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LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

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## LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

## 3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

### 3/4.0 APPLICABILITY

### LIMITING CONDITION FOR OPERATION

3.0.1 Compliance with the Limiting Conditions for Operation contained in the succeeding specifications is required during the OPERATIONAL MODES or other conditions specified therein; except that upon failure to meet the Limiting Conditions for Operation, the associated ACTION requirements shall be met.

3.0.2 Noncompliance with a specification shall exist when the requirements of the Limiting Condition for Operation and associated ACTION requirements are not met within the specified time intervals, except as provided in LCO 3.0.6. If the Limiting Condition for Operation is restored prior to expiration of the specified time intervals, completion of the ACTION requirements is not required.

3.0.3 When a Limiting Condition for Operation is not met, except as provided in the associated ACTION requirements, within one hour ACTION shall be initiated to place the unit in a MODE in which the specification does not apply by placing it, as applicable, in:

1. At least HOT STANDBY within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

Where corrective measures are completed that permit operation under the ACTION requirements, the ACTION may be taken in accordance with the specified time limits as measured from the time it is identified that a Limiting Condition for Operation is not met. Exceptions to these requirements are stated in the individual specifications.

This specification is not applicable in MODES 5 or 6.

3.0.4 Entry into an OPERATIONAL MODE or other specified condition shall not be made when the conditions for the Limiting Condition for Operation are not met and the associated ACTION requires a shutdown if they are not met within a specified time interval. Entry into an OPERATIONAL MODE or specified condition may be made in accordance with ACTION requirements when conformance to them permits continued operation of the facility for an unlimited period of time. This provision shall not prevent passage through or to OPERATIONAL MODES as required to comply with ACTION requirements.

3.0.5 When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable Limiting Condition for Operation, provided: (1) its corresponding normal or emergency power source is OPERABLE; and (2) all of its redundant system(s), subsystem(s), train(s), component(s) and device(s) are OPERABLE, or likewise satisfy the requirements of this specification. Unless both conditions (1) and (2) are satisfied within 2 hours, ACTION shall be initiated to place the unit in a MODE in which the applicable Limiting Condition for Operation does not apply by placing it, as applicable, in:

REACTOR COOLANT SYSTEM

COOLANT LOOPS AND COOLANT CIRCULATION

STARTUP AND POWER OPERATION

LIMITING CONDITION FOR OPERATION

3.4.1.1 Two reactor coolant loops shall be OPERABLE and in operation.

APPLICABILITY: MODES 1 and 2*.

ACTION:

With the requirements of the above specification not met, be in at least HOT STANDBY within 6 hours.

SURVEILLANCE REQUIREMENTS

4.4.1.1 The above required reactor coolant loops shall be verified to be in operation at least once per 12 hours.

* See Special Test Exception 3.10.4.

REACTOR COOLANT SYSTEM

COOLANT LOOPS AND COOLANT CIRCULATION

HOT STANDBY

LIMITING CONDITION FOR OPERATION

3.4.1.2 Two reactor coolant loops shall be OPERABLE and one reactor coolant loop shall be in operation.

NOTE

All reactor coolant pumps may not be in operation for up to 1 hour per 8 hour period provided:

a. no operations are permitted that would cause reduction of the Reactor Coolant System boron concentration; and

b. core outlet temperature is maintained at least 10°F below saturation temperature.

APPLICABILITY: MODE 3.

ACTION: a. With one reactor coolant loop inoperable; restore the required reactor coolant loop to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours.

b. With no reactor coolant loop OPERABLE or in operation, immediately suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return one required reactor coolant loop to OPERABLE status and operation.

SURVEILLANCE REQUIREMENTS

4.4.1.2.1 The required reactor coolant pump, if not in operation, shall be determined to be OPERABLE once per 7 days by verifying correct breaker alignment and indicated power available.

4.4.1.2.2 One reactor coolant loop shall be verified to be in operation at least once per 12 hours.

4.4.1.2.3 Each steam generator secondary side water level shall be verified to be $\geq$ 10% narrow range at least once per 12 hours.

REACTOR COOLANT SYSTEM

COOLANT LOOPS AND COOLANT CIRCULATION

HOT SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.4.1.3 Two loops or trains consisting of any combination of reactor coolant loops or shutdown cooling trains shall be OPERABLE and one loop or train shall be in operation.

