



South Texas Project Electric Generating Station P.O. Box 289 Wadsworth, Texas 77483

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U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
One White Flint North  
11555 Rockville Pike  
Rockville, MD 20852

South Texas Project  
Units 1 and 2  
Docket Nos. STN 50-498, STN 50-499  
Technical Specification Bases Changes

Revised South Texas Project Technical Specification Bases pages are attached for your information and updating of the NRC copy of the Technical Specification Bases. These changes are enhancements to the following Technical Specification Bases pages:

- B 3/4 3-1 and B 3/4 3-2b, incorporates information regarding the relaxation of the Reactor Trip System and Engineered Safety Features Actuation System allowed outage times
- B 3/4 5-3, deletes two references to spray additive tanks
- B 3/4 6-2, consolidates the requirements for ensuring containment integrity by reference to the current regulatory requirements
- B 3/4 6-4, corrects a typographical error
- B 3/4 7-3a, B 3/4 7-3b, B 3/4 7-6, and B 3/4 8-4a, clarifies of the relationship between extended allowed outage times and the design basis of the plant for SDG, ECW, and EChW
- B 3/4 8-14, deletes information that does not provide the basis for SR 4.8.1.1.2.g and which is more appropriately addressed in Technical Specification Bases section 3.8.1.3 and 3.8.3.2

If there are any questions regarding these changes, please contact me at (361) 972-7136.

Scott M. Head

Manager, Licensing

mkj

Attachment: Revised Technical Specification Bases Pages

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cc:  
(paper copy)

Ellis W. Merschoff  
Regional Administrator, Region IV  
U.S. Nuclear Regulatory Commission  
611 Ryan Plaza Drive, Suite 400  
Arlington, Texas 76011-8064

U. S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
One White Flint North  
11555 Rockville Pike  
Rockville, MD 20852

Richard A. Ratliff  
Bureau of Radiation Control  
Texas Department of Health  
1100 West 49th Street  
Austin, TX 78756-3189

Cornelius F. O'Keefe  
U. S. Nuclear Regulatory Commission  
P. O. Box 289, Mail Code: MN116  
Wadsworth, TX 77483

C. M. Canady  
City of Austin  
Electric Utility Department  
721 Barton Springs Road  
Austin, TX 78704

(electronic copy)

A. H. Gutterman, Esquire  
Morgan, Lewis & Bockius LLP

M. T. Hardt/W. C. Gunst  
City Public Service

Mohan C. Thadani  
U. S. Nuclear Regulatory Commission

R. L. Balcom  
Reliant Energy, Inc.

A. Ramirez  
City of Austin

C. A. Johnson  
AEP - Central Power and Light Company

Jon C. Wood  
Matthews & Branscomb

**ATTACHMENT**  
**REVISED BASES PAGES**

### 3/4.3 INSTRUMENTATION

#### BASES

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#### 3/4.3.1 and 3/4.3.2 REACTOR TRIP SYSTEM and ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

The OPERABILITY of the Reactor Trip System and the Engineered Safety Features Actuation System instrumentation and interlocks ensures that: (1) the associated ACTION and/or Reactor trip will be initiated when the parameter monitored by each channel or combination thereof reaches its Setpoint, (2) the specified coincidence logic is maintained, (3) sufficient redundancy is maintained to permit a channel to be out-of-service for testing or maintenance, and (4) sufficient system functional capability is available from diverse parameters.

The OPERABILITY of these systems is required to provide the overall reliability, redundancy, and diversity assumed available in the facility design for the protection and mitigation of accident and transient conditions. The integrated operation of each of these systems is consistent with the assumptions used in the safety analyses. The Surveillance Requirements specified for these systems ensure that the overall system functional capability is maintained comparable to the original design standards. The periodic surveillance tests performed at the minimum frequencies are sufficient to demonstrate this capability. Specified surveillance intervals and surveillance and maintenance outage times have been determined in accordance with WCAP-10271, "Evaluation of Surveillance Frequencies and Out of Service Times for the Reactor Protection Instrumentation System," supplements to that report, WCAP-14333-P-A, Rev. 1, "Probabilistic Risk Analysis of the RPS and ESFAS Test Times and Completion Times," and the South Texas Project probabilistic safety assessment (PSA). Surveillance intervals and out of service times were determined based on maintaining an appropriate level of reliability of the Reactor Protection System instrumentation.

