

BASES

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ACTIONS (continued) under administrative control and the probability of their misalignment is low.

Condition B is modified by a Note indicating this Condition is only applicable to penetration flow paths with two containment isolation valves. Condition A of this LCO addresses the condition of one containment isolation valve inoperable in this type of penetration flow path.

C.1 and C.2

..., or in accordance with the Risk Informed Completion Time Program.

With one or more penetration flow paths with one containment isolation valve inoperable, the inoperable valve flow path must be restored to OPERABLE status or the affected penetration flow path must be isolated. The method of isolation must include the use of at least one isolation barrier that cannot be adversely affected by a single active failure. Isolation barriers that meet this criterion are a closed and de-activated automatic valve, a closed manual valve, and a blind flange. A check valve may not be used to isolate the affected penetration flow path. Required Action C.1 must be completed within the 72-hour Completion Time. The specified time period is reasonable considering the relative stability of the closed system (hence, reliability) to act as a penetration isolation boundary and the relative importance of maintaining containment integrity during MODES 1, 2, 3, and 4. In the event the affected penetration flow path is isolated in accordance with Required Action C.1, the affected penetration flow path must be verified to be isolated on a periodic basis. This periodic verification is necessary to assure leak tightness of containment and that containment penetrations requiring isolation following an accident are isolated. This SR does not apply to valves that are locked, sealed, or otherwise secured in the closed position, since these were verified to be in the correct position upon locking, sealing, or securing.

Condition C is modified by a Note indicating that this Condition is only applicable to those penetration flow paths with only one containment isolation valve and a closed system. The closed system must meet the requirements of Ref 2. This Note is necessary since this Condition is written to specifically address those penetration flow paths which utilize closed systems as one of the two containment barriers.

LCO 3.6.3 provides no specific action related to the condition of the closed system. An industry interpretation relative to the treatment of a closed system is documented in TSTF-502-T, Technical Specifications Task Force. This traveler discusses the status of a closed system if not intact, the condition must be evaluated as a degraded or nonconforming condition under 10 CFR 50, Appendix B. Leakage from a closed system may also affect the Operability (Functionality) of the system itself, which may be the subject of other specifications. Leakage from closed systems will be governed by ASME requirements on Code Class 1, 2 and 3 systems, typically described in the Technical Requirements

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LCO This LCO requires that two MSIVs and two non-return ~~check~~ valves in the steam lines are to be OPERABLE. The MSIVs are considered OPERABLE when the isolation times are within limits, and they close on an isolation actuation signal. The steam line non-return check valves are considered to be operable when they are capable of closing in response to reverse flow.

This LCO provides assurance that the MSIVs and non-return check valves will perform their design safety function to mitigate the consequences of accidents that could result in offsite exposures comparable to the 10 CFR 100 (Ref. 3) limits.

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APPLICABILITY The MSIVs and non-return check valves must be OPERABLE in MODES 1, 2, and 3, when there is significant mass and energy in the RCS and steam generators.

In MODE 4, normally the MSIVs and non-return check valves are closed, and the steam generator energy is low.

In MODE 5 or 6, the steam generators do not contain much energy because their temperature is below the boiling point of water; therefore, the MSIVs and non-return check valves are not required for isolation of potential high energy secondary system pipe breaks in these MODES .

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ACTIONS

A.1

..., or in accordance with the Risk Informed Completion Time Program.

With one or more valves in a SG flowpath inoperable in MODE 1, action must be taken to restore the flowpath to OPERABLE status within 8 hours. Some repairs to the MSIV can be made with the unit hot. The ~~8-hour~~ Completion Time is reasonable, considering the low probability of an accident occurring during this time period that would require a closure of the MSIVs or non-return check valves.

The MSIVs are containment isolation valves, and as such the applicable Conditions and Required Actions of LCO 3.6.3 must be

To prevent a Condition resulting in a loss of function and assure safety system reliability, Condition A is modified by a note which prohibits a Completion Time extension in accordance with the Risk Informed Completion Time Program when an MSIV and non-return valve of the same steam generator flowpath are both inoperable.