NOTES

1. All reactor coolant pumps and shutdown cooling pumps may not be in operation for up to 1 hour per 8 hour period provided:
   a. no operations are permitted that would cause reduction of the Reactor Coolant System boron concentration; and
   b. core outlet temperature is maintained at least 10°F below saturation temperature.

2. The following restrictions apply when starting the first reactor coolant pump and any RCS cold leg temperature is $\leq$ 275°F. The first reactor coolant pump shall not be started unless:
   a. pressurizer water level is < 43.7%;
   b. pressurizer pressure is < 340 psia; and
   c. secondary water temperature in each steam generator is < 50°F above each RCS cold leg temperature.

APPLICABILITY: MODE 4.

ACTION:

a. With one reactor coolant loop AND two shutdown cooling trains inoperable:

   Immediately initiate action to restore a second reactor coolant loop, or one shutdown cooling train to OPERABLE status.

b. With two reactor coolant loops AND one shutdown cooling train inoperable:

   Immediately initiate action to restore a second shutdown cooling train, or one reactor coolant loop to OPERABLE status, and be in COLD SHUTDOWN within 24 hours.

c. With all reactor coolant loops AND shutdown cooling trains inoperable, OR no reactor coolant loop or shutdown cooling train in operation:

   Immediately suspend all operations involving a reduction in Reactor Coolant System boron concentration and immediately initiate action to restore one reactor coolant loop or one shutdown cooling train to OPERABLE status and operation.

SURVEILLANCE REQUIREMENTS

4.4.1.3.1 The required pump, if not in operation, shall be determined OPERABLE once per 7 days by verifying correct breaker alignment and indicated power available.

4.4.1.3.2 The required steam generator(s) shall be determined OPERABLE, by verifying the secondary side water level to be $\geq$ 10% narrow range at least once per 12 hours.

4.4.1.3.3 One reactor coolant loop or shutdown cooling train shall be verified to be in operation at least once per 12 hours.

REACTOR COOLANT SYSTEM

COOLANT LOOPS AND COOLANT CIRCULATION

COLD SHUTDOWN - REACTOR COOLANT SYSTEM LOOPS FILLED

LIMITING CONDITION FOR OPERATION

3.4.1.4 One shutdown cooling train shall be OPERABLE and in operation, and either:

a. One additional shutdown cooling train shall be OPERABLE;

OR

b. The secondary side water level of each steam generator shall be $\geq$ 10% narrow range.

NOTES

1. The normal or emergency power source may be inoperable in MODE 5.

2. All shutdown cooling pumps may not be in operation for up to 1 hour per 8 hour period provided:
   a. no operations are permitted that would cause reduction of the Reactor Coolant System boron concentration; and
   b. core outlet temperature is maintained at least 10°F below saturation temperature.

3. The following restrictions apply when starting the first reactor coolant pump and any RCS cold leg temperature is $\leq$ 275°F. The first reactor coolant pump shall not be started unless:
   a. pressurizer water level is < 43.7%;
   b. pressurizer pressure is < 340 psia; and
   c. secondary water temperature in each steam generator is < 50°F above each RCS cold leg temperature.

4. One required shutdown cooling train may be inoperable for up to 2 hours for surveillance testing provided the other shutdown cooling train is OPERABLE and in operation.

5. All shutdown cooling trains may not be in operation during planned heatup to MODE 4 when at least one reactor coolant loop is in operation.

APPLICABILITY: MODE 5 with Reactor Coolant System loops filled.

ACTION: a. With one shutdown cooling train inoperable and any steam generator secondary water level not within limits, immediately initiate action to either restore a second shutdown cooling train to OPERABLE status or restore steam generator secondary water levels to within limit.

b. With no shutdown cooling train OPERABLE or in operation, immediately suspend all operations involving a reduction in Reactor Coolant System boron concentration and immediately initiate action to restore one shutdown cooling train to OPERABLE status and operation.

SURVEILLANCE REQUIREMENTS

4.4.1.4.1 The required shutdown cooling pump, if not in operation, shall be determined OPERABLE once per 7 days by verifying correct breaker alignment and indicated power available.

4.4.1.4.2 The required steam generators shall be determined OPERABLE, by verifying the secondary side water level to be $\geq$ 10% narrow range at least once per 12 hours.

