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1A-194/2A-59

BASES

3/4.6.1.4 and 3/4.6.1.5 INTERNAL PRESSURE AND AIR TEMPERATURE

The limitations on containment internal pressure and average air temperature as a function of river water temperature ensure that 1) the containment structure is prevented from exceeding its design negative pressure of 8.0 psia, 2) the containment peak pressure does not exceed the design pressure of 45 psig during LOCA conditions, and 3) the containment pressure is returned to subatmospheric conditions following a LOCA.

The containment internal pressure and temperature limits shown as a function of river water temperature describe the operational envelope that will 1) limit the containment peak pressure to less than its design value of 45 psig and 2) ensure the containment internal pressure returns subatmospheric within 60 minutes following a LOCA.

The limits on the parameters of Figure 3.6-1 are consistent with the assumptions of the accident analyses.

3/4.6.1.6 CONTAINMENT STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment vessel will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to ensure that the vessel will withstand the maximum pressure of 40.0 psig in the event of a LOCA. The visual and Type A leakage tests are sufficient to demonstrate this capability.

3/4.5.2 DEPRESSURIZATION AND COOLING SYSTEMS

3/4.6.2.1 and 3/4.6.2.2 CONTAINMENT QUENCH AND RECIRCULATION SPRAY SYSTEMS

The OPERABILITY of the containment spray systems ensures that containment depressurization and subsequent return to subatmospheric pressure will occur in the event of a LOCA. The pressure reduction and resultant termination of containment leakage are consistent with the assumptions used in the accident analyses.

The recirculation spray system consists of four 50 percent capacity subsystems each composed of a spray pump, associated heat exchanger and flow path. Two of the recirculation spray pumps and motors are located outside containment (RS-P-2A and RS-P-2B) and two pumps and motors are located inside containment (RS-P-1A and RS-P-1B). The flow path from each pump is piped to an individual 180° recirculation spray header inside containment. Train "A" electrical power and river water is supplied to the subsystems containing recirculation spray pumps RS-P-1A and RS-P-2A. Train "B" electrical power and river water is supplied to the subsystems containing recirculation spray pumps RS-P-1B and RS-P-2B.

CONTAINMENT SYSTEMS

CONTAINMENT RECIRCULATION SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.2 Four separate and independent containment recirculation spray subsystems, each composed of a spray pump, associated heat exchanger and flow path shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. For subsystems containing recirculation spray pumps 2RSS-P21A or 2RSS-P21B: With one containment recirculation spray subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in HOT STANDBY within the next 6 hours; restore the inoperable spray system to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the next 30 hours.

b. For subsystems containing recirculation spray pumps 2RSS-P21C or 2RSS-P21D: See action statements in Specification 3.5.2 or 3.5.3.

c. For subsystems containing recirculation spray pumps 2RSS-P21A and 2RSS-P21C, or 2RSS-P21B and 2RSS-P21D, apply Action a above ~~to~~ inoperable subsystem 2RSS-P21A (or B), and apply Action b above ~~to~~ inoperable subsystem 2RSS-P21C (or D).

SURVEILLANCE REQUIREMENTS

4.6.2.2 Each containment recirculation spray subsystem shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position;

b. When tested pursuant to Specification 4.0.5, manually start each recirculation spray pump and verify the pump shaft rotates;

c. At least once per 18 months by verifying that on a Containment Pressure-High-High signal, each recirculation spray pump starts automatically after a 628 ± 5 second delay.

BASES

3/4.6.1.4 AND 3/4.6.1.5 INTERNAL PRESSURE AND AIR TEMPERATURE (Continued)

of 45 psig and 2) ensure the containment internal pressure returns subatmospheric within 60 minutes following a LOCA. Additional operating margin is provided if the containment average air temperature is maintained above 100°F as shown on Figure 3.6-1.

The limits on the parameters of Figure 3.6-1 are consistent with the assumptions of the accident analyses.

3/4.6.1.6 CONTAINMENT STRUCTURAL INTEGRITY

This limitation ensures that the structural integrity of the containment vessel will be maintained comparable to the original design standards for the life of the facility. Structural integrity is required to ensure that the vessel will withstand the maximum pressure of 44.7 psig in the event of a LOCA. The visual and Type A leakage tests are sufficient to demonstrate this capability.

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

3/4.6.2.1 and 3/4.6.2.2 CONTAINMENT QUENCH AND RECIRCULATION SPRAY SYSTEMS

The OPERABILITY of the containment spray systems ensures that containment depressurization and subsequent return to subatmospheric pressure will occur in the event of a LOCA. The pressure reduction and resultant termination of containment leakage are consistent with the assumptions used in the accident analyses.

