

INSTRUMENTATION

3/4.3.2 ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

SURVEILLANCE REQUIREMENTS

4.3.2.1.1 Each engineered safety feature actuation system instrumentation channel and interlock and the automatic actuation logic with master and slave relays shall be demonstrated OPERABLE by the performance of the ESFAS Instrumentation Surveillance Requirements⁽¹⁾ during the MODES and at the frequencies shown in Table 4.3-2.

4.3.2.1.2 The logic for the interlocks shall be demonstrated OPERABLE during the at power CHANNEL FUNCTIONAL TEST of channels affected by interlock operation. The total interlock function shall be demonstrated OPERABLE at least once per 18 months during CHANNEL CALIBRATION testing of each channel affected by interlock operation.

4.3.2.1.3 The ENGINEERED SAFETY FEATURES RESPONSE TIME of each ESF function shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one logic train such that both logic trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once per N times 18 months where N is the total number of redundant channels in a specific ESF function as shown in the "Total No. Of Channels" Column of Table 3.3-3.

(1) For the automatic actuation logic, the surveillance requirements shall be the application of various simulated input conditions in conjunction with each possible interlock logic state and verification of the required logic output including, as a minimum, a continuity check of output devices. For the actuation relays, the surveillance requirements shall be the energization of each master and slave relay and verification of OPERABILITY of each relay. The test of master relays shall include a continuity check of each associated slave relay. The test of slave relays (to be performed at least once per 92 days in lieu of at least once per 31 days) shall include, as a minimum, a continuity check of associated actuation devices that are not testable. The slave relay test frequency can be extended to once per 12 months provided a satisfactory contact loading analysis has been completed, and a satisfactory slave relay service life has been established, for the slave relay being tested.