4.4.1.4.3 One shutdown cooling train shall be verified to be in operation at least once per 12 hours.

## COLD SHUTDOWN - REACTOR COOLANT SYSTEM LOOPS NOT FILLED

### LIMITING CONDITION FOR OPERATION

3.4.1.5 Two shutdown cooling trains shall be OPERABLE and one shutdown cooling train shall be in operation.

NOTES

1. The normal or emergency power source may be inoperable in MODE 5.

2. All shutdown cooling pumps may not be in operation for up to 15 minutes when switching from one train to another provided:
   a. no operations are permitted that would cause reduction of the Reactor Coolant System boron concentration;
   b. core outlet temperature is maintained at least 10°F below saturation temperature; and
   c. no draining operations to further reduce Reactor Coolant System water volume are permitted.

3. The following restrictions apply when starting the first reactor coolant pump and any RCS cold leg temperature is $\leq$ 275°F. The first reactor coolant pump shall not be started unless:
   a. pressurizer water level is < 43.7%;
   b. pressurizer pressure is < 340 psia; and
   c. secondary water temperature in each steam generator is < 50°F above each RCS cold leg temperature.

4. One shutdown cooling train may be inoperable for up to 2 hours for surveillance testing provided the other shutdown cooling train is OPERABLE and in operation.

APPLICABILITY: MODE 5 with Reactor Coolant System loops not filled.

ACTION:
a. With one shutdown cooling train inoperable, immediately initiate action to restore the required shutdown cooling train to OPERABLE status.

b. With no shutdown cooling train OPERABLE or in operation, immediately suspend all operations involving a reduction in Reactor Coolant System boron concentration and immediately initiate action to restore one shutdown cooling train to OPERABLE status and operation.

SURVEILLANCE REQUIREMENTS

4.4.1.5.1 The required shutdown cooling pump, if not in operation, shall be determined OPERABLE once per 7 days by verifying correct breaker alignment and indicated power available.

4.4.1.5.2 One shutdown cooling train shall be verified to be in operation at least once per 12 hours.

REACTOR COOLANT SYSTEM

REACTOR COOLANT PUMPS

COLD SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.4.1.6 A maximum of two reactor coolant pumps shall be OPERABLE.

APPLICABILITY: MODE 5

ACTION:

With more than two reactor coolant pumps OPERABLE, take immediate action to comply with Specification 3.4.1.6.

SURVEILLANCE REQUIREMENTS

4.4.1.6 Two reactor coolant pumps shall be demonstrated inoperable at least once per 12 hours by verifying that the motor circuit breakers have been disconnected from their electrical power supply circuits.

REFUELING OPERATIONS

SHUTDOWN COOLING AND COOLANT CIRCULATION - HIGH WATER LEVEL

LIMITING CONDITION FOR OPERATION

3.9.8.1 One shutdown cooling train shall be OPERABLE and in operation.

NOTE

1. The required shutdown cooling train may not be in operation for up to 1 hour per 8 hour period provided no operations are permitted that would cause a reduction in Reactor Coolant System boron concentration.

2. The normal or emergency power source may be inoperable for the required shutdown cooling train.

3. The shutdown cooling pumps may be removed from operation during the time required for local leak rate testing of containment penetration number 10 or to permit maintenance on valves located in the common SDC suction line, provided:

   a. No operations are permitted that would cause reduction of the Reactor Coolant System boron concentration,

   b. CORE ALTERATIONS are suspended, and

   c. Containment penetrations are in the following status:

      1) The equipment door is closed and secured with at least four bolts; and

      2) At least one personnel air lock door is closed; and

      3) Each penetration providing direct access from the containment atmosphere to the outside atmosphere shall be either:

         a) Closed with a manual or automatic isolation valve, blind flange, or equivalent, or

         b) Be capable of being closed by an OPERABLE Containment Purge Valve Isolation System.

APPLICABILITY: MODE 6 with the water level $\geq$ 23 feet above the top of the reactor vessel flange.

REFUELING OPERATIONS

SHUTDOWN COOLING AND COOLANT CIRCULATION - HIGH WATER LEVEL

LIMITING CONDITION FOR OPERATION

ACTION:

With no shutdown cooling train OPERABLE or in operation, perform the following actions:

a. Immediately suspend all operations involving a reduction in Reactor Coolant System boron concentration and the loading of irradiated fuel assemblies in the core; and

b. Immediately initate action to restore one shutdown cooling train to OPERABLE status and operation; and

c. Within 4 hours place the containment penetrations in the following status:

   1. Close the equipment door and secure with at least four bolts; and

   2. Close at least one personnel air lock door; and

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

      a. Closed with a manual or automatic isolation valve, blind flange, or equivalent, or

      b. Be capable of being closed by an OPERABLE Containment Purge Valve Isolation System.