ACTION 4 of Table 3.3-1 is modified to indicate that normal plant control operations that individually add limited positive reactivity (e.g., temperature or boron fluctuations associated with RCS inventory management or temperature control) are not precluded by this Action, provided they are accounted for in the calculated SHUTDOWN MARGIN required by Technical Specifications. Introduction of coolant inventory must be from sources that have a boron concentration greater than what would be required in the RCS for minimum SHUTDOWN MARGIN. This may result in an overall reduction in RCS boron concentration, but provides acceptable margin to maintaining subcritical operation. Introduction of temperature changes must also be evaluated to ensure they do not result in a loss of SHUTDOWN MARGIN. Control rod withdrawal is not allowed.

ACTION 5 of Table 3.3-1 for the Extended Range Neutron Flux Instrumentation is similar to ACTION 4 for the Source Range Instrumentation. The Action indicates that normal plant control operations that individually add limited positive reactivity (e.g., temperature or boron fluctuations associated with RCS inventory management or temperature control) are not precluded by this Action, provided they are accounted for in the calculated SHUTDOWN MARGIN required by Technical Specifications. Introduction of coolant inventory must be from sources that have a boron concentration greater than that required in the RCS for minimum SHUTDOWN MARGIN or refueling boron concentration. This may result in an overall reduction in RCS boron concentration, but provides acceptable margin to maintaining subcritical operation. Introduction of temperature changes including temperature increases when operating with a positive Moderator Temperature Coefficient must also be evaluated to ensure they do not result in a loss of SHUTDOWN MARGIN. Control Rod withdrawal is not allowed.

## INSTRUMENTATION

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#### REACTOR TRIP SYSTEM and ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION (Continued)

When control rods are at the top or above the active fuel region ( $\geq$  step 259), they are no longer capable of adding positive reactivity to the core, and as such, they are not capable of rod withdrawal as intended by MODE 5\*. Therefore, ACTION 10 on Table 3.3-1 is not applicable in this region. This allows the Reactor Trip Breakers to be closed, without meeting the requirements of MODE 5\*, while unlocking and stepping the control rods to a position no lower than 259. (CR 97-908-17)

Several ACTIONS in Tables 3.3-1 and 3.3-3 have been revised to change the allowed outage times and bypass test times in accordance with WCAP-10271 and WCAP-14333. Additionally, some ACTIONS have been divided such that only certain requirements apply depending on whether the Functional Units have been modified with installed bypass test capability.

Regardless of whether the Functional Units have installed bypass test capability, it should be noted that in certain situations, the ACTIONS permit continued operation (for limited periods of time) with less than the minimum number of channels specified in Tables 3.3-1 and 3.3-3. For example, Table 3.3-1 Functional Unit 11 (Pressurizer Pressure - High) requires a minimum of 3 channels operable. However, since continued operation with an inoperable channel is permitted beyond 72 hours, provided the inoperable channel is placed in trip, and since periodic surveillance testing of the other channels must continue to be performed, ACTION 6 permits a channel to be placed in bypass for up to 12 hours to permit testing. Thus, for a limited period of time (12 hours), 2 channels, or one less than the minimum, would be permitted to be inoperable.

ACTION 27 for an inoperable channel of control room ventilation requires the associated train of control room ventilation to be declared inoperable and the appropriate action take in accordance with Specification 3.7.7. Each control room ventilation system (train) is actuated by its own instrumentation channel. Consequently an inoperable channel of ventilation actuation instrumentation renders that system/train of ventilation inoperable and Specification 3.7.7 prescribes the appropriate action.

