

SHEARON HARRIS NUCLEAR POWER PLANT
 NRC DOCKET NO. 50-400/LICENSE NO. NPF-63
 REQUEST FOR LICENSE AMENDMENT
 TECHNICAL SPECIFICATION 3/4.8.1, A.C. SOURCES - OPERATING
BASIS FOR CHANGE REQUEST

Background

If one or both offsite circuits become inoperable or if an Emergency Diesel Generator (EDG) becomes inoperable, TS 3.8.1.1.a.3, 3.8.1.1.b.4, and 3.8.1.1.d.2 require verifying that required features powered from the opposite train A.C. sources are operable. Per NUREG -1431, the intent of this requirement is to provide assurance that an event coincident with the single failure of an EDG or an offsite power circuit will not result in the complete loss of safety function of critical redundant features (NUREG -1431 Bases 3.8.1 A.2, B.2, and C.1 and C.2.). Time limits are imposed to restore the required feature or an inoperable power source. The completion time to restore the required feature or an inoperable power source varies depending on the availability and type of the remaining power sources. The purpose of this completion time is to allow a reasonable time for repairs while taking into account the capacity and capability of the remaining A.C. sources. Additionally, the low probability of a Design Basis Accident is considered. Once the completion time has expired, NUREG -1431, Revision 1, requires declaring the redundant required feature inoperable, when the required feature powered from the operable A.C. source is inoperable. For this Action, NUREG -1431, Revision 1 does not impose a separate shutdown requirement.

Currently, Harris Nuclear Plant (HNP) TS require a plant shutdown and declaring the redundant required feature inoperable, when the required feature powered from the operable A.C. source is inoperable. For example, if "A" EDG was inoperable concurrent with "B" Component Cooling Water Pump (required feature) being inoperable, then after 4 hours the "A" Component Cooling Water (CCW) Pump (redundant required feature) would be declared inoperable. HNP TS then require the plant to be in Hot Standby within 6 hours and in Cold Shutdown within the following 30 hours, or within the TS Action time of the applicable Action statement, whichever is more limiting. In this example, both CCW pumps would be considered inoperable, forcing entry into TS 3.0.3. TS 3.0.3 requires the plant to be in Hot Standby within 7 hours, therefore the requirement in TS 3.8.1.1 to be in Hot Standby within 6 hours would be more limiting.

Proposed Change

TS 3.8.1.1.a.3, 3.8.1.1.b.4, and 3.8.1.1.d.2 presently require a plant shutdown and declaring the redundant required feature inoperable, when the required feature powered from the operable A.C. source is inoperable. The proposed change clarifies the intent of this TS to permit the applicable redundant required feature TS to direct a plant shutdown when required. The proposed amendment changes the existing TS 3.8.1.1.a.3, 3.8.1.1.b.4, and 3.8.1.1.d.2 to eliminate the separate requirement for plant shutdown and instead allows the applicable required redundant feature TS to direct the plant shutdown when required.

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Basis

The proposed change to TS 3.8.1.1.a.3, 3.8.1.1.b.4, 3.8.1.1.d.2, and the associated Bases is consistent with NUREG -1431, Revision 1. The respective completion times are based on the capability and availability of the remaining A.C. source(s) (NUREG-1431 Bases A.3, B.2). Also considered were the low probability of a Design Basis Accident while this condition exists, as well as the understanding that the required safety function is still available although the single failure criteria in regards to a component's power supply cannot be met in this condition.

HNP TS Limiting Condition for Operation (LCO) and associated action times have been established for both degraded conditions and for the complete loss of a safety function. Generally, if a condition exists where a complete loss of function is detected, then the TS LCO would normally require a plant shutdown in accordance with TS 3.0.3.

However, there are systems, where if the complete safety function is lost, the plant is not required to shutdown immediately. For example, HNP has two Containment Hydrogen Monitors which are safety related and perform the safety related function of monitoring Hydrogen levels in containment following a Loss of Coolant Accident (LOCA). HNP's current TS, as well as NUREG -1431, Revision 1, require 30 days completion time (or out of service time) if one Hydrogen Monitor is inoperable and 72 hours completion time if both Hydrogen Monitors are inoperable. Therefore, the safety function of monitoring the Containment Hydrogen level can be completely lost without requiring an immediate plant shutdown. It has been previously analyzed that this additional time is appropriate to effect repairs, because an unnecessary plant shutdown is not desirable due to the potential transients associated with the shutdown.

