

Docket No. 50-336

Attachment

Millstone Nuclear Power Station, Unit No. 2

Proposed Revisions to Technical Specifications

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December, 1981

REFUELING OPERATIONS

SHUTDOWN COOLING AND COOLANT CIRCULATION

LIMITING CONDITION FOR OPERATION

3.9.8.1 At least one shutdown cooling loop shall be in operation*.

APPLICABILITY: MODE 6 at all reactor water levels.

ACTION:

With less than one shutdown cooling loop in operation, suspend all operations involving an increase in the reactor decay heat load or a reduction in boron concentration of the Reactor Coolant System. Close all containment penetrations providing direct access from the containment atmosphere to the outside atmosphere within 4 hours.

3.9.8.2 Two independent shutdown cooling loops shall be OPERABLE**

Applicability: Mode 6, whenever the following conditions are not satisfied:

- a. reactor vessel water level at or above the vessel flange, and;
- b. the reactor vessel pit seal installed, and;
- c. the combined available volume of water in the refuel pool and refueling water storage tank exceeds 370,000 gallons, and;
- d. (1) the LPSI pump not in service is OPERABLE** and can be aligned to take suction from the RWST and deliver flow to the RCS, or
(2) one HPSI pump is OPERABLE** and can be aligned to take suction from the RWST and deliver flow to the RCS.

Action: With less than the required shutdown cooling loops OPERABLE, initiate corrective action to return the loop(s) to OPERABLE status within one hour.

The provisions of Specification 3.03 are not applicable for 3.9.8.1 and 3.9.8.2.

**The normal or emergency power source may be inoperable for each shutdown cooling loop.

SURVEILLANCE REQUIREMENTS

4.9.8.1 At least one shutdown cooling loop shall be verified to be in operation and circulating reactor coolant at a flow rate of greater than or equal to 3000 gpm at least once per 12 hours.

4.9.8.2 Once per 7 days, the required shutdown cooling loops, if not in operation, shall be determined OPERABLE by verifying correct breaker alignments and indicated power availability for pump and shutdown cooling valves, or:

Verifying that the reactor vessel water level is at or above the vessel flange, the reactor vessel pit seal is installed, and greater than 370,000 gallons of water is available as a heat sink, as indicated by either:

- a. refuel pool level greater than 23 feet above the reactor vessel flange, or;
- b. the combined volume of the refuel pool and refueling water storage tank exceeds 370,000 gallons and a flow path is available from the refueling water storage tank to the refuel pool.

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- * The shutdown cooling loop may be removed from operation for up to 1 hour per 8 hour period during the performance of CORE ALTERATIONS in the vicinity of the reactor pressure vessel hot legs.
- ** The normal or emergency power source may be inoperable for each shutdown cooling loop.

REFUELING OPERATIONS

BASES

3/4.9.6 CRANE OPERABILITY - CONTAINMENT BUILDING

The OPERABILITY requirements of the cranes used for movement of fuel assemblies ensures that: 1) each crane has sufficient load capacity to lift a fuel element, and 2) the core internals and pressure vessel are protected from excessive lifting force in the event they are inadvertently engaged during lifting operations.

3/4.9.7 CRANE TRAVEL - SPENT FUEL STORAGE BUILDING

The restriction on movement of loads in excess of the nominal weight of a fuel assembly and CEA over irradiated fuel assemblies ensures that no more than the contents of one fuel assembly will be ruptured in the event of a fuel handling accident. This assumption is consistent with the activity release assumed in the accident analyses.

3/4.9.8 SHUTDOWN COOLING AND COOLANT CIRCULATION

The requirement that at least one shutdown cooling loop be in operation 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, and (2) sufficient coolant circulation is maintained through the reactor core to minimize the effects of a boron dilution incident and prevent boron stratification.

The requirement to have two shutdown cooling loops OPERABLE, when the refuel pool is unavailable as a heat sink, ensures that a single failure of the operating shutdown cooling loop will not result in a complete loss of decay heat removal capability. With the reactor vessel water level at or above the vessel flange, and the reactor vessel pit seal installed, and a combined available volume of water in the refuel pool and refueling water storage tank in excess of 370,000 gallons; a large heat sink is readily available for core cooling. Thus allowing adequate time to initiate emergency procedures to provide core cooling in the event of a failure of the operating shutdown cooling loop.

3/4.9.9 and 3/4.9.10 CONTAINMENT RADIATION MONITORING AND CONTAINMENT PURGE VALVE ISOLATION SYSTEM

The OPERABILITY of these systems ensures that the containment purge valves will be automatically isolated upon detection of high radiation levels within the containment. The OPERABILITY of these systems is required to restrict the release of radioactive material from the containment atmosphere to the environment.

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 gas activity released from the rupture of an irradiated fuel assembly. The minimum water depth is consistent with the assumptions of the accident analysis.