SURVEILLANCE REQUIREMENTS

4.9.8.1 One shutdown cooling train shall be verified to be in operation and circulating reactor coolant at a flow rate greater than or equal to 1000 gpm at least once per 12 hours.

REFUELING OPERATIONS

SHUTDOWN COOLING AND COOLANT CIRCULATION - LOW WATER LEVEL

LIMITING CONDITION FOR OPERATION

3.9.8.2 Two shutdown cooling trains shall be OPERABLE and one shutdown cooling train shall be in operation.

NOTE
The normal or emergency power source may be inoperable for each shutdown cooling train.

APPLICABILITY: MODE 6 with the water level < 23 feet above the top of the reactor vessel flange.

ACTION:

a. With one shutdown cooling train inoperable, immediately initiate action to restore the shutdown cooling train to OPERABLE status OR immediately initiate action to establish ≥ 23 feet of water above the top of the reactor vessel flange.

b. With no shutdown cooling train OPERABLE or in operation, perform the following actions:

1. Immediately suspend all operations involving a reduction in Reactor Coolant System boron concentration; and

2. Immediately initiate action to restore one shutdown cooling train to OPERABLE status and operation; and

3. Within 4 hours place the containment penetrations in the following status:

a) Closed the equipment door and secure with at least four bolts; and

b) Close at least one personnel air lock door; and

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

1) Closed with a manual or automatic isolation valve, blind flange, or equivalent, or

2) Be capable of being closed by an OPERABLE Containment Purge Valve Isolation System.

SURVEILLANCE REQUIREMENTS

4.9.8.2.1 One shutdown cooling train shall be verified to be in operation and circulating reactor coolant at a flow rate greater than or equal to 1000 gpm at least once per 12 hours.

4.9.8.2.2 The required shutdown cooling pump, if not in operation, shall be determined OPERABLE once per 7 days by verifying correct breaker alignment and indicated power available.

## 3/4.4.1 COOLANT LOOPS AND COOLANT CIRCULATION

The plant is designed to operate with both Reactor Coolant System (RCS) loops and associated reactor coolant pumps (RCPs) in operation, and maintain DNBR above 1.17 during all normal operations and anticipated transients. In MODES 1 and 2, both RCS loops and associated RCPs are required to be OPERABLE and in operation.

In MODE 3, a single RCS loop with one RCP and adequate steam generator secondary water inventory provides sufficient heat removal capability. However, both RCS loops with at least one RCP per loop are required to be OPERABLE to provide redundant paths for decay heat removal. In addition, as a minimum, one RCS loop must be in operation. Any exceptions to these requirements are contained in the LCO Notes.

In MODE 4, one RCS loop with one RCP and adequate steam generator secondary water inventory, or one shutdown cooling (SDC) train provides sufficient heat removal capability. However, two loops or trains, consisting of any combination of RCS loops or SDC trains, are required to be OPERABLE to provide redundant paths for decay heat removal. In addition, as a minimum, one RCS loop or SDC train must be in operation. Any exceptions to these requirements are contained in the LCO Notes.

In MODES 3 and 4, an OPERABLE RCS loop consists of the RCS loop, associated steam generator, and at least one RCP. The steam generator must have sufficient secondary water inventory for heat removal.

In MODE 5, with the RCS loops filled, the SDC trains are the primary means of heat removal. One SDC train provides sufficient heat removal capability. However, to provide redundant paths for decay heat removal either two SDC trains are required to be OPERABLE, or one SDC train is required to be OPERABLE and both steam generators are required to have adequate steam generator secondary water inventory. In addition, as a minimum, one SDC train must be in operation. Any exceptions to these requirements are contained in the LCO Notes.

By maintaining adequate secondary water inventory and makeup capability, the steam generators will be able to support natural circulation in the RCS loops. In addition, the ability to pressurize and control RCS pressure is necessary to support RCS natural circulation. If the pressurizer steam bubble has been collapsed and the RCS has been depressurized or drained sufficiently that voiding of the steam generator U-tubes may have occurred, the RCS loops should be considered not filled unless an evaluation is performed to verify the ability of the RCS to support natural circulation. If the RCS loops are considered not filled, the RCS must be refilled, pressurized, and the RCPs bumped (unless a vacuum fill of the RCS was performed) before the RCS loops can be considered filled.

