

LIMITING CONDITIONS FOR OPERATION

3.1 REACTOR PROTECTION SYSTEM

Applicability:

Applies to the instrumentation and associated devices which initiate a reactor scram.

Objective:

To assure the operability of the reactor protection system.

Specification:

- A. The setpoints, minimum number of trip systems, and minimum number of instrument channels that must be operable for each position of the reactor mode switch shall be as given in Table 3.1-1. The designed system response times from the opening of the sensor contact up to and including the opening of the trip actuator contacts shall not exceed 50 milliseconds.

SURVEILLANCE REQUIREMENT

4.1 REACTOR PROTECTION SYSTEM

Applicability:

Applies to the surveillance of the instrumentation and associated devices which initiate reactor scram.

Objective:

To specify the type and frequency of surveillance to be applied to the protection instrumentation.

Specification:

- A.1 Instrumentation systems shall be functionally tested and calibrated as indicated in Tables 4.1-1 and 4.1-2 respectively.
- 2 Response time measurements (from actuation of sensor contacts or trip point to de-energization of scram solenoid relay) are not part of the normal instrument calibration. The measurement of response time will be performed once per operating cycle.
- 3 Daily during reactor power operation, the MFLPD and the FRP shall be checked and the APRM SCRAM and APRM Rod Block settings given by equations in Specification 2.1.A.1 and 2.1.B shall be calculated if the MFLPD exceeds the FRP.
- 4 When it is determined that a channel has failed in the unsafe condition, the other RPS channels that monitor the same variable shall be functionally

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B. Two RPS electric power monitoring modules (or Electric Protective Assemblies - EPA's) for each in-service RPS MG set or alternate source shall be OPERABLE or

1. With one RPS electric power monitoring module (or EPA) for an in-service RPS MG set or alternate power supply inoperable, restore the inoperable module (EPA) to OPERABLE status within 72 hours or remove the associated RPS MG set or alternate power supply from service.

2. With both RPS electric power monitoring modules (EPA's) for an in-service MG set or alternate power supply inoperable, restore at least one to OPERABLE status within 30 minutes or remove the associated RPS MG set or alternate power supply from service.

tested immediately before the trip system containing the failure is tripped. The trip system containing the unsafe failure may be placed in the untripped condition during the period in which surveillance testing is being performed on the other RPS channels. The trip system may be in the untripped position for no more than eight hours per functional trip period for this testing.

B. The RPS power monitoring system (EPA's) instrumentation shall be determined OPERABLE:

1. At least once per six months by performing a CHANNEL FUNCTIONAL TEST; and

2. At least once per operating cycle by demonstrating the OPERABILITY of over-voltage under-voltage and under-frequency, protective instrumentation by performance of a CHANNEL CALIBRATION including simulated automatic actuation of the protective relays, tripping logic and output circuit breakers and verifying the following limits:

a. Over voltage < 132 VAC, with a time delay of 115^{+15}_{-15} millisecond

b. Under voltage ≥ 108 VAC, with a time delay of 115^{+15}_{-15} millisecond

c. Under frequency ≥ 57 Hz, with a time delay of 115^{+15}_{-15} millisecond