

**SURVEILLANCE REQUIREMENTS**

-----NOTE-----  
Refer to Table 3.3.6-1 to determine which SRs apply for each Containment Purge and Exhaust Isolation Function.  
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SURVEILLANCE		FREQUENCY
SR 3.3.6.1	Perform CHANNEL CHECK.	12 hours
SR 3.3.6.2	Perform ACTUATION LOGIC TEST.	31 days on a STAGGERED TEST BASIS
SR 3.3.6.3	Perform MASTER RELAY TEST.	31 days on a STAGGERED TEST BASIS
SR 3.3.6.4	Perform COT.	92 days
SR 3.3.6.5	Perform SLAVE RELAY TEST.	18 months
SR 3.3.6.6	-----NOTE----- Verification of setpoint not required. ----- Perform TADOT.	18 months
SR 3.3.6.7	Perform CHANNEL CALIBRATION.	18 months
SR 3.3.6.8	Verify RESPONSE TIMES are within limits.	18 months on a STAGGERED TEST BASIS

## ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
C. -----NOTE----- Only applicable during CORE ALTERATIONS or movement of irradiated fuel assemblies within containment. -----	C.1 Place and maintain containment purge and exhaust valves in closed position.  <u>OR</u>	Immediately
No radiation monitoring channels OPERABLE.  <u>OR</u>  Required Action and associated Completion Time for Condition A not met.	C.2 Enter applicable Conditions and Required Actions of LCO 3.9.4, "Containment Penetrations," for containment purge supply and exhaust isolation penetrations not in required status.	Immediately

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SR 3.3.6.4

A COT is performed every 92 days on each required channel to ensure the entire channel will perform the intended Function. The Frequency is based on the staff recommendation for increasing the availability of radiation monitors according to NUREG-1366 (Ref. 2). For MODES 1, 2, 3, and 4, this test verifies the capability of the instrumentation to provide the containment purge and exhaust system isolation. During CORE ALTERATIONS and movement of irradiated fuel in containment, this test verifies the capability of the required channels to generate the signals required for input to the control room alarm. The setpoint shall be left consistent with the current unit specific calibration procedure tolerance.

SR 3.3.6.5

SR 3.3.6.5 is the performance of a SLAVE RELAY TEST. The SLAVE RELAY TEST is the energizing of the slave relays. Contact operation is verified in one of two ways. Actuation equipment that may be operated in the design mitigation mode is either allowed to function or is placed in a condition where the relay contact operation can be verified without operation of the equipment. Actuation equipment that may not be operated in the design mitigation mode is prevented from operation by the SLAVE RELAY TEST circuit. For this latter case, contact operation is verified by a continuity check of the circuit containing the slave relay.

For slave relays and associated auxiliary relays in the CVI actuation system circuit that are Potter and Brumfield (P&B) type Motor Driven Relays (MDR), the SLAVE RELAY TEST is performed on an 18-month frequency. This test frequency is based on relay reliability assessments presented in WCAP-13878, "Reliability Assessment of Potter and Brumfield MDR Series Relays." The reliability assessments are relay specific and apply only to Potter and Brumfield MDR series relays. Quarterly testing of the slave relays associated with non-P&B MDR auxiliary relays will be administratively controlled until an alternate method of testing the auxiliary relays is developed or until they are replaced by P&B MDR series relays.

SR 3.3.6.6

SR 3.3.6.6 is the performance of a TADOT. This test is a check of the Manual Actuation Functions and is performed every 18 months. Each Manual Actuation Function is tested up to, and including, the master relay coils. In some instances, the test includes actuation of the end device (i.e., pump starts, valve cycles, etc.).

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**SR 3.3.6.6** (continued)

The test also includes trip devices that provide actuation signals directly to the SSPS, bypassing the analog process control equipment. The SR is modified by a Note that excludes verification of setpoints during the TADOT. The Functions tested have no setpoints associated with them. The Frequency is based on the known reliability of the Function and the redundancy available, and has been shown to be acceptable through operating experience.

**SR 3.3.6.7**

A CHANNEL CALIBRATION is performed every 18 months, or approximately at every refueling. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to a measured parameter within the necessary range and accuracy.

The Frequency is based on operating experience and is consistent with the typical industry refueling cycle.

**SR 3.3.6.8**

This SR ensures the individual channel RESPONSE TIMES are less than or equal to the maximum values assumed in the accident analysis. Response time testing acceptance criteria are included in the FSAR. Individual component response times are not modeled in the analyses. The analyses model the overall or elapsed time, from the point at which the parameter exceeds the Trip Setpoint Valve at the sensor, to the point at which the equipment in both trains reaches the required functional state.

RESPONSE TIME tests are conducted on an 18 month STAGGERED TEST BASIS. Testing of the final actuation devices, which make up the bulk of the response time, is included in the testing of each channel. The final actuation device in one train is tested with each channel. Therefore, staggered testing results in response time verification of these devices every 18 months. The 18 month frequency is consistent with the typical refueling cycle and is based on unit operating experience, which shows that random failures of instrumentation components causing serious response time degradation, but not channel failure, are infrequent occurrences.

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**REFERENCES**

1. 10 CFR 100.11.
  2. NUREG-1366.
  3. WCAP-13878-P-A, Rev. 2, August 2000.
  4. WCAP-13900, Rev. 0, April 1994.
  5. WCAP-14129, Rev. 1, January 1999.
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