A.C. DISTRIBUTION SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.2.2 As a minimum, the following A.C. electrical busses shall be OPERABLE and energized:

1 - 4160-volt Emergency Bus, and

1 - 600-volt Emergency Bus, and

2 - *120-volt A.C. Vital Busses.

APPLICABILITY: MODES 5 and 6.

ACTION:

With less than the above complement of A.C. busses OPERABLE and energized.

a. Immediately suspend all operations involving CORE ALTERATIONS, movement of irradiated fuel assemblies, and positive reactivity changes except: 1) heatup or cooldown of the reactor coolant volume provided that SHUTDOWN MARGIN sufficient to accommodate the change in temperature is maintained in accordance with Specification 3.1.1.2 in MODE 5 or Specification 3.9.1 in MODE 6, and the heatup or cooldown rate is restricted to 50°F or less in any one-hour period in MODE 5, or 2) addition of water from the RWST, provided the boron concentration in the RWST is greater than or equal to the minimum required by Specification 3.1.2.7.b.2.

b. Immediately initiate actions to restore the required A.C. electrical busses to OPERABLE status.

c. Immediately declare associated required residual heat removal loop(s) inoperable.

SURVEILLANCE REQUIREMENTS

4.8.2.2 The specified A.C. busses shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and indicated power availability.

* Engergized from its associated inverter connected to a DC bus.

D.C. DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.2.4 As a minimum, the following D.C. electrical equipment and bus shall be energized and OPERABLE:

1 - 250-volt D.C. bus, and

1 - 250-volt battery bank and charger associated with the above D.C. bus.

APPLICABILITY: MODES 5 and 6.

ACTION:

With less than the above complement of D.C. equipment and bus OPERABLE.

a. Immediately suspend all operations involving CORE ALTERATIONS, movement of irradiated fuel assemblies, and positive reactivity changes except: 1) heatup or cooldown of the reactor coolant volume provided that SHUTDOWN MARGIN sufficient to accommodate the change in temperature is maintained in accordance with Specification 3.1.1.2 in MODE 5 or Specification 3.9.1 in MODE 6, and the heatup or cooldown rate is restricted to 50°F or less in any one-hour period in MODE 5, or 2) addition of water from the RWST, provided the boron concentration in the RWST is greater than or equal to the minimum required by Specification 3.1.2.7.b.2.

b. Immediately initiate actions to restore the required D.C. electrical equipment and bus to OPERABLE status.

c. Immediately declare associated required residual heat removal loop(s) inoperable.

SURVEILLANCE REQUIREMENTS

4.8.2.4.1 The above required 250-volt D.C. bus shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and indicated power availability.

4.8.2.4.2 The above required 250-volt battery bank and charger shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.3.2.

CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

3.9.4 The containment building penetrations shall be in the following status:

a. The equipment door closed and held in place by a minimum of four bolts,

b. The airlock doors are controlled in the following manner:

1. A minimum of one door in each airlock is closed, or

2. Both airlock doors may be open provided:

a. One door in each airlock is OPERABLE*,

b. Refueling cavity level is greater than 23 feet above the fuel, and

c. A designated individual is available at all times to close the airlock if required.

c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere shall be either:

1. Closed by an isolation valve, blind flange, manual valve, or equivalent, or

2. Be capable of being closed by an OPERABLE automatic Containment Purge and Exhaust isolation valve.

----------NOTE----------
Penetration flow path(s) providing direct access from the containment atmosphere to the outside atmosphere via the auxiliary building vent may be unisolated under administrative controls.

APPLICABILITY: During CORE ALTERATIONS or movement of irradiated fuel within the containment.

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving CORE ALTERATIONS or movement of irradiated fuel in the containment building. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.4 Each of the above required containment building penetrations shall be determined to be in its required status within 100 hours prior to the start of and at least once per 7 days during CORE ALTERATIONS or movement of irradiated fuel in the containment building by:

* For the purpose of this Specification, an OPERABLE airlock door is a door that is capable of being closed and secured. Cables or hoses transversing the airlock shall be designed to allow for removal in a timely manner (e.g., quick disconnects).

CONTAINMENT PENETRATIONS

SURVEILLANCE REQUIREMENTS (Continued)

a. Verifying the penetrations are in the required status, or

b. Testing the Containment Purge and Exhaust isolation valves per the applicable portions of Specification 4.6.3.1.2.

