

STANDARD Tech Specs.

REFUELING OPERATIONS3/4.9.10 CONTROL ROD REMOVALSINGLE CONTROL ROD REMOVALLIMITING CONDITION FOR OPERATION

3.9.10.1 One control rod and/or the associated control rod drive mechanism may be removed from the core and/or reactor pressure vessel provided that at least the following requirements are satisfied until a control rod and associated control rod drive mechanism are reinstalled and the control rod is fully inserted in the core.

- a. The reactor mode switch is OPERABLE and locked in the Shutdown or Refuel position per Specification 3.9.1.
- b. The source range monitors (SRM) are OPERABLE per Specification 3.9.2.
- c. The SHUTDOWN MARGIN requirements of Specification 3.1.1 are satisfied, except that the control rod selected to be removed;
 1. May be assumed to be the highest worth control rod required to be assumed to be fully withdrawn by the SHUTDOWN MARGIN test, and
 2. Need not be assumed to be immovable or untrippable.
- d. All other control rods in a five-by-five array centered on the control rod being removed are inserted and electrically or hydraulically disarmed.
- e. All other control rods are inserted.

* E APPLICABILITY: OPERATIONAL CONDITION 5.

ACTION:

With the requirements of the above specification not satisfied, suspend removal of the control rod and/or associated control rod drive mechanism from the core and/or reactor pressure vessel and initiate action to satisfy the above requirements. The provisions of Specification 3.0.3 are not applicable.

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STANDARD Tech Specs

REFUELING OPERATIONSBASES3/4.9.6 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.

3/4.9.7 CRANE TRAVEL - SPENT FUEL STORAGE POOL

The restriction on movement of loads in excess of the nominal weight of a fuel element 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 and 3/4.9.9 WATER LEVEL - REACTOR VESSEL and WATER LEVEL - SPENT FUEL STORAGE POOL

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. This minimum water depth is consistent with the assumptions of the accident analysis.

3/4.9.10 CONTROL ROD REMOVAL

* These specifications ensure that maintenance or repair of control rods or control rod drives will be performed under conditions that limit the probability of inadvertent criticality. The requirements for simultaneous removal of more than one control rod are more stringent than the SHUTDOWN MARCIN specification provides for the core to remain subcritical with only one control rod fully withdrawn.

by the above requirements

3/4.9.11 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION

The requirement that at least one residual heat removal loop be OPERABLE 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 REFUELING, and 2) sufficient coolant circulation would be available through the reactor core to distribute and prevent stratification of the poison in the event it becomes necessary to actuate the standby liquid control system.

The requirement to have two shutdown cooling mode loops OPERABLE when there is less than (23) feet of water above the reactor vessel flange ensures that a single failure of the operating loop will not result in a complete loss of residual heat removal capability. With the reactor vessel head removed and (23) feet of water above the reactor vessel flange, a large heat sink is available for core cooling. Thus, in the event a failure of the operating RHR loop, adequate time is provided to initiate emergency procedures to cool the core.

To ACSevener

FROM JSRang

Date May 17, 1979

SUBJECT BIG ROCK POINT PLANT -
TECH SPEC INTERPRETATION - REF TELECON WITH KRIDGWAY

CC RBDewitt, P21-115A DEDeMoor, BRP
RWHouston, P24-124 DPBlanchard, BRP
CJHartman, BRP Document Control #740-23.03.02

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JSR 79-49

During removal of core internals, 3 questions were raised concerning the interpretation or intent of Tech Specs Section 7.5.7. The 3 items evolved from the 2 statements of 7.5.7 below:

1. It shall be permissible to remove a control rod drive from the reactor when the reactor is in the shut down condition and the mode selector switch is locked in the "shutdown" position.
2. The control rod drive that was removed shall without delay be replaced by a spare control rod drive or the original control rod drive shall be reinstalled.

As a minimum 2 control rod drives will be removed coincidentally to allow inspection and testing of the J-weld area (Tech Spec items 1 & 2 reference only removal of 1 control rod drive).

Since considerable testing and probable repair activities will be conducted on F-2 housing the control rod drive cannot be replaced 'without delay' as referenced in Tech Specs item 2. In fact at least 1 control rod drive will be removed for several days or possibly weeks before replacement.

In addition subsequent to the removal of F-2 control rod drive, it will be necessary to remove the remaining control rod blades and support tube and channel assemblies which will require the mode selector switch to be removed from the 'shutdown' position as referenced in Tech Specs item 2.

When reviewing section 7.5.7 of the Tech Specs it becomes obvious that these conditions are required only when fuel is in the reactor vessel as a discussion is also included on the core shutdown margin of $.3\% \Delta K_{eff}/K_{eff}$ must be met, etc. However, the Tech Specs do not read that with the fuel out of the vessel these conditions don't apply.

By discussion with KRidgway on May 17, 1979, he agreed with our interpretation that these conditions only apply with fuel in the reactor vessel and that it would not be considered a violation of our Tech Specs to perform the activities described above with the fuel removed from the reactor vessel.