

LIMITING CONDITIONS FOR OPERATION

SURVEILLANCE REQUIREMENTS

2. The SRM shall have a minimum of 3 cps with all rods fully inserted in the core.

C. Spent Fuel Pool Water Level

Whenever irradiated fuel is stored in the spent fuel pool, the pool water level shall be maintained at or above 33 feet.

D. Multiple Control Rod Removal

Any number of control rods and/or control rod drive mechanisms may be removed from the reactor pressure vessel provided that at least the following requirements are satisfied until all control rods and control rod drive mechanisms are reinstalled and all control rods are fully inserted in the core.

- a. The reactor mode switch is locked in the Refuel position per Specification 3.10.A, except that the Refuel position "one rod out" interlock may be bypassed, as required, for those control rods and/or control rod drive mechanisms to be removed, after the fuel assemblies have been removed as specified below.
- b. The source range monitors (SRM) are operable per Specification 3.3.B.4.
- c. The Reactivity Margin requirements of Specification 3.3.A.1 are satisfied.
- d. All other control rods are either fully inserted or have the surrounding four fuel assemblies removed.
- e. The four fuel assemblies are removed from the core cell surrounding each control rod or rod drive mechanism to be removed.

C. Spent Fuel Pool Water Level

Whenever irradiated fuel is stored in the spent fuel pool, the water level shall be recorded daily.

D. Multiple Control Rod Removal

Within 4 hours prior to the start of removal of control rods and/or control rod drive mechanisms from the reactor pressure vessel and at least once per 24 hours thereafter until all control rods are fully inserted in the core, verify that:

- a. The reactor mode switch is operable and locked in the Refuel position per Specification 3.10.A.
- b. The SRM channels are operable per Specification 3.3.B.4.
- c. The Reactivity Margin requirements of Specification 3.3.A.1 are satisfied.

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3.10 BASES

B. Core Monitoring

The SRM's are provided to monitor the core during periods of station shutdown and to guide the operator during refueling operations and station startup. Requiring two operable SRM's in or adjacent to any core quadrant where fuel or control rods are being moved assures adequate monitoring of that quadrant during such alterations. The requirement of 3 counts per second provides assurance that neutron flux is being monitored and insures that startup is conducted only if the source range flux level is above the minimum assumed in the control rod drop accident.

The limiting conditions for operation of the SRM subsystem of the Neutron Monitoring System are derived from the Station Nuclear Safety Operational Analysis (Appendix G) and a functional analysis of the neutron monitoring system. The specification is based on the Operational Nuclear Safety Requirements in subsection 7.5.10 of the Safety Analysis Report.

C. Spent Fuel Pool Water Level

To assure that there is adequate water to shield and cool the irradiated fuel assemblies stored in the pool, a minimum pool water level is established. The minimum water level of 33 feet is established because it would be a significant change from the normal level (-1 foot) and is well above the level to assure adequate cooling.

D. Multiple Control Rod Removal

These specifications ensure that maintenance or repair of control rods or rod drives will be performed under conditions that limit the probability of inadvertent criticality. The requirement that the fuel assemblies in the cell controlled by the control rod be removed from the reactor core before the interlock can be bypassed insures that withdrawal of another control rod does not result in inadvertent criticality. Each control rod essentially provides reactivity control for the fuel assemblies in the cell associated with the control rod. Thus, removal of an entire cell (fuel assemblies plus control rod) results in a lower reactivity potential of the core.

4.10 BASES

A. Refueling Interlocks

Complete functional testing of all refueling interlocks before any refueling outage will provide positive indication that the interlocks operate in the situations for which they were designed. By loading each hoist with a weight equal to the fuel assembly, positioning the refueling platform, and withdrawing control rods, the interlocks can be subjected to valid operational tests. Where redundancy is provided in the logic circuitry, tests can be performed to assure that each redundant logic element can independently perform its functions.

B. Core Monitoring

Requiring the SRM's to be functionally tested prior to any core alteration assures that the SRM's will be operable at the start of that alteration. The daily response check of the SRM's ensures their continued operability.

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