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 Criteria 17 of Appendix "A" to 10 CFR 50.

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 accident analyses and are based upon maintaining at least one of each of the 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.

Surveillance requirement 4.8.1.1.1.a ensures proper circuit continuity for the offsite A.C. power sources and the associated distribution system by verifying correct breaker alignment and indicated power availability. The 7-day frequency is adequate since information is available to the control room to alert operators, and the offsite transmission network has been analyzed to ensure adequacy with minimum predicted low voltage occurrences.

The OPERABILITY of the minimum specified A.C. and D.C. power sources and associated distribution systems during Modes 5 and 6 ensures that 1) the facility can be maintained in the shutdown or refueling condition for extended time periods and 2) sufficient instrumentation and control capability is available for monitoring and maintaining the facility status.

If the minimum specified A.C. and D.C. distribution systems and components are not OPERABLE, sufficiently conservative ACTIONS are specified (i.e., to suspend CORE ALTERATIONS, movement of irradiated fuel assemblies, and operations involving positive reactivity additions). Suspension of these activities does not preclude completion of actions to establish a safe conservative condition. These ACTIONS minimize the probability of the occurrence of postulated events. It is further required to immediately initiate action to restore the required A.C. and D.C. electrical power distribution subsystems and to continue this action until restoration is accomplished in order to provide the necessary power to the unit safety systems. Not withstanding performance of the above conservative ACTIONS, a required residual heat removal (RHR) subsystem may be inoperable. In this case, an ACTION is provided to direct declaring RHR inoperable, which results in taking the appropriate RHR actions. The specified completion time of "immediately" is consistent with the required times for actions requiring prompt attention. The restoration of the required distribution subsystems should be completed as quickly as possible in order to minimize the time the unit safety systems may be without power.

Specific surveillance requirements (SRs) of SR 4.8.1.2 may be delayed one time until just prior to the first entry into MODE 4 following the extended outage that commenced in 1997. The delay is permitted to recognize the significant ongoing maintenance to safety systems and components that would be required to be OPERABLE solely to support the referenced surveillances. The delay recognizes the reduced decay heat load and reduced fission product activities resulting from the extended shutdown and consequently the small benefit from performing the surveillances prior to the next entry into MODE 4. It is the intent that these SRs must still be capable of being met, but actual performance is not required until the required safety systems are ready to support entry into MODE 4.

The AB and CD station battery systems provide a reliable source of continuous power for supply and control of plant loads such as switchgear and annunciator control circuits, static inverters, valve control centers, emergency lighting and motor control centers. The design duty cycles of these batteries are composite load profiles resulting from the combination of the three hour Loss Of Coolant Accident/Loss Of Offsite Power battery load profiles and the four hour Station Blackout battery load profiles.

The train N station battery system provides an independent 250 volt DC power supply for power and control of the turbine driven auxiliary feedwater pump train. The limiting conditions of operation for the train N battery are consistent with the requirements of the auxiliary feedwater system. The surveillance requirements for the train N battery system are consistent with the requirements of the AB and CD station batteries. The train N battery loads are derived from equipment in the turbine driven auxiliary feedwater pump train and battery sizing is consistent with the functional requirements of these components. Simulated loads for battery tests are loads equivalent to measured actual loads.

Removal of accumulated water as required by 4.8.1.1.2.b.2 is performed by drawing the contents off the bottom of the tank until acceptable results are obtained for either a tape test or a water and sediment test. An acceptable result for the water and sediment content is a measured value less than 0.05 percent volume.

The "proper color" criterion of Surveillance Requirement 4.8.1.1.2.c.3 ensures the translucence of the fuel oil sample will allow observation of water or sediment when analyzed in accordance with ASTM D4176-82. Fuel oil is considered to have proper color if it measures less than or equal to five per ASTM D1500. The addition of visible dyes to fuel oil may interfere with the ASTM D1500 analysis.

The sample specified in 4.8.1.1.2.c.4 is sent offsite for testing. A serious attempt will be made to meet the 31-day limit on the offsite tests; however, if for some reason this limit is not met (e.g., if the sample is lost or broken or if the results are not received in 31 days), the diesel generators should not be considered inoperable. If the sample is lost, broken, or fails the offsite tests and the new oil has already been put into the storage tank, the offsite tests will be performed on a sample taken from the storage tank. If the results on the subsequent storage tank sample are not within specified limits, the diesel generators should be considered OPERABLE and the out-of-spec properties should be returned to within specification as soon as possible.