BASES

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APPLICABLE  
SAFETY ANALYSES  
(continued)

critical than the time required to cool down to RHR conditions for this event. Thus, the SGTR is the limiting event for the ADVs.

The ADVs are equipped with block valves in the event an ADV spuriously fails to close during use.

The ADVs satisfy Criterion 3 of the NRC Policy Statement.

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LCO

Two ADV flowpaths are required to be OPERABLE. One ADV flowpath is required from each of two steam generators to ensure that at least one ADV flowpath is available to conduct a unit cooldown following an SGTR, in which one steam generator becomes unavailable. The block valves must be OPERABLE to isolate a failed open ADV flowpath. A closed block valve renders its ADV flowpath inoperable.

Failure to meet the LCO can result in the inability to cool the unit to RHR entry conditions following an event in which the condenser is unavailable for use with the Steam Bypass System.

The ADVs are OPERABLE when they are capable of being locally opened and closed through their full range using the valve operator handwheel. The ADVs have a functionality requirement to be capable of remote operation from the Control Room. Remote operation is credited in the SGTR analysis.

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APPLICABILITY

In MODES 1, 2, and 3, and in MODE 4, when a steam generator is being relied upon for heat removal, the ADVs are required to be OPERABLE.

In MODE 4 when the steam generators are not relied upon for heat removal (residual heat removal system in operation), the RCS and steam generator temperatures have been reduced to a temperature sufficiently below the saturation pressure which corresponds to the steam generator safety valves lift setpoints to preclude radiological releases to the environs as a result of a SGTR.

In MODE 5 or 6, an SGTR is not a credible event.

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ACTIONS

A.1

With one required ADV flowpath inoperable, action must be taken to restore OPERABLE status within 7 days. The ~~7-day~~ Completion Time Completion Time is reasonable to repair an inoperable ADV flowpath, based on the availability of the remaining OPERABLE ADV, the nonsafety grade backup in the Steam Bypass System, and MSSVs, and

..., or in accordance with the Risk Informed Completion Time Program.

BASES

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ACTIONS

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

A.1

With the turbine driven AFW pump system inoperable due to one inoperable steam supply, or if the turbine driven pump is inoperable for any reason while in MODE 3 immediately following refueling, action must be taken to restore the inoperable equipment to an OPERABLE status within 7 days. The ~~7-day~~ Completion Time is reasonable, based on the following reasons:

- a. For the inoperability of the turbine driven AFW pump due to one inoperable steam supply, the ~~7-day~~ Completion Time is reasonable, since there is a redundant steam supply to the turbine driven AFW pump and the turbine driven pump system is still capable of performing its specified safety function for most postulated events.
- b. For inoperability of a turbine driven pump while in MODE 3 immediately subsequent to a refueling, the ~~7-day~~ Completion Time is reasonable due to the minimal decay heat in this situation.
- c. For both the inoperability of the turbine driven pump due to one inoperable steam supply and an inoperable turbine driven AFW pump while in MODE 3 immediately following a refueling outage, the ~~7-day~~ Completion Time is reasonable due to the availability of a redundant OPERABLE AFW pump, and due to the low probability of an event requiring the use of the inoperable turbine driven AFW pump.

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

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

..., or in accordance with the Risk Informed Completion Time Program.

BASES

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ACTIONS (continued)

Condition A is modified by a Note which limits the applicability of the Condition for an inoperable turbine driven AFW pump in MODE 3 to when the unit has not entered MODE 2 following a refueling. Condition A allows one AFW train to be inoperable for 7 days, ~~vice the 72-hour~~ Completion Time in Condition B. This longer Completion Time is based on the reduced decay heat following refueling and prior to the reactor being critical.

..., or in accordance with the Risk Informed Completion Time Program,...