With less than the minimum channels of Control Room Intake Air Radioactivity - High, ACTION 28 of Table 3.3-3 requires the Control Room Makeup and Cleanup Filtration System to be operated at 100% capacity in the recirculation and filtration mode. Any two of the three 50% Control Room Makeup and Cleanup Filtration System trains meet the 100% capacity requirement.

## EMERGENCY CORE COOLING SYSTEMS

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#### 3/4.5.2 and 3/4.5.3 ECCS SUBSYSTEMS (Continued)

The Surveillance Requirements provided to ensure OPERABILITY of each component ensure that, at a minimum, the assumptions used in the safety analyses are met and that subsystem OPERABILITY is maintained. Surveillance Requirements for flow testing provide assurance that proper ECCS flows will be maintained in the event of a LOCA.

#### 3/4.5.4 (This specification number is not used)

#### 3/4.5.5 REFUELING WATER STORAGE TANK

The OPERABILITY of the refueling water storage tank (RWST) as part of the ECCS ensures that a sufficient supply of borated water is available for injection by the ECCS in the event of a LOCA or a steamline break. The limits on RWST minimum volume and boron concentration ensure that: (1) sufficient water is available within containment to permit recirculation cooling flow to the core, (2) the reactor will remain subcritical in the cold condition (68°F to 212°F) following a small break LOCA assuming complete mixing of the RWST, RCS, Containment Spray System and ECCS water volumes with all control rods inserted except the most reactive control rod assembly (ARI-1), (3) the reactor will remain subcritical in cold condition following a large break LOCA (break flow area > 3.0 ft<sup>2</sup>) assuming complete mixing of the RWST, RCS, Containment Spray System and ECCS water volumes and other sources of water that may eventually reside in the sump post-LOCA with all control rods assumed to be out (ARO), and (4) long term subcriticality following a steamline break assuming ARI-1 and preclude fuel failure.

The maximum allowable value for the RWST boron concentration forms the basis for determining the time (post-LOCA) at which operator action is required to switch over the ECCS to hot leg recirculation in order to avoid precipitation of the soluble boron.

The contained water volume limit includes an allowance for water not usable because of tank discharge line location or other physical characteristics.

The limits on contained water volume and boron concentration of the RWST also ensure a pH value of between 7.5 and 10.0 for the solution recirculated within containment after a LOCA. This pH band minimizes the evolution of iodine and minimizes the effect of chloride and caustic stress corrosion on mechanical systems and components.

#### 3/4.5.6 RESIDUAL HEAT REMOVAL (RHR) SYSTEM

The OPERABILITY of the RHR system ensures adequate heat removal capabilities for Long-Term Core Cooling in the event of a small-break loss-of-coolant accident (LOCA), an isolatable LOCA, or a secondary break in MODES 1, 2, and 3. The limits on the OPERABILITY of the RHR system ensure that at least one RHR loop is available for cooling including single active failure criteria.

## CONTAINMENT SYSTEMS

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#### 3/4.6.1.5 AIR TEMPERATURE

The limitations on containment average air temperature ensure that the overall containment average air temperature does not exceed the initial temperature condition assumed in the safety analysis for a LOCA or steam line break accident. Measurements shall be made by fixed instruments, prior to determining the average air temperature.

#### 3/4.6.1.6 CONTAINMENT STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to ensure that the containment will withstand the maximum pressure of 41.2 psig ( $P_a$ ) in the event of a LOCA or steam line break accident. The measurement of containment tendon lift-off force, the tensile tests of the tendon wires, the visual examination of tendons, anchorages and exposed interior and exterior surfaces of the containment, and the Type A leakage test are sufficient to demonstrate this capability.

The Surveillance Requirements for demonstrating the containment's structural integrity are in compliance with 10CFR50.55a(b)(2)(vi) and 10CFR50.55a(b)(2)(viii), and the recommendations of proposed Regulatory Guide 1.35.1, "Determining Prestressing Forces for Inspection of Prestressed Concrete Containments," April 1979.