In MODE 5, with the RCS loops not filled, the SDC trains are the only means of heat removal. One SDC train provides sufficient heat removal capability. However, to provide redundant paths for decay heat removal, two SDC trains are required to be OPERABLE. In addition, as a minimum, one SDC

3/4.4.1 COOLANT LOOPS AND COOLANT CIRCULATION (Continued)

train must be in operation. Any exceptions to these requirements are contained in the LCO Notes.

An OPERABLE SDC train, for plant operation in MODES 4 and 5, includes a pump, heat exchanger, valves, piping, instruments, and controls to ensure an OPERABLE flow path and to determine RCS temperature. The flow path starts at the RCS hot leg and is returned to the RCS cold legs. An OPERABLE SDC train consists of the following equipment:

1. An OPERABLE SDC pump (low pressure safety injection pump);
2. All valves required to support SDC System flow to and from the RCS are in the required position or are capable of being placed in the required position;
3. The associated SDC heat exchanger from the same facility as the SDC pump;
4. The associated reactor building closed cooling water loop from the same facility as the SDC pump; and
5. The associated service water loop from the same facility as the SDC pump.

The operation of one Reactor Coolant Pump or one shutdown cooling pump provides adequate flow to ensure mixing, prevent stratification and produce gradual reactivity changes during boron concentration reductions in the Reactor Coolant System. The reactivity change rate associated with boron reductions will, therefore, be within the capability of operator recognition and control.

The restrictions on starting a Reactor Coolant Pump in MODE 4 with one or more RCS cold legs $\leq$ 275°F and in MODE 5 are provided to prevent RCS pressure transients, caused by energy additions from the secondary system, which could exceed the limits of Appendix G to 10 CFR Part 50. The RCS will be protected against overpressure transients and will not exceed the limits of Appendix G by:

1. Restricting pressurizer water volume to ensure sufficient steam volume is available to accommodate the insurge;
2. Restricting pressurizer pressure to establish an initial pressure that will ensure system pressure does not exceed the limit; and

3/4.4.1 COOLANT LOOPS AND COOLANT CIRCULATION (continued)

3. Restricting primary to secondary system delta-T to reduce the energy addition from the secondary system.

If these restrictions are met, the steam bubble in the pressurizer is sufficient to ensure the Appendix G limits will not be exceeded. No credit has been taken for PORV actuation to limit RCS pressure in the analysis of the energy addition transient.

The limitations on pressurizer water level, pressurizer pressure, and primary to secondary delta-T are necessary to ensure the validity of the analysis of the energy addition due to starting an RCP. The values for pressurizer water level and pressure can be obtained from control room indications. The primary to secondary system delta-T can be obtained from Shutdown Cooling (SDC) System outlet temperature and the saturation temperature for indicated steam generator pressure. If there is no indicated steam generator pressure, the steam generator shell temperature indicators can be used. If these indications are not available, other appropriate instrumentation can be used.

The RCP starting criteria values for pressurizer water level, pressurizer pressure, and primary to secondary delta-T contained in Technical Specification 3.4.1.3 have not been adjusted for instrument uncertainty. The values for these parameters contained in the procedures that will be used to start an RCP have been adjusted to compensate for instrument uncertainty.

The value of RCS cold leg temperature ($\leq$ 275 °F) used to determine if the RCP start criteria applies, will be obtained from SDC return temperature if SDC is in service. If SDC is not in service, or natural circulation is occurring, RCS cold leg temperature will be used.

3/4.4.2 SAFETY VALVES

The pressurizer code safety valves operate to prevent the RCS from being pressurized above its Safety Limit of 2750 psia. Each safety valve is designed to relieve 296,000 lbs per hour of saturated steam at the valve setpoint. The relief capacity of a single safety valve is adequate to relieve any overpressure condition which could occur during shutdown. If any pressurizer code safety valve is inoperable, and cannot be restored to OPERABLE status, the action statement requires the plant to be shut down and cooled down such that Technical Specification 3.4.9.3 will become applicable and require the Low Temperature Overpressure Protection System to be placed in service to provide overpressure protection.