HNP TS also require a plant shutdown if a condition is reached where a safety function could be potentially lost due to an A.C. source being inoperable. In some cases, this potential loss of a safety function has more severe consequences, in terms of TS action requirements, than the actual loss of the safety function. For example, if "A" and "B" Hydrogen Monitors are inoperable, then the safety function is lost and the TS action statement requires restoration of at least one Hydrogen Monitor (and the safety function) within 72 hours or the unit must be shutdown. However, if "A" Hydrogen Monitor and "B" EDG are inoperable then there is a "potential" loss of the safety function and either the Hydrogen Monitor or the EDG must be restored within 4 hours or the unit must be shutdown. In this case, the TS actions for the potential loss of the safety function are more restrictive than the actual loss of the same safety function.

The intent of this TS and associated Bases change is to resolve this disparity by using wording from NUREG -1431, Revision 1. The proposed change would allow the associated component TS to determine the shutdown requirements if a potential loss of a safety function exists due to an inoperable A.C. source. Some safety functions, such as those of the Component Cooling Water pumps, are more critical than Containment Hydrogen Monitoring. Consequently, the TS actions for the systems associated with this safety function are more restrictive than Containment Hydrogen Monitoring. The method affirmed by NUREG -1431, Revision 1, for inoperable A.C. sources preserves the limitations for operation with the potential of a loss of safety function while

concurrently allowing extra out of service time for systems of those safety functions deemed not as critical, as evidenced by the associated TS action completion times being longer.

Conclusions

TS 3.8.1.1.a.3, 3.8.1.1.b.4, 3.8.1.1.d.2, and the associated Bases as currently written, do not distinguish between the importance of redundant required features.

The proposed amendment will permit the affected system TS to determine when a unit shutdown is required. The times allowed for loss of a safety function have already been determined in the individual TS. The proposed change will not alter individual system TS action times. HNP proposes to change the requirement to shutdown after expiration of the completion time of an inoperable A. C. source concurrent with an inoperable required feature. Instead of requiring a shutdown, the required feature on the inoperable A.C. source will be declared inoperable and the individual TS will be implemented.

In most cases with both redundant features inoperable, a plant shutdown will be required by TS 3.0.3. In the few instances where additional time is allowed by the individual TS for both redundant required features being inoperable, then an immediate plant shutdown would not be required. The allowed out of service time for loss of individual safety functions has been previously analyzed for HNP TS and NUREG -1431, Revision 1.

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10 CFR 50.92 EVALUATION

The Commission has provided standards in 10 CFR 50.92(c) for determining whether a significant hazards consideration exists. A proposed amendment to an operating license for a facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated, (2) create the possibility of a new or different kind of accident from any accident previously evaluated, or (3) involve a significant reduction in a margin of safety. Carolina Power & Light Company has reviewed this proposed license amendment request and determined that its adoption would not involve a significant hazards determination. The bases for this determination are as follows:

Proposed Change

TS 3.8.1.1.a.3, 3.8.1.1.b.4, and 3.8.1.1.d.2 presently require a plant shutdown and declaring the redundant required feature inoperable, when the required feature powered from the operable A.C. source is inoperable. The proposed change clarifies the intent of this TS to permit the applicable redundant required feature TS to direct a plant shutdown when required. The proposed amendment changes the existing TS 3.8.1.1.a.3, 3.8.1.1.b.4, and 3.8.1.1.d.2 to eliminate the separate requirement for plant shutdown and instead allows the applicable required redundant feature TS to direct the plant shutdown when required.

Basis

This change does not involve a significant hazards consideration for the following reasons:

1. The proposed amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated.

The proposed amendment will not introduce any new equipment or require existing equipment to function different from that previously evaluated in the Final Safety Analysis Report (FSAR) or TS. The changes are consistent with NUREG-1431 and the Commission's Final Policy Statement on Technical Specification improvements.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed amendment will not introduce any new equipment or require existing equipment to function different from that previously evaluated in the Final Safety Analysis Report (FSAR) or TS. The changes are consistent with NUREG-1431 and the Commission's Final Policy Statement on Technical Specification improvements. The proposed amendment will not create any new accident scenarios, because the change does not introduce any new single failures, adverse equipment or material interactions, or release paths.