B.1

When one of the required AFW pump systems is inoperable in MODE 1, 2, or 3, for reasons other than Condition A, action must be taken to restore the pump system to OPERABLE status within 72 hours. This Condition includes loss of two steam supply lines to the turbine driven AFW pump. The ~~72-hour~~ Completion Time is reasonable, based on redundant capabilities afforded by the remaining OPERABLE AFW pump system, time needed for repairs, and the low probability of a DBA occurring during this time period.

..., or in accordance with the Risk Informed Completion Time Program,...

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

The 10 day Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered simultaneously. The AND connector between 72 hours and 10 day Completion Times dictate that both Completion Times apply simultaneously, and the more restrictive must be met.

C.1

With the turbine driven AFW pump system inoperable due to one inoperable steam supply and the motor driven AFW pump system inoperable, action must be taken to restore the affected equipment to OPERABLE status within 24 or 48 hours as described below. Assuming no single active failures when in this condition, the accident (MSLB) could result in the loss of the remaining steam supply to the turbine driven AFW pump due to the faulted steam generator. In this condition, the AFW system may no longer be able to meet the required flow to the SGs assumed in the safety analysis.

If the motor driven AFW pump system from the opposite unit is not available, the 24 hour Completion Time is reasonable based on the remaining OPERABLE steam supply to the turbine driven AFW pump, and low probability of an event occurring that would require the inoperable steam supply to be available for the turbine driven AFW pump.

BASES

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LCO (continued)      exchanger establishes the number of required heat exchangers for two unit operation at three. This will provide assurance that at least one CC pump and heat exchanger will be available for post accident operation in the unit undergoing an accident, while also providing assurance that at least one CC pump and heat exchanger will be available for shutdown capability of the non-accident unit.

The isolation of CC from other components or systems not required for safety may render those components or systems inoperable but does not affect the OPERABILITY of the CC System.

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APPLICABILITY      In MODES 1, 2, 3, and 4, the CC System is a normally operating system, which must be prepared to perform its post accident safety functions, primarily RCS heat removal, which is achieved by cooling the RHR heat exchanger.

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

In MODE 5 or 6, the CC system is required to be Functional to support RHR. The CC system requires a pump and heat exchanger to provide forced flow and cooling to support the RHR function for decay heat removal.

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ACTIONS      The Required Actions are modified by a Note indicating that the applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops-MODE 4," are required to be entered if inoperable CC loop components result in the inoperability of an RHR loop. This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components.

..., or in accordance with the Risk Informed Completion Time Program.

A.1

If one required CC pump is inoperable (including inoperability of any associated piping, valves, and controls required to perform the safety related function that renders the pump inoperable), action must be taken to restore the pump to OPERABLE status within 72 hours. In this Condition, the remaining OPERABLE CC pump is adequate to perform the heat removal function. The ~~72-hour~~ Completion Time is reasonable, based on the redundant capabilities afforded by the OPERABLE pump, and the low probability of a DBA occurring during this period.

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

~~The 144 hour Completion Time provides a limitation time allowed in this~~

BASES

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ACTIONS (continued) ~~specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 72 hour and 144 hour dictates that both Completion Times apply simultaneously, and the more restrictive must be met.~~

..., or in accordance with the Risk Informed Completion Time Program.

B.1

If one required CC heat exchanger is inoperable (including inoperability of any associated piping, valves, and controls required to perform the safety related function that renders the heat exchanger inoperable), action must be taken to restore the inoperable heat exchanger to OPERABLE status within 72 hours. In this Condition, the remaining OPERABLE CC heat exchanger is adequate to perform the heat removal function. The 72 hour Completion Time is reasonable, based on the redundant capabilities afforded by the OPERABLE heat exchanger, and the low probability of a DBA occurring during this period.

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

~~The 144 hour Completion Time provides a limitation time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 72 hour and 144 hour dictates that both Completion Times apply simultaneously, and the more restrictive must be met.~~

C.1 and C.2

If the Required Actions and associated Completion Times are not met, the plant must be brought to a MODE in which 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 within 36 hours. 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.

