

## LIMITING CONDITION FOR OPERATION

### 3.10 CORE ALTERATIONS

#### Applicability:

Applies to the fuel handling and core reactivity limitations during refueling and core alterations.

#### Objective:

To ensure that core reactivity is within the capability of the control rods and to prevent criticality during refueling.

#### Specification:

#### A. Refueling Interlocks

1. During in-vessel fuel movement with equipment associated with the interlocks the refueling equipment interlocks shall be operable with the reactor mode switch locked in the "Refuel" position. If one or more required refueling equipment interlocks are inoperable:
    - a. Suspend in-vessel fuel movement with equipment associated with the inoperable interlock(s) immediately.

OR

  - b. Insert a control rod withdrawal block AND verify all control rods are fully inserted.
2. When the reactor vessel head is removed and any control rod is withdrawn the one-rod-out interlock shall be operable with the reactor mode switch locked in the "Refuel" position. If the one-rod-out interlock is inoperable:
  - a. Suspend control rod withdrawal immediately.

AND

- b. Initiate action to fully insert all control rods in core cells containing one or more fuel assemblies immediately.

## SURVEILLANCE REQUIREMENTS

### 4.10 CORE ALTERATIONS

#### Applicability:

Applies to the period testing of those interlocks and instrumentation used during refueling and core alterations.

#### Objective:

To verify the operability of instrumentation and interlocks used in refueling and core alterations.

#### Specification:

#### A. Refueling Interlocks

1. Prior to in-vessel fuel movement with equipment associated with the refueling equipment interlocks, the interlocks shall be functionally tested. They shall be tested at weekly intervals thereafter until no longer required.
2. When the reactor vessel head is removed and any control rod is withdrawn the one-rod-out interlock shall be functionally tested at weekly intervals. The functional test is not required to be performed until 1 hour following withdrawing a control rod.

## LIMITING CONDITION FOR OPERATION

### 3.10 CORE ALTERATIONS (Cont)

#### B. Core Monitoring

During core alterations when fuel is in the vessel two SRM's shall be operable, one in the core quadrant where fuel or control rods are being moved and one in an adjacent quadrant. For an SRM to be considered operable, the following conditions shall be satisfied:

1. The SRM shall be inserted to the normal operating level. (Use of special moveable, dunking type detectors during initial fuel loading and major core alterations in place of normal detectors is permissible as long as the detector is connected to the normal SRM circuit.)

## SURVEILLANCE REQUIREMENTS

### 4.10 CORE ALTERATIONS (Cont)

#### B. Core Monitoring

Prior to making any alterations to the core the SRM's shall be functionally tested and checked for neutron response. Thereafter, while required to be operable, the SRM's will be checked daily for response.

## LIMITING CONDITION FOR OPERATION

### 3.10 CORE ALTERATIONS (Cont)

#### B. Core Monitoring (Cont)

2. The SRM shall have a minimum of 3 cps except as specified in 3 and 4 below.
3. Prior to spiral unloading, the SRM's shall have an initial count rate of  $\geq 3$  cps. During spiral unloading, the count rate on the SRM's may drop below 3 cps.
4. During spiral reload, each control cell shall have at least one assembly with a minimum exposure of 1000 MWD/ST.

#### 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

1. 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 operable and locked in the Refuel position except that the position indication 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.

## SURVEILLANCE REQUIREMENTS

### 4.10 CORE ALTERATIONS (Cont)

#### B. Core Monitoring (Cont)

##### Spiral Reload

During spiral reload, SRM operability will be verified by using a portable external source every 12 hours until the required amount of fuel is loaded to maintain 3 cps. As an alternative to the above, up to two fuel assemblies will be loaded in different cells containing control blades around each SRM to obtain the required 3 cps. Until these assemblies have loaded, the cps requirement is not necessary.

#### 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

1. Within 4 hours prior to the start of removal of control rods and/or control rod drive mechanisms from the core and/or reactor pressure vessel and at least once per 24 hours thereafter until all control rods and control rod drive mechanisms are reinstalled and all control rods are fully inserted in the core, verify that:
  - a. The reactor mode switch is operable and locked in the Refuel position.