

REFUELING OPERATIONS

3/4.9.2 INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.9.2 At least 2 source range monitor* (SRM) channels shall be OPERABLE and inserted to the normal operating level with:

- a. Continuous visual indication in the control room,
- b. At least one with alarm in the control room,
- c. One of the required SRM detectors located in the quadrant where CORE ALTERATIONS are being performed and the other required SRM detector located in an adjacent quadrant, and
- d. The "shorting links" removed from the RPS circuitry prior to and during the time any control rod is withdrawn[#] and shutdown margin demonstrations are in progress.

APPLICABILITY: OPERATIONAL CONDITION 5. ***

ACTION:

With the requirements of the above specification not satisfied, immediately suspend all operations involving CORE ALTERATIONS** and insert all insertable control rods.

SURVEILLANCE REQUIREMENTS

4.9.2 Each of the above required SRM channels shall be demonstrated OPERABLE by:

- a. At least once per 12 hours:
 1. Performance of a CHANNEL CHECK,
 2. Verifying the detectors are inserted to the normal operating level, and
 3. During CORE ALTERATIONS, verifying that the detector of an OPERABLE SRM channel is located in the core quadrant where CORE ALTERATIONS are being performed and another is located in an adjacent quadrant.

*The use of special movable detectors during CORE ALTERATIONS in place of the normal SRM nuclear detectors is permissible as long as these special detectors are connected to the normal SRM circuits.

**Except movement of IRM, SRM or special movable detectors.

[#]Not required for control rods removed per Specification 3.9.10.1 and 3.9.10.2.

*** An individual SRM is not required to be OPERABLE with ≤ 4 fuel assemblies adjacent to the SRM and no other fuel assemblies in the associated core quadrant.

WASHINGTON NUCLEAR - UNIT 2

3/4 9-3

Amendment 4

9201270205 920121
PDR ADOCK 05000397
PDR

REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS (Continued)

- b. Performance of a CHANNEL FUNCTIONAL TEST:
1. Within 24 hours prior to the start of CORE ALTERATIONS, and
 2. At least once per 7 days.
- c. Verifying that the channel count rate is at least ^{0.7#}~~0.5#~~ cps: 1 see
OBR
821221
1. Prior to control rod withdrawal,
 2. Prior to and at least once per 12 hours during CORE ALTERATIONS, and
 3. At least once per 24 hours.
- d. Verifying, within 8 hours prior to and at least once per 12 hours during, that the RPS circuitry "shorting links" have been removed during:
1. The time any control rod is withdrawn,## or
 2. Shutdown margin demonstrations.

²⁰
#Provided signal-to-noise ratio ≥ 8 . Otherwise ≥ 3 cps, provided signal-to-noise ratio ≥ 2 .
##Not required for control rods removed per Specification 3.9.10.1 or 3.9.10.2.

1 see
OBR
821221

3/4.9 REFUELING OPERATIONS

BASES

3/4.9.1 REACTOR MODE SWITCH

Locking the OPERABLE reactor mode switch in the Shutdown or Refuel position, as specified, ensures that the restrictions on control rod withdrawal and refueling platform movement during the refueling operations are properly activated. These conditions reinforce the refueling procedures and reduce the probability of inadvertent criticality, damage to reactor internals or fuel assemblies, and exposure of personnel to excessive radioactivity.

3/4.9.2 INSTRUMENTATION

The OPERABILITY of at least two source range monitors ensures that redundant monitoring capability is available to detect changes in the reactivity condition of the core.

See next page

3/4.9.3 CONTROL ROD POSITION

The requirement that all control rods be inserted during other CORE ALTERATIONS ensures that fuel will not be loaded into a cell without a control rod.

3/4.9.4 DECAY TIME

The minimum requirement for reactor subcriticality prior to fuel movement ensures that sufficient time has elapsed to allow the radioactive decay of the short-lived fission products. This decay time is consistent with the assumptions used in the safety analyses.

3/4.9.5 COMMUNICATIONS

The requirement for communications capability ensures that refueling station personnel can be promptly informed of significant changes in the facility status or core reactivity condition during movement of fuel within the reactor pressure vessel.

3/4.9.6 REFUELING PLATFORM

The OPERABILITY requirements ensure that (1) the refueling platform will be used for handling control rods and fuel assemblies within the reactor pressure vessel, (2) each crane and hoist has sufficient load capacity for handling fuel assemblies and control rods, and (3) the core internals and pressure vessel are protected from excessive lifting force in the event they are inadvertently engaged during lifting operations.

3/4.9.1 INSTRUMENTATION

The OPERABILITY of at least two source range monitors ensure that redundant monitoring capability is available to detect changes in the reactivity condition of the core. SRMs are not required to be OPERABLE when less than or equal to 4 bundles are inserted around the SRM and no other fuel assemblies are in the associated core quadrant since this configuration will not be critical even with all control rods withdrawn. Additionally, this configuration (four bundles inserted around each SRM) provides significantly more SHUTDOWN MARGIN than is required by LCO 3.1.1 (SHUTDOWN MARGIN).