SURVEILLANCE  
REQUIREMENTS

SR 3.7.7.1

This SR is modified by a Note indicating that the isolation of the CC flow to individual components may render those components inoperable but does not affect the OPERABILITY of the CC System.

BASES

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ACTIONS (continued) A.1

..., or in accordance with the Risk Informed Completion Time Program.

If one SW pump is inoperable and both units are in MODES 1, 2, 3 or 4, action must be taken to restore the pump to OPERABLE status within 7 days. In this Condition, the remaining OPERABLE SW pumps assure adequate system flow capability. However, the overall reliability is reduced because a single failure could result in less than the required number of pumps to assure this flow. The ~~7 day~~ Completion Time is based on the redundant capabilities afforded by the remaining OPERABLE pumps, and the low probability of a DBA occurring during this time period.

~~The second Completion Time for Required Action A.1 establishes a limit on the maximum time allowed for any combination of Conditions to be inoperable during any continuous failure to meet this LCO. The 14 day Completion Time provides a limitation on the time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 7 days and 14 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.~~

B.1

If two or three SW pumps are inoperable, action must be taken to restore at least the minimum number of pumps to OPERABLE status required to exit this Condition within 72 hours. In this Condition, the remaining OPERABLE SW pumps are capable of providing the required system flow capability provided the requirements of the LCO are met (e.g., SW ring header continuous flowpath, non-essential SW isolation valves and the opposite Unit's containment fan cooler service water outlet valves). With four or more SW pumps inoperable, Condition G must be entered.

The 72 hour Completion Time is based on the redundant capabilities afforded by the remaining OPERABLE pumps, the probability for an additional active or passive failure, and the low probability of a DBA occurring during this time period.

C.1 and C.2

If the SW ring header continuous flowpath is interrupted, the ability of the System to provide required cooling water flow to required equipment must be verified within 1 hour. The 1 hour Completion Time for Required Action C.1 effectively limits the allowed system configuration to alignments previously evaluated and found



BASES

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ACTIONS (continued) acceptable (Reference 4). Evaluated alignments with the continuous flowpath interrupted include a minimum required number of OPERABLE SW pumps with each OPERABLE SW pump aligned to all required portions of the SW header. Acceptable alignments must comport to the SW system analyses. Additionally, the 1 hour Completion Time provides sufficient time to accommodate transitory operations (e.g. additional equipment inoperabilities, operations required to realign systems and equipment, etc;) without requiring initiation of a unit shutdown. The 1 hour Completion Time is commensurate with the importance of maintaining the SW System in an OPERABLE configuration.

..., or in accordance with the Risk Informed Completion Time Program.

Additionally, Required Action C.2 directs that the SW ring header continuous flowpath must be restored within 7 days. Since acceptable alignments during this period may include less than five OPERABLE SW pumps, Required Action B.1 may limit operation in Condition C to less than 7 days.

With one or more ring header isolation valves incapable of being closed, the SW System will continue to be capable of providing the required cooling water flow to required equipment. However, the ability to isolate a break in the system while continuing to provide cooling water to required equipment may be impaired.

With one or more ring header isolation valves closed, the SW System may remain capable of providing the required cooling water flow to the minimum required number of components depending on system alignment and the OPERABILITY of other SW System components.

Multiple closed ring header isolation valves could result in loss of cooling water to required equipment (e.g. closure of valves SW-2869 and SW-2870 will render two of the four containment fan coolers inoperable on each Unit). If multiple closed ring header isolation valves result in required equipment being inoperable, the Note to the ACTIONS Table requires entry into the applicable conditions and required actions for the systems made inoperable.

The ~~7-day~~ Completion Time is acceptable based on the redundant capabilities afforded by the remaining OPERABLE equipment, and the low probability of a DBA or SW System line break occurring during this time period. Piping failures are not considered as the single failure for system functionality during an accident.

