CONTAINMENT SYSTEMS

SUPPRESSION POOL MAKEUP SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.3.4 The suppression pool makeup system shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

a. With one suppression pool makeup line inoperable, restore the inoperable makeup line to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. With the upper containment pool water level less than the limit, restore the water level to within the limit within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours and COLD SHUTDOWN within the following 24 hours.

Replace with Insert A

c. With upper containment pool water temperature greater than the limit, restore the upper containment pool water temperature to within the limit within 24 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.6.3.4 The suppression pool makeup system shall be demonstrated OPERABLE:

a. At least once per 24 hours by verifying the upper containment pool water:

1. Level to be greater than or equal to 22'10" above the reactor pressure vessel flange, and

Replace with Insert B

2. Temperature to be less than or equal to 100°F.

b. At least once per 31 days by verifying that:

1. ~~The steam dryer storage/reactor well~~ All upper containment pool gates ~~is~~ are removed ~~and~~ (except the fuel transfer pool gate ~~is in place~~ may be installed).

2. Each valve, manual, power operated or automatic, in the flow path that is not locked, sealed, or otherwise secure in position, is in its correct position.

c. At least once per 18 months by performing a system functional test which includes simulated automatic actuation of the system throughout its emergency operating sequence and verifying that each automatic valve in the flow path actuates to its correct position. Actual makeup of water to the suppression pool may be excluded from this test.

Insert A

b. With the upper containment pool water level less than the limit specified in Surveillance Requirement 4.6.3.4.a.1.a, within 4 hours either:

1. Restore the water level to within the limit, or

2. Maintain the upper containment pool water level greater than the limit specified in Surveillance Requirement 4.6.3.4.a.1.b, and raise the suppression pool water level in accordance with Surveillance Requirement 4.6.3.4.a.1.b.

Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

Insert B

1. Level to be greater than or equal to:

a) 22'-10" above the reactor pressure vessel flange, or

b) 22'-5" above the reactor pressure vessel flange, and a minimum suppression pool water level greater than or equal to the minimum value specified in LCO 3.6.3.1.a plus 2.75 inches,

and

Note: If this Technical Specification amendment request is processed after the changes proposed in letter PY-CEI/NRR-1510L are approved and issued, the value for the UCP water level will have been changed from 22'-10" to 22'-9". Surveillance Requirement 4.6.3.4.a.1.a should then be revised to read 22'-9", and Surveillance Requirement 4.6.3.4.a.1.b should specify a suppression pool compensatory value of 2.20 inches.

DEPRESSURIZATION SYSTEMS (Continued)

In addition to the limits on temperature of the suppression pool water, operating procedures define the action to be taken in the event a safety-relief valve inadvertently opens or sticks open. As a minimum the action shall include: (1) use of all available means to close the valve, (2) initiate suppression pool water cooling, and (3) if other safety-relief valves are used to depressurize the reactor, their discharge shall be separated from that of the stuck-open safety relief valve, where possible, to assure mixing and uniformity of energy insertion to the pool.

The containment spray system consists of two 100% capacity loops, each with three spray rings located at different elevations about the inside circumference of the containment. RHR pump A supplies one loop and RHR pump B supplies the other. RHR pump C cannot supply the spray system. Dispersion of the flow of water is effected by 345 nozzles in each loop, enhancing the condensation of water vapor in the containment volume and preventing overpressurization. Heat rejection is through the RHR heat exchangers. The turbulence caused by the spray system aids in mixing the containment air volume to maintain a homogeneous mixture for H_2 control.

The suppression pool cooling function is a mode of the RHR system and functions as part of the containment heat removal system. The purpose of the system is to ensure containment integrity following a LOCA by preventing excessive containment pressures and temperatures. The suppression pool cooling mode is designed to limit the long term bulk temperature of the pool to 185°F considering all of the post-LOCA energy additions. The suppression pool cooling trains, being an integral part of the RHR system, are redundant, safety-related component systems that are initiated following the recovery of the reactor vessel water level by ECCS flows from the RHR system. Heat rejection to the emergency service water is accomplished in the RHR heat exchangers.

The suppression pool make-up system provides water from the upper containment pool to the suppression pool by gravity flow through two 100% capacity dump lines following a LOCA. The quantity of water provided is sufficient to account for all conceivable post-accident entrapment volumes, ensuring the long term energy sink capabilities of the suppression pool and maintaining the water coverage over the uppermost drywell vents. During refueling, there will be administrative control to ensure the make-up pump valves will not be opened.

New pp

Insert C

3/4.6.4 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 GDC 54 through 57 of Appendix A to 10 CFR 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.

Insert C

The upper containment pool water level may be reduced (for example, for maintenance of the inclined fuel transfer system), provided the minimum required suppression pool level (volume) is raised to compensate. Raising the minimum required suppression pool water level provides the same effective volume of water (by transferring a portion of the upper pool dump volume to the suppression pool) and ensures that after a suppression pool make-up system dump, adequate water coverage over the uppermost drywell horizontal vents and the long-term energy sink capability of the suppression pool is maintained.

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Attachment 2
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For Information

CONTAINMENT SYSTEMS

3/4.6.3 DEPRESSURIZATION SYSTEMS

SUPPRESSION POOL

LIMITING CONDITION FOR OPERATION

3.6.3.1 The suppression pool shall be OPERABLE with the pool water:

LCO Referred to in Letter.

a. Volume between 115,612 ft³ and 118,548 ft³ equivalent to a level between 18'0" and 18'6", and a

b. Maximum average temperature of 90°F except that the maximum average temperature may be permitted to increase to:

1. 105°F during testing which adds heat to the suppression pool.

2. 110°F with THERMAL POWER less than or equal to 1% of RATED THERMAL POWER.

3. 120°F with the main steam line isolation valves closed following a scram.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

a. With the suppression pool water level outside the above limits, restore the water level to within the limits within 1 hour or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. With the suppression pool average water temperature greater than 90°F, restore the average temperature to less than or equal to 90°F within 24 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours, except, as permitted above:

1. With the suppression pool average water temperature greater than 105°F during testing which adds heat to the suppression pool, stop all testing which adds heat to the suppression pool and restore the average temperature to less than 90°F within 24 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

2. With the suppression pool average water temperature greater than:

a) 90°F for more than 24 hours and THERMAL POWER greater than 1% of RATED THERMAL POWER, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.

b) 110°F, place the reactor mode switch in the Shutdown position and operate at least one residual heat removal loop in the suppression pool cooling mode.