#### 3/4.6.1.7 CONTAINMENT VENTILATION SYSTEM

The 48-inch containment purge supply and exhaust isolation valves are required to be sealed closed during plant operations since these valves have not been demonstrated capable of closing during a LOCA or steam line break accident. Maintaining these valves sealed closed during plant operation ensures that excessive quantities of radioactive materials will not be released via the Containment Purge System. To provide assurance that these containment valves cannot be inadvertently opened, the valves are sealed closed in accordance with Standard Review Plan 6.2.4 which includes mechanical devices to seal or lock the valve closed, or prevents power from being supplied to the valve operator.

The use of the containment purge lines is restricted to the 18-inch purge supply and exhaust isolation valves since, unlike the 48-inch valves, the 18-inch valves are capable of closing during a LOCA or steam-line break accident. There-

## CONTAINMENT SYSTEMS

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#### 3/4.6.2.3 CONTAINMENT COOLING SYSTEM (continued)

STPEGS has three groups of Reactor Containment Fan Coolers (RCFCs) with two fans in each group (total of six fans). Five fans are adequate to satisfy the safety requirements including single failure. If only one RCFC, out of six available, is inoperable, then there are no restrictions applied on the diesel generators by the RCFC condition and Action statement 3.8.1.1(d) (1) can be met. The fan cooler units are designed to remove heat from the containment during both normal operation and accident conditions. In the event of an accident, all fan cooler units are automatically placed into operation on receipt of a safety injection signal. During normal operation, cooling water flow to the fan cooler units is supplied by the non-safety grade chilled water system. Following an accident, cooling water flow to the fan coolers is supplied by the safety grade component cooling water system. The chilled water system supplies water at a lower temperature than that of the component cooling water system and therefore requires a lower flow rate to achieve a similar heat removal rate.

#### 3/4.6.3 CONTAINMENT ISOLATION VALVES

The OPERABILITY of the containment isolation valves ensures that the containment atmosphere will be isolated from the outside environment in the event of a release of radioactive material to the containment atmosphere or pressurization of the containment and is consistent with the requirements of General Design Criteria 54 through 57 of Appendix A to 10 CFR Part 50. Containment isolation within the time limits specified for those isolation valves designed to close automatically ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for a LOCA.

In the event one containment isolation valve in one or more penetrations is inoperable, and the inoperable valve(s) cannot be restored to OPERABLE status within 24 hours, the affected penetration(s) 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 deactivated automatic isolation valve, a closed manual valve, a blind flange, or a check valve with flow through the valve secured (a check valve may not be used to isolate an affected penetration flow path in which more than one isolation valve is inoperable or in which the isolation barrier is a closed system with a single isolation valve). For a penetration flow path isolated in accordance with Action b or c, the device used to isolate the penetration should be the closest available one to containment and does not have to be a General Design Criterion containment isolation valve.

In cases where multiple isolation valves use the same pipe going through the penetration and with one or more isolation valves inoperable, as long as the inoperable valve(s) is deactivated/manually isolated in its isolation position and the interconnecting isolation valves are operable, the appropriate Action statement is met. In these cases, the Action statement "Isolate each affected penetration..." means "Isolate each affected penetration flow path". (CR 97-908-1)

#### 3/4.6.4 COMBUSTIBLE GAS CONTROL

The OPERABILITY of the equipment and systems required for the detection and control of hydrogen gas ensures that this equipment will be available to maintain the hydrogen concentration within containment below its flammable limit during post-LOCA conditions. Either recombiner unit is capable of controlling the expected hydrogen generation associated with: (1) zirconium-water reactions, (2) radiolytic decomposition of water, and (3) corrosion of metals within containment. These Hydrogen Control Systems are consistent with the recommendations of Regulatory Guide 1.7, "Control of Combustible Gas Concentrations in Containment Following a LOCA," Revision 2, November 1978.