~~The second Completion Time for Required Action C.2 establishes a limit on the maximum time allowed for any combination of Conditions to be in~~

BASES

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ACTIONS (continued) ~~effect during any continuous failure to meet this LCO. The 14 day Completion Time provides a limitation on the time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 7 days and 14 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.~~

D.1 and D.2

In the event one required automatic isolation valves in one or more non-essential-SW-load flowpath(s) is inoperable and the affected non-essential flowpath(s) is not isolated, the required redundant automatic isolation valve in the affected non-essential flowpath(s) must be verified OPERABLE within 1 hour. This verification may be performed administratively.

The 1 hour Completion Time for Required Action D.1 provides sufficient time to accommodate transitory operations (e.g. additional equipment inoperabilities, operations required to realign systems and equipment, etc;) without requiring initiation of a unit shutdown. The 1 hour Completion Time is commensurate with the importance of maintaining the SW System in an OPERABLE configuration. Required Action D.1 is modified by a Note stating it is not required to be met if in Condition E. This Note precludes entry into Condition H, when the required redundant automatic isolation valve in the affected non-essential flowpath(s) is inoperable and Required Action D.1 cannot be met.

.., or in accordance with the Risk Informed Completion Time Program.

Additionally, the valve(s) must be restored to OPERABLE status or the flowpath(s) isolated with a seismically qualified isolation valve within 72 hours. In this Condition, the overall reliability is reduced because a single failure could result in system configuration which could not assure adequate flow to required equipment. The ~~72-hour~~ Completion Time is based on the flow capabilities afforded by the number of OPERABLE pumps, and the low probability of a DBA occurring during this time period.

~~The second Completion Time for Required Action D.2 establishes a limit on the maximum time allowed for any combination of Conditions to be in effect during any continuous failure to meet this LCO.~~

~~The 14 day Completion Time provides a limitation on the time allowed in this specified Condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which multiple Conditions are entered concurrently. The AND connector between 72 hours and 14 days dictates that both Completion Times apply simultaneously, and the more restrictive must be met.~~

BASES

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APPLICABILITY

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

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

The AC power requirements for MODES 5 and 6 are covered in LCO 3.8.2, "AC Sources-Shutdown.

Bases Table B 3.8.1-1 provides a reference of Conditions that are applicable based on various inoperabilities.

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

A.1 and A.2

To ensure a highly reliable power source of offsite power remains available when the associated unit's X03 transformer is inoperable, Required Action A.1 requires verification that offsite power is supplying the associated unit's 4.16 kV safeguards buses from the opposite unit's X03 transformer within 24 hours and Required Action A.2 requires that the gas turbine generator be placed in operation within 24 hours. The ~~24 hour~~ Completion Time associated with Required Action A.2 is sufficient time to start, synchronize and load the gas turbine.

..., or in accordance with the Risk Informed Completion Time Program.

The 24 hour Completion Time associated with Required Action A.1 is sufficient to verify that the associated unit's safeguards buses continue to be energized from offsite power, since transfer to the opposite unit's X03 transformer should have occurred automatically. If auto bus transfer has not occurred, the 24 hour Completion Time is sufficient to return offsite power to the associated unit's safeguards buses.

BASES

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ACTIONS (continued) With the required offsite circuit inoperable, sufficient onsite AC sources are available to maintain the unit in a safe shutdown condition in the event of a Design Basis Accident or transient. A simultaneous loss of offsite AC sources, a LOCA, and a worst case single failure were postulated as a part of the design basis in the safety analysis. Thus, the 24 hour Completion Time provides a period of time to effect restoration of the offsite circuits commensurate with the importance of maintaining an AC electrical power system capable of meeting its design criteria.

..., or in accordance with the Risk Informed Completion Time Program.

