BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.1.16 (continued)

testing. Some portions of the response time testing cannot be performed during unit operation because equipment operation is required to measure response times. Experience has shown that these components usually pass this surveillance when performed at the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint. Response time verification in lieu of actual testing may be performed on RTS components in accordance with reference 10. | 31

SR 3.3.1.16 is modified by a Note stating that neutron and N-16 gamma detectors are excluded from RTS RESPONSE TIME testing. This Note is necessary because of the difficulty in generating an appropriate detector input signal. Excluding the detectors is acceptable because the principles of detector operation ensure a virtually instantaneous response. Response time of the neutron flux or N-16 signal portion of the channel shall be measured from detector output or input to the first electronic component in the channel.

REFERENCES

1. FSAR, Chapter 7.
2. FSAR, Chapter 15.
3. IEEE-279-1971.
4. 10 CFR 50.49.
5. WCAP-10271-P-A, Supplement 2, Rev. 1, June 1990.
6. Technical Requirements Manual.
7. Not Used.
8. Not used.
9. "Westinghouse Setpoint Methodology for Protection Systems Comanche Peak Unit 1, Revision 1," WCAP-12123, Revision 2, April, 1989.
10. "Elimination of Periodic Protection Channel Response Time Tests", WCAP-14036-P-A, Revision 1, October 6, 1998. | 31

BASES

SURVEILLANCE REQUIREMENTS

SR 3.3.2.10 (continued)

Response time may be verified by actual response time tests in any series of sequential, overlapping or total channel measurements, or by the summation of allocated sensor, signal processing and actuation logic response times with actual response time tests on the remainder of the channel. Allocations for sensor response times may be used for selected components provided that the components and methodology for verification have been previously NRC approved.

ESF RESPONSE TIME tests are performed on an 18 month STAGGERED TEST BASIS. The testing shall include at least one train such that both trains are tested at least once per 36 months. 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. Response time verification in lieu of actual testing may be performed on ESFAS components in accordance with reference 11. 31

This SR is modified by a Note that clarifies that the turbine driven AFW pump is tested within 24 hours after reaching 532 psig in the SGs.

SR 3.3.2.11

SR 3.3.2.11 is the performance of a TADOT as described in SR 3.3.2.8, except that it is performed for the P-4 Reactor Trip Interlock. This Frequency is based on operating experience.

The SR is modified by a Note that excludes verification of setpoints during the TADOT. The Function tested has no associated setpoint.

(continued)

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.3.2.12

SR 3.3.2.12 is the performance of a CHANNEL CALIBRATION.

A CHANNEL CALIBRATION is performed every 9 months. CHANNEL CALIBRATION is a complete check of the instrument loop, including the sensor. The test verifies that the channel responds to measured parameter within the necessary range and accuracy.

CHANNEL CALIBRATIONS must be performed consistent with the assumptions of the unit specific setpoint methodology.

The Frequency of 9 months is based on the assumption of an 9 month calibration interval in the determination of the magnitude of equipment drift in the setpoint methodology.

REFERENCES

1. FSAR, Chapter 6.
2. FSAR, Chapter 7.
3. FSAR, Chapter 15.
4. IEEE-279-1971.
5. 10 CFR 50.49.
6. WCAP-10271-P-A, Supplement 2, Rev. 1, June 1990.
7. Technical Requirements Manual.
8. WCAP-10271-P-A, Supplement 3, September 1990 | 16
9. "Westinghouse Setpoint Methodology for Protection Systems Comanche Peak Unit 1, Revision 1," WCAP-12123, Revision 2, April, 1989.
10. WCAP-13877-P-A, Revision 2, August 2000. | 21
11. "Elimination of Periodic Protection Channel Response Time Tests", WCAP-14036-P-A, Revision 1, October 6, 1998. | 31