3/4.9.6 DELETED

3/4.9.7 DELETED

3/4.9.8 SHUTDOWN COOLING AND COOLANT CIRCULATION

In MODE 6, the shutdown cooling (SDC) trains are the primary means of heat removal. One SDC train provides sufficient heat removal capability. However, to provide redundant paths for decay heat removal either two SDC trains are required to be OPERABLE and one SDC train must be in operation, or one SDC train is required to be OPERABLE and in operation with the refueling cavity water level $\geq$ 23 feet above the reactor vessel flange. This volume of water in the refueling cavity will provide a large heat sink in the event of a failure of the operating SDC train. Any exceptions to these requirements are contained in the LCO Notes.

An OPERABLE SDC train, for plant operation in MODE 6, includes a pump, heat exchanger, valves, piping, instruments, and controls to ensure an OPERABLE flow path and to determine RCS temperature. The flow path starts at the RCS hot leg and is returned to the RCS cold legs. An OPERABLE SDC train consists of the following equipment:

1. An OPERABLE SDC pump (low pressure safety injection pump);
2. All valves required to support SDC System flow to and from the RCS are in the required position or are capable of being placed in the required position;
3. The associated SDC heat exchanger from the same facility as the SDC pump;
4. The associated reactor building closed cooling water loop from the same facility as the SDC pump; and
5. The associated service water loop from the same facility as the SDC pump.

Either SDC pump may be aligned to the refueling water storage tank (RWST) to support filling the refueling cavity or for performance of required testing. A SDC pump may also be used to transfer water from the refueling cavity to the RWST. These alternate lineups do not affect the OPERABILITY of the SDC train. In addition, these alternate lineups will satisfy the requirement for a SDC train to be in operation if the minimum required SDC flow through the reactor core is maintained.

In MODE 6, with the refueling cavity filled to $\geq$ 23 feet above the reactor vessel flange, both SDC trains may not be in operation for up to 1 hour in each 8 hour period, provided no operations are permitted that would cause a reduction in RCS boron concentration. Boron concentration reduction is prohibited because uniform concentration distribution cannot be ensured without forced circulation. This permits operations such as core mapping or alterations in the vicinity of the

3/4.9.8 SHUTDOWN COOLING AND COOLANT CIRCULATION (Continued)

reactor vessel hot leg nozzles, and RCS to SDC isolation valve testing. During this 1 hour period, decay heat is removed by natural convection to the large mass of water in the refueling pool.

In MODE 6, with the refueling cavity filled to $\geq$ 23 feet above the reactor vessel flange, both SDC trains may also not be in operation for local leak rate testing of the SDC cooling suction line (containment penetration number 10) or to permit maintenance on valves located in the common SDC suction line. This will allow the performance of required maintenance and testing that otherwise may require a full core offload. In additon to the requirement prohibiting operations that would cause a reduction in RCS boron concentration, CORE ALTERATIONS are suspended and all containment penetrations providing direct access from the containment atmosphere to outside atmosphere must be closed or capable of being closed by an OPERABLE Containment Purge Valve Isolation System. No time limit is specified to operate in this configuration. However, factors such as scope of the work, decay heat load/heatup rate, and RCS temperature should be considered to determine if it is feasible to perform the work. Prior to using this provision, a review and approval of the evolution by the PORC is required. This review will evaluate current plant conditions and the proposed work to determine if this provision should be used, and to establish the termination criteria and appropriate contingency plans. During this period, decay heat is removed by natural convection to the large mass of water in the refueling pool.

The requirement that at least one shutdown cooling loop be in operation at $\geq$ 1000 gpm ensures that (1) sufficient cooling capacity is available to remove decay heat and maintain the water in the reactor pressure vessel below 140°F as required during the REFUELING MODE, (2) sufficient coolant circulation is maintained through the reactor core to minimize the effects of a boron dilution incident and prevent boron stratification, and (3) is consistent with boron dilution analysis assumptions.

3/4.9.9 and 3/4.9.10 DELETED

3/4.9.11 and 3/4.9.12 WATER LEVEL-REACTOR VESSEL AND STORAGE POOL WATER LEVEL

The restrictions on minimum water level ensure that sufficient water depth is available to remove 99% of the assumed 10% iodine gap activity released from the rupture of an irradiated fuel assembly. The minimum water depth is consistent with the assumptions of the accident analysis.