The recirculation spray system consists of four 50 percent capacity subsystems each composed of a spray pump, associated heat exchanger and flow path. All recirculation spray pumps and motors are located outside containment and supply flow to two 360° recirculation spray ring headers located in containment. One spray ring is supplied by the "A" train subsystem containing recirculation spray pump 2RSS-P21A and the "B" train subsystem containing recirculation spray pump 2RSS-P21D with the other spray ring being supplied by the "A" train subsystem containing recirculation spray pump 2RSS-P21C and the "B" train subsystem containing recirculation spray pump 2RSS-P21B. When the water in the refueling water storage tank has reached a predetermined extreme low level, the C and D subsystems are automatically switched to the cold leg recirculation mode of emergency core cooling system operation.

added

3/4.6.2.3 CHEMICAL ADDITION SYSTEM

The OPERABILITY of the chemical addition system ensures that sufficient NaOH is added to the containment spray in the event of a LOCA. The limits on NaOH minimum volume and concentration, ensure that 1) the iodine removal efficiency of the spray water is maintained because of the increase in pH value, and 2) corrosion effects on components within containment are minimized. These assumptions are consistent with the iodine removal efficiency assumed in the accident analyses.

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. Containment isolation within the time limits specified ensures that the release of radioactive material to the environment will be consistent with the assumptions used in the analyses for both a LOCA and major secondary system breaks.

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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."

3/4.6.5 SUBATMOSPHERIC PRESSURE CONTROL SYSTEM

3/4.6.5.1 STEAM JET AIR EJECTOR

The closure of the manual isolation valves in the suction of the steam jet air ejector ensures that 1) the containment internal pressure may be maintained within its operation limits by the mechanical vacuum pumps and 2) the containment atmosphere is isolated from the outside environment in the event of a LOCA. These valves are required to be closed for containment isolation.

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1A-194/2A-59

BASES

3/4.6.1.4 and 3/4.6.1.5 INTERNAL PRESSURE AND AIR TEMPERATURE

The limitations on containment internal pressure and average air temperature as a function of river water temperature ensure that 1) the containment structure is prevented from exceeding its design negative pressure of 8.0 psia, 2) the containment peak pressure does not exceed the design pressure of 45 psig during LOCA conditions, and 3) the containment pressure is returned to subatmospheric conditions following a LOCA.

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The limits on the parameters of Figure 3.6-1 are consistent with the assumptions of the accident analyses.

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3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

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CONTAINMENT SYSTEMS

CONTAINMENT RECIRCULATION SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.2.2 Four separate and independent containment recirculation spray subsystems, each composed of a spray pump, associated heat exchanger and flow path shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. For subsystems containing recirculation spray pumps 2RSS-P21A or 2RSS-P21B: With one containment recirculation spray subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in HOT STANDBY within the next 6 hours; restore the inoperable spray subsystem to OPERABLE status within the next 48 hours or be in COLD SHUTDOWN within the next 30 hours.

b. For subsystems containing recirculation spray pumps 2RSS-P21C or 2RSS-P21D: See action statements in Specification 3.5.2 or 3.5.3.

c. For subsystems containing recirculation spray pumps 2RSS-P21A and 2RSS-P21C, or 2RSS-P21B and 2RSS-P21D; apply Action a above if the inoperable subsystem contains recirculation spray pumps 2RSS-P21A (or B), and apply Action b above if the inoperable subsystem contains recirculation spray pumps 2RSS-P21C (or D).

SURVEILLANCE REQUIREMENTS

4.6.2.2 Each containment recirculation spray subsystem shall be demonstrated OPERABLE:

a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position;

b. When tested pursuant to Specification 4.0.5, manually start each recirculation spray pump and verify the pump shaft rotates;

c. At least once per 18 months by verifying that on a Containment Pressure-High-High signal, each recirculation spray pump starts automatically after a 628 $\pm$ 5 second delay.

BASES

3/4.6.1.4 AND 3/4.6.1.5 INTERNAL PRESSURE AND AIR TEMPERATURE (Continued)

of 45 psig and 2) ensure the containment internal pressure returns subatmospheric within 60 minutes following a LOCA. Additional operating margin is provided if the containment average air temperature is maintained above 100°F as shown on Figure 3.6-1.

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3/4.6.2.1 and 3/4.6.2.2 CONTAINMENT QUENCH AND RECIRCULATION SPRAY SYSTEMS

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BASES

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