B.1

Required Action B.1 applies when the associated unit's X04 transformer is inoperable. The inoperability of the associated unit's X04 transformer renders offsite power to the associated units safeguards buses inoperable. ~~According to Regulatory Guide 1.93 (Ref. 5), operation may continue in Condition B for a period that should not exceed 24 hours.~~ This level of degradation means that the offsite electrical power system does not have the capability to effect a safe shutdown and to mitigate the effects of an accident; however, the onsite AC sources have not been degraded.

Because of the normally high availability of the offsite source, this level of degradation may appear to be more severe than other combinations of AC sources inoperable that involve one or more inoperable standby emergency power sources. However, two factors tend to decrease the severity of this level of degradation:

- a. The configuration of the redundant AC electrical power system that remains available is not susceptible to a single bus or switching failure; and
- b. The time required to detect and restore an unavailable offsite power source is generally much less than that required to detect and restore an unavailable onsite AC source.

With the required offsite circuit inoperable, sufficient onsite AC sources are available to maintain the unit in a safe shutdown condition in the event of a DBA or transient. In fact, a simultaneous loss of offsite AC sources, a LOCA, and a worst case single failure were postulated as a part of the design basis in the safety analysis. Thus, the ~~24-hour~~ Completion Time provides a period of time to effect restoration of the offsite circuits commensurate with the importance of maintaining an AC electrical power system capable of meeting its design criteria.

BASES

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ACTIONS (continued) C.1

Required Action C.1, applies when offsite power to both safeguards buses on the same unit are inoperable (i.e., 1A05 and 1A06, or 2A05 and 2A06), or offsite power to safeguards buses 1A05 and 2A06 are inoperable. This level of degradation means that the offsite electrical power system does not have the capability to supply the minimum number of ESF systems required to effect a safe shutdown and to mitigate the effects of an accident; however, the onsite AC sources have not been degraded. This condition is similar to that of Condition B, which ~~according to Regulatory Guide 1.93 (Ref. 5), allows operation to continue for a period that should not exceed 24 hours~~ to. Because of the normally high availability of the offsite source, this level of degradation may appear to be more severe than other combinations of AC sources inoperable that involve one or more inoperable standby emergency power sources. However, two factors tend to decrease the severity of this level of degradation:

- a. The configuration of the redundant AC electrical power system that remains available is not susceptible to a single bus or switching failure; and
- b. The time required to detect and restore an unavailable offsite power source is generally much less than that required to detect and restore an unavailable onsite AC source.

With the required offsite circuit inoperable, sufficient onsite AC sources are available to maintain the unit in a safe shutdown condition in the event of a DBA or transient. In fact, a simultaneous loss of offsite AC sources, a LOCA, and a worst case single failure were postulated as a part of the design basis in the safety analysis. Thus, the ~~24-hour~~ Completion Time provides a period of time to effect restoration of the offsite circuits commensurate with the importance of maintaining an AC electrical power system capable of meeting its design criteria.

D.1

Condition D applies when offsite power is inoperable to one or more required 4.16 kV safeguards bus(es). The Required Actions for this Condition provide appropriate compensatory actions for each inoperable power supply, while the combination of Condition C and Condition D dictates which combinations of buses with inoperable power sources are allowed for 7 days versus 24 hours.

Required Action D.1 is intended to provide assurance that an event coincident with a single failure of the associated standby emergency

..., or in accordance with the Risk Informed Completion Time Program.

..., or in accordance with the Risk Informed Completion Time Program.

BASES

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ACTIONS (continued) power source will not result in a complete loss of safety function of critical redundant required features. These features are powered from the redundant safeguards train.

The Completion Time for Required Action D.1 is intended to allow the operator time to evaluate and repair any discovered inoperabilities. This Completion Time also allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." In this Required Action, the Completion Time only begins on discovery that both:

- a. The safeguards bus has no offsite power supplying its loads; and
- b. A required feature on the other train is inoperable.

If at any time during the existence of Condition D a redundant required feature subsequently becomes inoperable, this Completion Time begins to be tracked.