## PLANT SYSTEMS

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#### 3/4.7.4 ESSENTIAL COOLING WATER SYSTEM

The OPERABILITY of the Essential Cooling Water (ECW) System ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during normal and accident conditions. The ECW self-cleaning strainer must be in service and functional in order for the respective ECW train to be OPERABLE. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the safety analyses.

When a risk-important system or component (for example ECW) is taken out of service, it is important to assure that the impact on plant risk of this and other equipment simultaneously taken out of service is assessed. The Configuration Risk Management Program evaluates the impact on plant risk of equipment out of service. A brief description of the Configuration Risk Management Program is in Section 6.8.3 (administration section) of the Technical Specifications.

The extended allowed outage time (EAOT) of 7 days for one inoperable ECW loop is based on establishing compensatory measures that are consistent with the Configuration Risk Management Program and are controlled by plant procedures to offset the risk impacts of entering the EAOT. Refer to the Bases for 3.8.1.1 Action b for further details.

#### SURVEILLANCE REQUIREMENTS

##### SR 4.7.4.a

Verifying the correct alignment for manual, power operated, and automatic valves in the ECW flow path provides assurance that the proper flow paths exist for ECW operation. This SR applies to valves that assure ECW flow to required safety related equipment (to CCW heat exchangers, Standby Diesel Generators, Essential Chillers, and CCW Pump Supplemental Coolers). This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since they are verified to be in the correct position prior to being locked, sealed, or secured. This SR does not require any testing or valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the correct position. This SR does not apply to valves that cannot be inadvertently misaligned, such as check valves.

The 31-day Frequency is based on engineering judgment, is consistent with the procedural controls governing valve operation, and ensures correct valve positions.

## PLANT SYSTEMS

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#### SURVEILLANCE REQUIREMENTS (cont.)

##### SR 4.7.4.b.1

This SR verifies proper automatic operation of the ECW valves on an actual or simulated actuation signal. The relevant signals for the surveillance are safety-injection and loss of offsite power. The ECW is a normally operating system that cannot be fully actuated as part of normal testing. This SR applies to valves that assure ECW flow to required safety related equipment (to CCW heat exchangers, Standby Diesel Generators, Essential Chillers, and CCW Pump Supplemental Coolers). This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The 18-month Frequency is based on the need to perform this Surveillance under the conditions that apply during a unit outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillance when performed at the 18-month Frequency. Therefore, the Frequency is acceptable from a reliability standpoint.

##### SR 4.7.4.b.2

This SR verifies proper automatic operation of the ECW pumps on an actual or simulated actuation signal. The relevant signals for the surveillance are safety-injection and loss of offsite power. The ECW system is a normally operating system that cannot be fully actuated as part of normal testing during normal operation. The 18-month Frequency is based on the need to perform this Surveillance under the conditions that apply during a unit outage and the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown that these components usually pass the Surveillance when performed at the 18-month Frequency. Therefore, the Frequency is acceptable from a reliability standpoint.

#### 3/4.7.5 ULTIMATE HEAT SINK

The limitations on the ultimate heat sink level and temperature ensure that sufficient cooling capacity is available either: (1) provide normal cooldown of the facility or (2) mitigate the effects of accident conditions within acceptable limits.

## PLANT SYSTEMS

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#### 3/4.7.10 SEALED SOURCE CONTAMINATION

The limitations on removable contamination for sources requiring leak testing, including alpha emitters, is based on 10 CFR 70.39(a) (3) limits for plutonium. This limitation will ensure that leakage from Byproduct, Source, and Special Nuclear Material sources will not exceed allowable intake values.

Sealed sources are classified into three groups according to their use, with Surveillance Requirements commensurate with the probability of damage to a source in that group. Those sources which are frequently handled are required to be tested more often than those which are not. Sealed sources which are continuously enclosed within a shielded mechanism (i.e., sealed sources within radiation monitoring or boron measuring devices) are considered to be stored and need not be tested unless they are removed from the shielded mechanism.