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

3. The proposed amendment does not involve a significant reduction in the margin of safety.

Margin of safety for acceptable TS action times have been determined for each TS related system. The proposed change will not alter individual system TS action times. HNP proposes to change the requirement to shutdown after expiration of the completion time of an inoperable A. C. source concurrent with an inoperable required feature. Instead of requiring a shutdown, the required feature on the inoperable A.C. source will be declared inoperable and the individual TS will be implemented.

In most cases with both redundant features inoperable, a plant shutdown will be required by TS 3.0.3. In the few instances where additional time is allowed by the individual TS for both redundant required features being inoperable, then an immediate plant shutdown would not be required. The allowed out of service time for loss of individual safety functions has been previously analyzed for HNP TS and NUREG -1431, Revision 1.

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

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ENVIRONMENTAL CONSIDERATIONS

10 CFR 51.22(c)(9) provides criterion for and identification of licensing and regulatory actions eligible for categorical exclusion from performing an environmental assessment. A proposed amendment to an operating license for a facility requires no environmental assessment if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant hazards consideration; (2) result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite; (3) result in a significant increase in individual or cumulative occupational radiation exposure. Carolina Power & Light Company has reviewed this request and determined that the proposed amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of the amendment. The basis for this determination follows:

Proposed Change

TS 3.8.1.1.a.3, 3.8.1.1.b.4, and 3.8.1.1.d.2 presently require a plant shutdown and declaring the redundant required feature inoperable, when the required feature powered from the operable A.C. source is inoperable. The proposed change clarifies the intent of this TS to permit the applicable redundant required feature TS to direct a plant shutdown when required. The proposed amendment changes the existing TS 3.8.1.1.a.3, 3.8.1.1.b.4, and 3.8.1.1.d.2 to eliminate the separate requirement for plant shutdown and instead allows the applicable required redundant feature TS to direct the plant shutdown when required.

Basis

The change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) for the following reasons:

1. As demonstrated in Enclosure 2, the proposed amendment does not involve a significant hazards consideration.
2. The proposed amendment does not result in a significant change in the types or increase in the amounts of any effluents that may be released offsite.

The proposed change does not involve any new equipment or require existing systems to perform a different type of function than they are currently designed to perform. The change does not introduce any new effluents or increase the quantities of existing effluents. As such, the change cannot affect the types or amounts of any effluents that may be released offsite.

3. The proposed amendment does not result in a significant increase in individual or cumulative occupational radiation exposure.

The proposed change does not result in any physical plant changes or new surveillance which would require additional personnel entry into radiation controlled areas. Therefore, the amendment has no affect on either individual or cumulative occupational radiation exposure.

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LIMITING CONDITION FOR OPERATION

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

- a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system, and
- b. Two separate and independent diesel generators, each with:
 1. A separate day tank containing a minimum of 1457 gallons of fuel, which is equivalent to a minimum indicated level of 40%**,
 2. A separate main fuel oil storage tank containing a minimum of 100,000 gallons of fuel, and
 3. A separate fuel oil transfer pump.
- c. Automatic Load Sequencers for Train A and Train B.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- a. With one offsite circuit of 3.8.1.1.a inoperable:
 1. Perform Surveillance Requirement 4.8.1.1.1.a within 1 hour and once per 8 hours thereafter; and
 2. Restore the offsite circuit to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; and
 3. Verify required feature(s) powered from the OPERABLE offsite A.C. source are OPERABLE. If required feature(s) powered from the OPERABLE offsite circuit are discovered to be inoperable at any time while in this condition, restore the required feature(s) to OPERABLE status within 24 hours from discovery of inoperable required feature(s) or declare the redundant required feature(s) powered from the inoperable A.C. source as inoperable, and be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours or within the ACTION time of applicable ACTION statement(s) for the inoperable required feature(s), whichever is more limiting.

**Minimum indicated level with a fuel oil specific gravity of 0.83 and the level instrumentation calibrated to a reference specific gravity of 0.876.