Discovering no offsite power to one safeguards bus coincident with one or more inoperable required redundant support or supported features, or both, results in starting the Completion Times for the Required Action. Twelve hours is acceptable because it minimizes risk while allowing time for restoration before subjecting the unit to transients associated with shutdown.

The remaining OPERABLE safeguards bus(es)' offsite power supplies and standby emergency power sources are adequate to supply electrical power to Train A and Train B of the onsite Class 1E Distribution System. The 12 hour Completion Time takes into account the component OPERABILITY of the redundant counterpart to the inoperable required feature. Additionally, the 12 hour Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period.

D.2

Operation may continue in Condition D for a period that should not exceed 7 days with offsite power to one or more 4.16 kV safeguards buses inoperable. In this condition, the reliability of the offsite system is degraded, and the potential for a loss of offsite power may be increased, with attendant potential for a challenge to the unit safety systems. However, the remaining OPERABLE 4.16 kV safeguards buses supplied by offsite power and standby emergency power sources

..., or in accordance with the Risk Informed Completion Time Program.

To prevent a Condition resulting in a loss of function and assure safety system reliability, the COMPLETION TIME of Condition D.2 is modified by a note which prohibits a Completion Time extension in accordance with the Risk Informed Completion Time Program when more than one offsite power source is inoperable or when one offsite power source to more than one required Class 1E 4.16kV bus is inoperable.

AC Sources - Operating  
B 3.8.1

B  
A

site Class 1E

Safeguards Distribution System.

The 7-day Completion Time takes into account the capacity and capability of the remaining AC sources, a reasonable time for repairs, and the low probability of a DBA occurring during this period. ↓

~~The second Completion Time for Required Action D.2 establishes a limit on the maximum time allowed for any combination of required AC power sources to be inoperable during any single contiguous occurrence of failing to meet the LCO. If Condition D is entered while, for instance, a standby emergency power source is inoperable and that standby emergency power source is subsequently returned to OPERABLE, the LCO may already have been not met for up to 7 days. This could lead to a total of 14 days, since initial failure to meet the LCO, to restore the offsite power supply. At this time, a standby emergency power source could again become inoperable, the offsite power supply restored OPERABLE, and an additional 7 days (for a total of 21 days) allowed prior to complete restoration of the LCO. The 14 day Completion Time provides a limit on the time allowed in a specified condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions D and E are entered concurrently. The "AND" connector between the 7 day and 14 day Completion Times means that both Completion Times apply simultaneously, and the more restrictive Completion Time must be met.~~

As in Required Action D.1, the Completion Time allows for an exception to the normal "time zero" for beginning the allowed outage time "clock." This will result in establishing the "time zero" at the time that the LCO was initially not met, instead of at the time Condition D was entered.

### E.1

Condition E applies when one or more standby emergency power supplies are inoperable. Condition E contains a Note which provide clarification that, for this Condition, separate Condition entry is allowed for each inoperable standby emergency power supply. This is acceptable since the Required Actions for this Condition provide appropriate compensatory actions for each inoperable power supply, while the combination of Condition E and Condition G dictates which combinations of buses with inoperable power sources are allowed for 7 days versus 2 hours.

Required Action E.1 is intended to provide assurance that a loss of offsite power, during the period that a standby emergency power source is inoperable, does not result in a complete loss of safety function of

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ACTIONS (continued) not met for up to 7 days. This could lead to a total of 14 days, since initial failure to meet the LCO, to restore the standby emergency power source. At this time, an offsite source could again become inoperable, the standby emergency power source restored OPERABLE, and an additional 7 days (for a total of 21 days) allowed prior to complete restoration of the LCO. The 14 day Completion Time provides a limit on time allowed in a specified condition after discovery of failure to meet the LCO. This limit is considered reasonable for situations in which Conditions D and E are entered concurrently. The "AND" connector between the 7 day and 14 day Completion Times means that both Completion Times apply simultaneously, and the more restrictive Completion Time must be met.