If the monthly storage tank sample taken in accordance with Specification 4.8.1.1.2.d fails the particulate contamination test, the diesel generators should be considered OPERABLE and the contamination level should be restored to below 10 mg/liter as soon as possible.

The precision leak-detection test described in Surveillance Requirement 4.8.1.1.2.f.2 should be performed as described in NFPA (National Fire Protection Association) -329. As NFPA-329 is revised, the precision leak-detection test may be modified to incorporate changes to the test as described in the revisions to NFPA-329.

The minimum required diesel fuel oil volume is 43,240 gallons. This volume is consistent with operation of one diesel generator continuously for 7 days at rated load, as recommended in Regulatory Guide 1.137, entitled "Fuel Oil System for Standby Diesel Generators." The Technical Specifications require a minimum of 46,000 gallons of fuel. The 46,000 gallons is an indicated volume. This amount includes margin for characteristics such as location of the tank discharge pipes and slope of the tanks.

3/4.9.1 BORON CONCENTRATION

The limitations on reactivity conditions during REFUELING ensure that: 1) the reactor will remain subcritical during CORE ALTERATIONS, and 2) a uniform boron concentration is maintained for reactivity control in the water volume having direct access to the reactor vessel. These limitations are consistent with the initial conditions assumed for the boron dilution incident in the accident analyses. The value of 0.95 or less for K_{eff} includes a 1 percent delta k/k conservative allowance for uncertainties. Similarly, the boron concentration value of 2000 ppm or greater includes a conservative uncertainty allowance of 50 ppm boron. The boron concentration requirement of specification 3.9.1.b has been conservatively increased to 2400 ppm to agree with the minimum concentration of the RWST.

3/4.9.2 INSTRUMENTATION

The OPERABILITY of the source range neutron flux monitors ensures that redundant monitoring capability is available to detect changes in the reactivity condition of the core.

3/4.9.3 DECAY TIME

The minimum requirement for reactor subcriticality prior to movement of irradiated fuel assemblies in the reactor pressure vessel ensures that sufficient time has elapsed to allow the radioactive decay of the short lived fission products. This decay time is consistent with the assumptions used in the accident analyses.

3/4.9.4 CONTAINMENT BUILDING PENETRATIONS

The requirements on containment building penetration closure and OPERABILITY ensure that a release of radioactive material within containment will be restricted from leakage to the environment. The OPERABILITY and closure restrictions are sufficient to restrict radioactive material release from a fuel element rupture based upon the lack of containment pressurization potential while in the REFUELING MODE.

The specific guidelines to allow both airlock doors to remain open during CORE ALTERATIONS were developed to ensure that the assumptions for restricting radioactive leakage to the environment remained valid. The guidelines established for maintaining both airlock doors open include: 1) one door in each airlock is OPERABLE, 2) refueling cavity level is greater than 23 feet above the fuel, and 3) a designated individual is continuously available to close an airlock door (if required). An OPERABLE airlock door consists of a door capable of being closed and secured. Additionally, cables or hoses transversing the airlock must be designed in a manner that allows timely removal (e.g., quick disconnects). The requirement that the refueling cavity level is greater than 23 feet above the fuel ensures consistency with the assumptions of Specifications 3/4.9.10 and 3/4.9.11.

Containment penetrations that provide direct access from containment atmosphere to the outside atmosphere must be isolated on at least one side. Isolation may be achieved by an OPERABLE automatic isolation valve, or by a manual isolation valve, blind flange, or equivalent. Equivalent isolation methods must be approved in accordance with plant procedures and may include use of a material that can provide a temporary, atmospheric pressure, ventilation barrier during fuel movements.

The LCO is modified by a Note allowing penetration flow paths with direct access from the containment atmosphere to the outside atmosphere via the auxiliary building vent to be unisolated under administrative controls. Administrative controls ensure that 1) appropriate personnel are aware of the open status of the penetration flow path during CORE ALTERATIONS or movement of irradiated fuel assemblies within containment, and 2) specified individuals are designated and readily available to isolate the flow path in the event of a fuel handling accident.

3/4.9.5 COMMUNICATIONS

The requirement for communications capability ensures that refueling station personnel can be promptly informed of significant changes in the facility status or core reactivity conditions during CORE ALTERATIONS.