ELECTRICAL POWER SYSTEMS

A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

ACTION (Continued):

b. With one diesel generator of 3.8.1.1.b inoperable:

1. Perform Surveillance Requirement 4.8.1.1.1.a within 1 hour and once per 8 hours thereafter; and
- *2. Within 24 hours, determine the OPERABLE diesel generator is not inoperable due to a common cause failure or perform Surveillance Requirement 4.8.1.1.2.a.4#; and
3. Restore the diesel generator to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; and
4. Verify required feature(s) powered from the OPERABLE diesel generator are OPERABLE. If required feature(s) powered from the OPERABLE diesel generator are discovered to be inoperable at any time while in this condition, restore the required feature(s) to OPERABLE status within 4 hours from discovery of inoperable required feature(s) or declare the redundant required feature(s) powered from the inoperable A.C. source as inoperable, and be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours or within the ACTION time of applicable ACTION statement(s) for the inoperable required feature(s), whichever is more limiting.

c. With one offsite circuit and one diesel generator of 3.8.1.1 inoperable:

NOTE: Enter applicable Condition(s) and Required Action(s) of LCO 3/4.8.3, ONSITE POWER DISTRIBUTION - OPERATING, when this condition is entered with no A.C. power to one train.

1. Restore one of the inoperable A.C. sources to OPERABLE status within 12 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
2. Following restoration of one A.C. source (offsite circuit or diesel generator), restore the remaining inoperable A.C. source to OPERABLE status pursuant to requirements of either ACTION a or b, based on the time of initial loss of the remaining A.C. source.

*This ACTION is required to be completed regardless of when the inoperable EDG is restored to OPERABILITY.

#Activities that normally support testing pursuant to 4.8.1.1.2.a.4, which would render the diesel inoperable (e.g., air roll), shall not be performed for testing required by this ACTION statement.

ELECTRICAL POWER SYSTEMS

A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

ACTION (Continued):

- d. With two of the required offsite A.C. sources inoperable:
1. Restore one offsite circuit to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; and
 2. Verify required feature(s) are OPERABLE. If required feature(s) are discovered to be inoperable at any time while in this condition, restore the required feature(s) to OPERABLE status within 12 hours from discovery of inoperable required feature(s) or declare the redundant required feature(s) inoperable and be in ~~at least HOT STANDBY within the next 6 hours and COLD SHUTDOWN within the following 30 hours or within the ACTION time of applicable ACTION statement(s) for the inoperable required feature(s), whichever is more limiting.~~
 3. Following restoration of one offsite A.C. source, restore the remaining offsite A.C. source in accordance with the provisions of ACTION a with the time requirement of that ACTION based on the time of initial loss of the remaining inoperable A.C. source.
- e. With two of the required diesel generators inoperable:
1. Perform Surveillance Requirement 4.8.1.1.1.a within 1 hour and once per 8 hours thereafter; and
 - #2. Restore one of the diesel generators to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
 3. Following restoration of one diesel generator, restore the remaining diesel generator in accordance with the provisions of ACTION b with the time requirement of that ACTION based on the time of initial loss of the remaining inoperable diesel generator.
- f. With three or more of the required A.C. sources inoperable:
1. Immediately enter Technical Specification 3.0.3.
 2. Following restoration of one or more A.C. sources, restore the remaining inoperable A.C. sources in accordance with the provisions of ACTION a,b,c,d and/or e as applicable with the time requirement of that ACTION based on the time of initial loss of the remaining inoperable A.C. sources.
- g. With contiguous events of either an offsite or onsite A.C. source becoming inoperable and resulting in failure to meet the LCO:
1. Within 6 days, restore all A.C. sources required by 3.8.1.1 or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#Activities that normally support testing pursuant to 4.8.1.1.2.a.4, which would render the diesel inoperable (e.g., air roll), shall not be performed for testing required by this ACTION statement.

BASES

3/4.8.1, 3/4.8.2, AND 3/4.8.3 A.C. SOURCES, D.C. SOURCES, AND ONSITE POWER DISTRIBUTION

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

The switchyard is designed using a breaker-and-a-half scheme. The switchyard currently has seven connections with the CP&L transmission network; each of these transmission lines is physically independent. The switchyard has one connection with each of the two Startup Auxiliary Transformers and each SAT can be fed directly from an associated offsite transmission line. The Startup Auxiliary Transformers are the preferred power source for the Class 1E ESF buses. The minimum alignment of offsite power sources will be maintained such that at least two physically independent offsite circuits are available. The two physically independent circuits may consist of any two of the incoming transmission lines to the SATs (either through the switchyard or directly) and into the Class 1E system. As long as there are at least two transmission lines in service and two circuits through the SATs to the Class 1E buses, the LCO is met.

