore inverter to OPERABLE status.	24 hours  <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. ----- NOTE ----- Not applicable when two or more required inverters intentionally made inoperable.  ----- Two or more required inverters inoperable.	B.1 Restore inverters to OPERABLE status.  <i>of Condition A</i>	1 hour  <u>OR</u> In accordance with the Risk Informed Completion Time Program
C. Required Action and associated Completion Time not met.	C.1 Be in MODE 3. <u>AND</u> <i>Insert 1</i> 4 C.2 <i>Be in MODE 5.</i>	6 hours  12 <del>36</del> hours

*Insert 3*

*Handwritten marks and signatures on the right margin.*

3.8 ELECTRICAL POWER SYSTEMS

3.8.9 Distribution Systems-Operating

LCO 3.8.9 The required Class 1E AC, DC, and 120 VAC vital bus electrical power distribution subsystems shall be OPERABLE.

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

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more AC electrical power distribution subsystem inoperable.	A.1 Restore AC electrical power distribution subsystem to OPERABLE status.	8 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
B. One or more 120 VAC vital bus subsystem inoperable.	B.1 Restore 120 VAC vital bus subsystem to OPERABLE status.	2 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
C. One or more DC electrical power distribution subsystem inoperable.	C.1 Restore DC electrical power distribution subsystem to OPERABLE status.	2 hours <u>OR</u> In accordance with the Risk Informed Completion Time Program
D. <del>Required Action and associated Completion Time not met.</del>	D.1 Be in MODE 3. <u>AND</u> <i>Insert 1</i> D.2 <i>4</i> Be in MODE <del>3</del> .	6 hours  12 36 hours

*Insert 5*

*Insert 6*

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Technical Specifications Inserts

INSERT 1

-----NOTE-----  
 LCO 3.0.4.a is not  
 applicable when  
 entering MODE 4.  
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INSERT 2

G. Required Action and associated Completion Time of Condition E not met.	G.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	G.2 Be in MODE 5.	36 hours

INSERT 3

D. Required Action and associated Completion Time of Condition B not met.	D.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	D.2 Be in MODE 5.	36 hours

INSERT 4

K. Required Action and associated Completion Time of Condition H or I not met.	K.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	K.2 Be in MODE 5.	36 hours

INSERT 5

Required Action and associated Completion Time of Condition A, B, or C not met.

AND

One AC electrical power distribution subsystem inoperable.

OR

One 120 VAC vital bus subsystem inoperable.

OR

One DC electrical power distribution subsystem inoperable.

INSERT 6

<p>E. Required Action and associated Completion Time of Condition A, B, or C not met.</p>	<p>E.1 Be in MODE 3.</p>	<p>6 hours</p>
	<p><u>AND</u></p>	
	<p>E.2 Be in MODE 5.</p>	<p>36 hours</p>
<p><u>AND</u></p>		
<p>More than one AC electrical power distribution subsystem inoperable.</p>		
<p><u>OR</u></p>		
<p>More than one 120 VAC vital bus subsystem inoperable.</p>		
<p><u>OR</u></p>		
<p>More than one DC electrical power distribution subsystem inoperable.</p>		