

INSTRUMENTATION

SOURCE RANGE MONITORS

LIMITING CONDITION FOR OPERATION

3.3.7.6 At least the following source range monitor channels shall be OPERABLE:

- a. In OPERATIONAL CONDITION 2*, three.
- b. In OPERATIONAL CONDITION 3 and 4, two.

APPLICABILITY: OPERATIONAL CONDITIONS 2*, 3 and 4.

ACTION:

- a. In OPERATIONAL CONDITION 2* with one of the above required source range monitor channels inoperable, restore at least 3 source range monitor channels to OPERABLE status within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours.
- b. In OPERATIONAL CONDITION 3 or 4 with one or more of the above required source range monitor channels inoperable, verify all insertable control rods to be fully inserted in the core and lock the reactor mode switch in the Shutdown position within one hour.

SURVEILLANCE REQUIREMENTS

4.3.7.6 Each of the above required source range monitor channels shall be demonstrated OPERABLE by:

- a. Performance of a:
 1. CHANNEL CHECK at least once per:
 - a) 12 hours in CONDITION 2*, and
 - b) 24 hours in CONDITION 3 or 4.
 2. CHANNEL CALIBRATION** at least once per 18 months[#].
- b. Performance of a CHANNEL FUNCTIONAL TEST:
 1. Within 7 days prior to moving the reactor mode switch from the Shutdown position, and
 2. At least once per 31 days[#].
- c. Verifying, prior to withdrawal of control rods, that the SRM count rate is at least 0.7 cps*** with the detector fully inserted.

*With IRM's on range 2 or below.

**Neutron detectors may be excluded from CHANNEL CALIBRATION.

***Provided the signal-to-noise ratio is ≥ 2 .

[#]The provisions of Specification 4.0.4 are not applicable to the CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION surveillances for the Source Range Monitors for entry into their applicable OPERATIONAL CONDITIONS (OPERATIONAL CONDITION 2*, 3 and 4) from OPERATIONAL CONDITION 1, provided the surveillances are performed within 12 hours after such entry.

INSTRUMENTATION

TRAVERSING IN-CORE PROBE SYSTEM

LIMITING CONDITION FOR OPERATION

- 3.3.7.7 The traversing in-core probe system shall be OPERABLE with either:
- a. Five movable detectors, drives and readout equipment to map the core, and indexing equipment to allow all five detectors to be calibrated in a common location.
- OR
- b. With one or more TIP measurement locations inoperable, data may be replaced by data obtained from that location's symmetric counterpart if the substitute TIP data was obtained from an OPERABLE measurement location; provided the reactor core is operating in a type A control rod pattern and the total core TIP uncertainty for the present cycle has been determined to be less than 8.7 percent (standard deviation). Symmetric counterpart data may be substituted for a maximum of ten TIP measurement locations.

APPLICABILITY: When the traversing in-core probe is used for:

- a.* Recalibration of the LPRM detectors, and
- b.* Monitoring the APLHGR, LHGR, or MCPR.

ACTION:

With the traversing in-core probe system inoperable, do not use the system for the above applicable monitoring or calibration functions. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.7.7 The traversing in-core probe system shall be demonstrated OPERABLE by normalizing each of the above required detector outputs within 72 hours prior to use when required for the above applicable LPRM calibration and monitoring functions.

*Only the detector(s) in the location(s) of interest are required to be OPERABLE.