During MODES 5 and 6, the Class 1E buses can be energized from the offsite transmission network via a combination of the main transformers, and unit auxiliary transformers. This arrangement may be used to satisfy the requirement of one physically independent circuit.

The ACTION requirements specified for the levels of degradation of the power sources provide restriction upon continued facility operation commensurate with the level of degradation. The OPERABILITY of the power sources are consistent with the initial condition assumptions of the safety analyses and are based upon maintaining at least one redundant set of onsite A.C. and D.C. power sources and associated distribution systems OPERABLE during accident conditions coincident with an assumed loss-of-offsite power and single failure of the other onsite A.C. source. The A.C. and D.C. source allowable out-of-service times are based on Regulatory Guide 1.93, "Availability of Electrical Power Sources," December 1974. There are additional ACTION requirements to verify that all required feature(s) that depend on the remaining OPERABLE A.C. sources as a source of emergency power, are also OPERABLE. These requirements allow a period of time to restore any required feature discovered to be inoperable, e.g. out-of-service for maintenance, to an OPERABLE status. If the required feature(s) cannot be restored to an OPERABLE status, the ACTION statement requires the redundant required feature, i.e. feature receiving power from an inoperable A.C. source, to be declared inoperable, and a controlled plant shutdown performed. The allowed operating times to restore an inoperable required feature to an OPERABLE status is based on the requirements in NUREG 1431. The term "verify", as used in these ACTION statements means to administratively check by examining logs or other information to determine the OPERABILITY of required feature(s). It does not mean to perform the Surveillance Requirement needed to demonstrate the OPERABILITY of the required feature(s).

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

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

- a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system, and.
- b. Two separate and independent diesel generators, each with:
 1. A separate day tank containing a minimum of 1457 gallons of fuel, which is equivalent to a minimum indicated level of 40%**.
 2. A separate main fuel oil storage tank containing a minimum of 100,000 gallons of fuel, and
 3. A separate fuel oil transfer pump.
- c. Automatic Load Sequencers for Train A and Train B.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

- a. With one offsite circuit of 3.8.1.1.a inoperable:
 1. Perform Surveillance Requirement 4.8.1.1.1.a within 1 hour and once per 8 hours thereafter; and
 2. Restore the offsite circuit to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; and
 3. Verify required feature(s) powered from the OPERABLE offsite A.C. source are OPERABLE. If required feature(s) powered from the OPERABLE offsite circuit are discovered to be inoperable at any time while in this condition, restore the required feature(s) to OPERABLE status within 24 hours from discovery of inoperable required feature(s) or declare the redundant required feature(s) powered from the inoperable A.C. source as inoperable.

**Minimum indicated level with a fuel oil specific gravity of 0.83 and the level instrumentation calibrated to a reference specific gravity of 0.876.



ELECTRICAL POWER SYSTEMS

A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

ACTION (Continued):

b. With one diesel generator of 3.8.1.1.b inoperable:

1. Perform Surveillance Requirement 4.8.1.1.1.a within 1 hour and once per 8 hours thereafter; and
- *2. Within 24 hours, determine the OPERABLE diesel generator is not inoperable due to a common cause failure or perform Surveillance Requirement 4.8.1.1.2.a.4#; and
3. Restore the diesel generator to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; and
4. Verify required feature(s) powered from the OPERABLE diesel generator are OPERABLE. If required feature(s) powered from the OPERABLE diesel generator are discovered to be inoperable at any time while in this condition, restore the required feature(s) to OPERABLE status within 4 hours from discovery of inoperable required feature(s) or declare the redundant required feature(s) powered from the inoperable A.C. source as inoperable.

c. With one offsite circuit and one diesel generator of 3.8.1.1 inoperable:

NOTE: Enter applicable Condition(s) and Required Action(s) of LCO 3/4.8.3, ONSITE POWER DISTRIBUTION - OPERATING, when this condition is entered with no A.C. power to one train.

1. Restore one of the inoperable A.C. sources to OPERABLE status within 12 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
2. Following restoration of one A.C. source (offsite circuit or diesel generator), restore the remaining inoperable A.C. source to OPERABLE status pursuant to requirements of either ACTION a or b, based on the time of initial loss of the remaining A.C. source.

*This ACTION is required to be completed regardless of when the inoperable EDG is restored to OPERABILITY.

#Activities that normally support testing pursuant to 4.8.1.1.2.a.4, which would render the diesel inoperable (e.g., air roll), shall not be performed for testing required by this ACTION statement.