#### 3/4.7.11 (Not used)

#### 3/4.7.12 (Not used)

#### 3/4.7.13 (Not used)

#### 3/4.7.14 ESSENTIAL CHILLED WATER SYSTEM

The OPERABILITY of the Essential Chilled Water System ensures that sufficient cooling capacity is available for continued operation of safety-related equipment during normal and accident conditions. The redundant cooling capacity of this system, assuming a single failure, is consistent with the assumptions used in the safety analyses.

When a risk-important system or component (for example Essential Chilled Water) is taken out of service, it is important to assure that the impact on plant risk of this and other equipment simultaneously taken out of service is assessed. The Configuration Risk Management Program evaluates the impact on plant risk of equipment out of service. A brief description of the Configuration Risk Management Program is in Section 6.8.3 (administration section) of the Technical Specifications.

The extended allowed outage time (EAOT) of 7 days for one inoperable Essential Chilled Water System loop is based on establishing compensatory measures that are consistent with the Configuration Risk Management Program and are controlled by plant procedures to offset the risk impacts of entering the EAOT. Refer to the Bases for 3.8.1.1. Action b for further details.

## ELECTRICAL POWER SYSTEMS

### BASES

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#### A.C. SOURCES, D.C. SOURCES, and ONSITE POWER DISTRIBUTION (Continued)

required offsite circuit on a more frequent basis. However, if a second required circuits fails 4.8.1.1.1.a, the second offsite circuit is inoperable, and Action e, for two offsite circuits inoperable, is entered.

#### TS 3.8.1.1 Action b.

To ensure a highly reliable power source remains with one diesel generator inoperable, it is necessary to verify the OPERABILITY of the required offsite circuits on a more frequent basis. However, if a required circuit fails 4.8.1.1.1.a, the offsite circuit is inoperable, and Action c, for one offsite circuit and one diesel generator inoperable, is entered. Action b provides an allowance to avoid unnecessary testing of OPERABLE diesel generators. If it can be determined that the cause of the inoperable diesel generator does not exist on the OPERABLE diesel generators, and is an independently testable component or an inoperable support system, then surveillance requirement 4.8.1.1.2.a.2 does not have to be performed.

The extended allowed outage time (EAOT) of 14 days has a combination of deterministic and risk-informed bases justified by the redundancy of the plant design and the extremely low probability of an event that cannot be mitigated by one operable ESF train.

The risk-informed component requires application of the Configuration Risk Management Program (CRMP). The actions described in the procedure assure that the configuration of the plant is within acceptable risk criteria during the time the affected components are inoperable.

The deterministic component provides assurance that the plant retains a substantial capability to migrate design basis events with the reduced capability that results from postulating a design basis accident and a single failure while the plant is in the EAOT, or from postulating an accident (with no single failure) in the 24 hours allowed for inoperability of required equipment in one of the other trains. This evaluation shows that a single operable ESF train can mitigate (at a reduced capacity in certain cases) the design basis accidents except for a large break LOCA where the break is located in the RCS loop associated with the operating train of safety injection. Because postulation of these events is beyond the design basis of the plant, the deterministic analyses may apply less conservative acceptance criteria than those required of design basis analyses.

For planned SDG out-of-service times exceeding 72 hours, station procedures and application of the CRMP require that compensatory actions be implemented in accordance with the Probabilistic Safety Assessment modeling assumptions. In addition to meeting the offsite circuit requirements of Technical Specification 3.8.1.1, compensatory actions are to be implemented in accordance with the CRMP and plant procedures. These actions normally include the following:

- The 138 kV supply through the emergency transformer is functional and available
- The Technical Support Center emergency diesel generator is functional and available
- The positive displacement charging pump is functional and available
- Containment purges are minimized

## ELECTRICAL POWER SYSTEMS

### BASES

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#### A.C. SOURCES, D.C. SOURCES, and ONSITE POWER DISTRIBUTION (Continued)

- Maintenance in the switchyard that could directly cause a loss of offsite power is not allowed unless required to assure the continued reliability and availability of the offsite power
- Severe weather that could result in the extended loss of offsite power is not expected

Should one or more of these compensatory requirements not be met during the SDG out-of-service period, action will be taken in accordance with the CRMP to restore the function. If indicated by the risk assessment conducted in accordance with the program, other actions may be taken by station management to reduce risk by restoration of other components, rescheduling work that might increase the risk, or placing the unit in a more appropriate configuration.