As in Required Action E.1, the Completion Time allows for an exception to the normal "time zero" for beginning the allowed time "clock." This will result in establishing the "time zero" at the time that the LCO was initially not met, instead of at the time Condition E was entered.

F.1 and F.2

[New Paragraph]  
Conditions F.1 and F.2 allow 12 hours, or in accordance with the Risk Informed Completion Time Program, to either restore the required offsite circuit to OPERABLE or restore the required standby emergency power source to OPERABLE, respectively. To prevent a Condition resulting in a loss of function and assure safety system reliability, the COMPLETION TIME of Conditions F.1 and F.2 is modified by a note which prohibits a Completion Time extension in accordance with the Risk Informed Completion Time Program when more than one required offsite power source is inoperable or when one offsite power source to more than one Class 1E 4.16kV bus safeguard buses is inoperable.

Pursuant to LCO 3.0.6, the distribution system Actions would not be entered even if all AC sources to it were inoperable, resulting in de-energization. Therefore, the Required Action of Condition F are modified by a Note to indicate that when Condition F is entered with no AC power to any Class 1E 4.16 kV bus, the Conditions and Required Actions for LCO 3.8.9, "Distribution Systems – Operating" must be immediately entered. This allows Condition F to provide requirements for the loss of one offsite power source to one or more Class 1E 4.16 kV bus(es) and one required standby emergency power source, without regard to whether a train is de-energized. LCO 3.8.9 provides appropriate restrictions for a de-energized Class 1E 4.16 kV bus.

G.1

Required Action G.1 applies to each unit in MODE 1, 2, 3 or 4, when standby emergency power to both safeguards buses on the same unit are inoperable (i.e., 1A05/1B03 and 1A06/1B04, or 2A05/2B03 and 2A06/2B04), or standby emergency power to safeguards buses 1A05/1B03 and 2A06/2B04 are inoperable. Thus, with an assumed loss of offsite electrical power, insufficient standby emergency power sources are available to power the minimum required ESF functions.

Since the offsite electrical power system is the only source of AC power for this level of degradation, the risk associated with continued operation for a very short time could be less than that associated with an immediate controlled shutdown (the immediate shutdown could



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The ACTIONS are modified by a Note which ensures appropriate remedial actions are taken if a DC bus becomes de-energized.

Pursuant to LCO 3.0.6, the Distribution System ACTIONS would not be entered even if a DC electrical power subsystem were inoperable, resulting in de-energization of a DC bus. Therefore, the Actions are modified by a Note to indicate that when DC bus is de-energized, the Conditions and Required Actions for LCO 3.8.9, "Distribution Systems-Operating," must be entered. This allows Condition A to provide requirements for the inoperability of a battery or charger, without regard to whether a bus is de-energized. LCO 3.8.9 provides the appropriate restrictions for a de-energized bus.

A.1

Condition A represents one DC subsystem with a loss of ability to completely respond to an event, and a potential loss of ability to remain energized during normal operation. It is, therefore, imperative that the operator's attention focus on stabilizing the unit, minimizing the potential for any further loss of DC power.

..., or in accordance with the Risk Informed Completion Time Program.

If one of the required DC electrical power subsystems is inoperable (e.g., inoperable battery, inoperable battery charger(s), or inoperable battery charger and associated inoperable battery), the remaining DC electrical power subsystems have the capacity to support a safe shutdown and to mitigate an accident condition. Since a subsequent worst case single failure could result in the loss of an additional 125 VDC electrical power subsystem with the potential for loss of ESF functions, continued power operation should not exceed 2 hours. The ~~2-hour Completion Time is based on Regulatory Guide 1.93 (Ref. 5) and~~ reflects a reasonable time to assess unit status as a function of the inoperable DC electrical power subsystem and, if the DC electrical power subsystem is not restored to OPERABLE status, to prepare to effect an orderly and safe unit shutdown.

B.1 and B.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 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 within 36 hours. 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. 5).