ELECTRICAL POWER SYSTEMS

A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

ACTION (Continued):

- d. With two of the required offsite A.C. sources inoperable:
1. Restore one offsite circuit to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours; and
 2. Verify required feature(s) are OPERABLE. If required feature(s) are discovered to be inoperable at any time while in this condition, restore the required feature(s) to OPERABLE status within 12 hours from discovery of inoperable required feature(s) or declare the redundant required feature(s) inoperable.
 3. Following restoration of one offsite A.C. source, restore the remaining offsite A.C. source in accordance with the provisions of ACTION a with the time requirement of that ACTION based on the time of initial loss of the remaining inoperable A.C. source.
- e. With two of the required diesel generators inoperable:
1. Perform Surveillance Requirement 4.8.1.1.1.a within 1 hour and once per 8 hours thereafter; and
 - #2. Restore one of the diesel generators to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
 3. Following restoration of one diesel generator, restore the remaining diesel generator in accordance with the provisions of ACTION b with the time requirement of that ACTION based on the time of initial loss of the remaining inoperable diesel generator.
- f. With three or more of the required A.C. sources inoperable:
1. Immediately enter Technical Specification 3.0.3.
 2. Following restoration of one or more A.C. sources, restore the remaining inoperable A.C. sources in accordance with the provisions of ACTION a, b, c, d and/or e as applicable with the time requirement of that ACTION based on the time of initial loss of the remaining inoperable A.C. sources.
- g. With contiguous events of either an offsite or onsite A.C. source becoming inoperable and resulting in failure to meet the LCO:
1. Within 6 days, restore all A.C. sources required by 3.8.1.1 or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

#Activities that normally support testing pursuant to 4.8.1.1.2.a.4, which would render the diesel inoperable (e.g., air roll), shall not be performed for testing required by this ACTION statement.



3/4.8 ELECTRICAL POWER SYSTEMS

BASES

3/4.8.1, 3/4.8.2, AND 3/4.8.3 A.C. SOURCES, D.C. SOURCES, AND ONSITE POWER DISTRIBUTION

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

The switchyard is designed using a breaker-and-a-half scheme. The switchyard currently has seven connections with the CP&L transmission network; each of these transmission lines is physically independent. The switchyard has one connection with each of the two Startup Auxiliary Transformers and each SAT can be fed directly from an associated offsite transmission line. The Startup Auxiliary Transformers are the preferred power source for the Class 1E ESF buses. The minimum alignment of offsite power sources will be maintained such that at least two physically independent offsite circuits are available. The two physically independent circuits may consist of any two of the incoming transmission lines to the SATs (either through the switchyard or directly) and into the Class 1E system. As long as there are at least two transmission lines in service and two circuits through the SATs to the Class 1E buses, the LCO is met.

During MODES 5 and 6, the Class 1E buses can be energized from the offsite transmission net work via a combination of the main transformers, and unit auxiliary transformers. This arrangement may be used to satisfy the requirement of one physically independent circuit.

The ACTION requirements specified for the levels of degradation of the power sources provide restriction upon continued facility operation commensurate with the level of degradation. The OPERABILITY of the power sources are consistent with the initial condition assumptions of the safety analyses and are based upon maintaining at least one redundant set of onsite A.C. and D.C. power sources and associated distribution systems OPERABLE during accident conditions coincident with an assumed loss-of-offsite power and single failure of the other onsite A.C. source. The A.C. and D.C. source allowable out-of-service times are based on Regulatory Guide 1.93, "Availability of Electrical Power Sources," December 1974. There are additional ACTION requirements to verify that all required feature(s) that depend on the remaining OPERABLE A.C. sources as a source of emergency power, are also OPERABLE. These requirements allow a period of time to restore any required feature discovered to be inoperable, e.g. out-of-service for maintenance, to an OPERABLE status. If the required feature(s) cannot be restored to an OPERABLE status, the ACTION statement requires the redundant required feature, i.e. feature receiving power from an inoperable A.C. source, to be declared inoperable. The allowed operating times to restore an inoperable required feature to an OPERABLE status is based on the requirements in NUREG 1431. The term "verify", as used in these ACTION statements means to administratively check by examining logs or other information to determine the OPERABILITY of required feature(s). It does not mean to perform the Surveillance Requirement needed to demonstrate the OPERABILITY of the required feature(s).

