

3.3.B and 4.3.B BASES (Cont'd)

The requirement of at least 3 counts per second (may be reduced to 0.7 cps for startup on three source range channels provided the signal-to-noise ratio is greater than 2) assures that any transient, should it occur begins at or above the initial value of  $10^{-8}$  of rated power in analyses of transient cold conditions. One operable SRM channel would be adequate to monitor the approach to criticality using homogeneous patterns of scattered control rod withdrawal. A minimum of two operable SRM's are provided as an added conservatism.

5. The Rod Block Monitor (RBM) is designed to automatically prevent fuel damage in the event of erroneous rod withdrawal from locations of high power density during high power level operation. Two channels are provided, and one of these may be bypassed from the console for maintenance and/or testing. Tripping of one of the channels will block erroneous rod withdrawal soon enough to prevent fuel damage. This system backs up the operator who withdraws control rods according to written sequences. The specified restrictions with one channel out of service conservatively assure that fuel damage will not occur due to rod withdrawal errors when this condition exists.

A limiting control rod pattern is a pattern which results in the core being on a thermal hydraulic limit (i.e., operating on a limiting value for APLHGR, LHGR, or MCPR as defined in Technical Specifications 3.5.I., 3.5.J. and 3.5.K.). During use of such patterns, it is judged that testing of the RBM system prior to withdrawal of such rods to assure its operability will assure that improper withdrawal does not occur. It is the responsibility of the Reactor Engineer to identify these limiting patterns and the designated rods either when the patterns are initially established or as they develop due to the occurrence of inoperable control rods in other than limiting patterns. Other personnel qualified to perform this function may be designated by the station superintendent.

## PBAPS

LIMITING CONDITIONS FOR OPERATIONSURVEILLANCE REQUIREMENTS3.3.B Control Rods (Cont'd.)

4. Control rods shall not be withdrawn for startup or refueling unless at least two source range channels have an observed count rate equal to or greater than three counts per second.\*

5. During operation with limiting control rod patterns as determined by the designated qualified personnel, either:

- a. Both RBM channels shall be operable, or
- b. Control rod withdrawal shall be blocked, or
- c. The operating power level shall be limited so that the MCPR will remain above the fuel cladding integrity safety limit assuming a single error that results in complete withdrawal of a single operable control rod.

C. Scram Insertion Times

1. The average scram insertion time, based on the deenergization of the scram pilot valve solenoids as time zero, of all operable control rods in the reactor power operation condition shall be no greater than:

<u>% Inserted from Fully Withdrawn</u>	<u>Avg. Scram Insertion Times (sec)</u>
5	0.375
20	0.90
50	2.0
90	3.5

4.3.B Control Rods (Cont'd.)

4. Prior to control rod withdrawal for startup or during refueling verify that at least two source range channels have an observed count rate of at least three counts per second.\*

5. When a limiting control rod pattern exists, an instrument functional test of the RBM shall be performed prior to withdrawal of the designated rod(s).

\* May be reduced for startup only, provided at least three source range channels have an observed count rate greater than or equal to 0.7 cps and a signal-to-noise ratio greater than or equal to 2.

C. Scram Insertion Times

1. After each refueling outage, and prior to synchronizing the main turbine generator initially following restart of the plant, all operable fully withdrawn insequence rods shall be scram time tested during operational hydrostatic testing or during startup from the fully withdrawn position with the nuclear system pressure above 800 psig.

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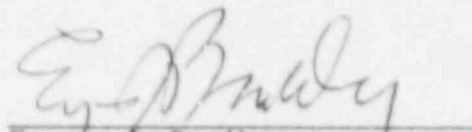
CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing Application were served on the following by deposit in the United States Mail, first class postage prepaid, on the 7th day of September, 1988

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