If entry into the Action is unplanned (e.g., a failure of the SDG), station procedures require the implementation of the CRMP when the out-of-service time exceeds 72 hours. If one or more of the compensatory requirements is not functional at the end of the 72 hours, action will be taken in accordance with the CRMP to restore the function and to manage the risk.

#### TS 3.8.1.1 Action c.

To ensure a highly reliable power source remains with one offsite circuit and one diesel generator inoperable, it is necessary to verify the OPERABILITY of the remaining required offsite circuit on a more frequent basis. However, if a second required circuit fails 4.8.1.1.a, the second offsite circuit is inoperable and LCO 3.0.3 should be entered. Action c provides an allowance to avoid unnecessary testing of OPERABLE diesel generators. If it can be determined that the cause of the inoperable diesel generator does not exist on the OPERABLE diesel generators, and is an independently testable component or an inoperable support system, then surveillance requirement 4.8.1.1.2.a.2 does not have to be performed.

#### TS 3.8.1.1 Action d.

This action provides assurance that a loss of offsite power, during the period that a diesel generator is inoperable, does not result in a complete loss of safety function of critical systems. In this condition the remaining OPERABLE diesel generators and offsite circuits are adequate to supply electrical power to the onsite Class 1E Distribution System. Thus, on a component basis, single failure protection for the required feature's function may be lost; however, function has not been lost. Discovering one required diesel generator inoperable coincident with one or more inoperable required support or supported features, or both, that are associated with the operable diesel generator, results in starting the completion time for the required action. However, if only one Reactor Containment Fan Cooler, out of six available, is inoperable, then there are no restrictions applied on the diesel generators and Action statement 3.8.1.1(d) (1) can be met.

The 24-hour completion time is based on the capability of the operable equipment to mitigate all but the most severe design basis accidents as described above and the extremely low probability of the occurrence of a design basis accident. The 24-hour completion time also allows a deliberate planned response that may allow the inoperable equipment to be restored.

## ELECTRICAL POWER SYSTEMS

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#### A.C. SOURCES, D.C. SOURCES, and ONSITE POWER DISTRIBUTION (Continued)

The 10-year Frequency is consistent with the recommendations of Regulatory Guide 1.108, paragraph 2.b, and Regulatory Guide 1.137, paragraph C.2.f.

#### SR 4.8.1.1.2.g

This SR provided assurance that any accumulation of sediment over time or the normal wear on the system has not degraded the diesels.

The Surveillance Requirements for demonstrating the OPERABILITY of the diesel generators are in accordance with the recommendations of Regulatory Guides 1.9, "Selection of Diesel Generator Set Capacity for Standby Power Supplies," Revision 2, December 1979; 1.108, "Periodic Testing of Diesel Generator Units Used as Onsite Electric Power Systems at Nuclear Power Plants," Revision 1, August 1977; and ASTM D975-81, ASTM D1552-79, ASTM D262282, ASTM D4294-83, and ASTM D2276-78. The standby diesel generators auxiliary systems are designed to circulate warm oil and water through the diesel while the diesel is not running, to preclude cold ambient starts. For the purposes of surveillance testing, ambient conditions are considered to be the hot prelube condition.

#### 3.8.1.3

The OPERABILITY of the minimum AC sources during MODE 6 with  $\geq 23'$  of water in the cavity is based on the following conditions:

- a. The unit can be maintained in the shutdown or refueling condition for extended periods;
- b. Sufficient instrumentation and control capability is available for monitoring and maintaining the unit status; and