TABLE 4.3-1

REACTOR PROTECTION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	TIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1.	Manual Reactor Trip	N.A.	N.A.	S/U(1)	N.A.
2.	High Flux	S	D(2), and Q(7)	M	1, 2
3.	RC High Temperature	S	R	M	1, 2
4.	Flux - ΔFlux - Flow	S(4)	M(3) and Q(7,8)	M	1, 2
5.	RC Low Pressure	S	R+	M	1, 2
6.	RC High Pressure	S	R+	M	1, 2
7.	RC Pressure-Temperature	S	R	M	1, 2
8.	High Flux/Number of Reactor Coolant Pumps On	S	R	M	1, 2
9.	Containment High Pressure	S	R	M	1, 2
10.	Intermediate Range, Neutron Flux and Rate	S	R(7)	S/U(5)(1)	1, 2 and*
11.	Source Range, Neutron Flux and Rate	S	R(7)	M and S/U(1)(5)	2, 3, 4 and 5
12.	Control Rod Drive Trip Breakers	N.A.	N.A.	M and S/U(1)	1, 2 and*
13.	Reactor Trip Module Logic	N.A.	N.A.	M	1, 2 and*
14.	Shutdown Bypass High Pressure	S	R	M	2**, 3**, 4**, 5**

+ Eighteen-month surveillance test due in March 1982 delayed until March 31, 1982.

NOTATION

* - With any control rod drive trip breaker closed.

** - When Shutdown Bypass is actuated.

(1) - If not performed in previous 7 days.

(2) - Heat balance only, above 15% of RATED THERMAL POWER.

(3) - When THERMAL POWER [TP] is above 30% of RATED THERMAL POWER [RTP], compare out-of-core measured AXIAL POWER IMBALANCE [API_O] to incore measured AXIAL POWER IMBALANCE [API_I]. Recalibrate if:

$$\frac{RTP}{TP} [API_O - API_I] \geq 3.5\%$$

(4) - AXIAL POWER IMBALANCE and loop flow indications only.

(5) - Verify at least one decade overlap if not verified in previous 7 days.

(6) - Each train tested every other month.

(7) - Neutron detectors may be excluded from CHANNEL CALIBRATION.

(8) - Flow rate measurement sensors may be excluded from CHANNEL CALIBRATION. However, each flow measurement sensor shall be calibrated at least once per 18 months.+

+ Eighteen-month surveillance test due in March 1982 delayed until March 31, 1982.

TABLE 4.3-2

SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1. INSTRUMENT STRINGS				
a. Containment Radiation - High	S	R*	M	1,2,3,4,6#
b. Containment Pressure - High	S	R	M(2)	1, 2, 3
c. Containment Pressure - High-High	S	R	M(2)	1, 2, 3
d. RCS Pressure - Low	S	R	M	1, 2, 3
e. RCS Pressure - Low-Low	S	R	M	1, 2, 3
f. BWST Level - Low -Low	S	R	M	1, 2, 3
2. OUTPUT LOGIC				
a. Incident Level #1: Containment Isolation	S	R	M	1,2,3,4,6#
b. Incident Level #2: High Pressure Injection and Starting Diesel Generators	S	R	M	1, 2, 3, 4
c. Incident Level #3: Low Pressure Injection	S	R	M	1, 2, 3, 4
d. Incident Level #4: Containment Spray	S	R	M	1, 2, 3, 4
e. Incident Level #5: Containment Sump Recirculation Permissive	S	R	M	1, 2, 3, 4
3. MANUAL ACTUATION				
a. SFAS (Except Containment Spray and Emergency Sump Recirculation)	NA	NA	M(1)	1,2,3,4,6#
b. Containment Spray	NA	NA	M(1)	1, 2, 3
4. SEQUENCE LOGIC CHANNELS	S	NA	M	1, 2, 3, 4

* Eighteen-month surveillance test due in March 1982 delayed until March 31, 1982.

TABLE 4.3-11

STEAM AND FEEDWATER RUPTURE CONTROL SYSTEM
INSTRUMENTATION SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION *	CHANNEL FUNCTIONAL TEST
1. Instrument Channel			
a. Steam Line Pressure - Low	S	R	M
b. Steam Generator Level - Low	S	R	M
c. Steam Generator - Feedwater Differential Pressure-High	S	R	M
d. Reactor Coolant Pumps-Loss of	S	R	M
2. Manual Actuation	NA	NA	R

* Eighteen-month surveillance test due in March 1982 delayed until March 31, 1982.

CONTAINMENT RECIRCULATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.4.2 Two independent containment recirculation systems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

With one containment recirculation system inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.2 Each containment recirculation system shall be demonstrated OPERABLE:

a. At least once per 92 days on a STAGGERED TEST BASIS by:

   1. Verifying that the system can be started on operator action in the control room, and

   2. Verifying that the system operates for at least 15 minutes.

b. At least once per 18 months by verifying a system flow rate of at least 7,200 cfm.*

* Eighteen-month surveillance test due in March 1982 delayed until March 31, 1982.

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying that the system satisfies the in-place testing acceptance criteria and uses the test procedures of Regulatory Positions C.5.a, C.5.c and C.5.d of Regulatory Guide 1.52, Revision 1, July 1976, and the system flow rate is 8,000 cfm ±10%.

3. Verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 1, July 1976, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 1, July 1976.*

4. Verifying a system flow rate of 8,000 cfm ±10% during system operation when tested in accordance with ANSI N510-1975.

c. After every 720 hours of charcoal adsorber operation by verifying within 31 days after removal that a laboratory analysis of a representative carbon sample obtained in accordance with Regulatory Position C.6.b of Regulatory Guide 1.52, Revision 1, July 1976, meets the laboratory testing criteria of Regulatory Position C.6.a of Regulatory Guide 1.52, Revision 1, July 1976.*

d. At least once per 18 months by:

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is < 6 inches Water Gauge while operating the system at a flow rate of 8,000 cfm ± 10%.

2. Verifying that the system starts automatically on any containment isolation test signal.**

3. Verifying that the filter cooling bypass valves can be manually opened.**

*Representative samples of used activated carbon from the EVS shall pass the laboratory test given in Table 3 for an activated carbon bed depth of 2 inches (i.e., the two 2 inch filter beds in series shall be tested per Test 5.b in Table 2 at a relative humidity of 70% for a methyl iodide penetration of less than 1%). The pre- and post-loading sweep medium temperature shall be 80°C for Test 5.b of Table 2, Regulatory Guide 1.52, Revision 1, July 1976.

** Eighteen-month surveillance test due in March 1982 delayed until March 31, 1982.

SURVEILLANCE REQUIREMENTS (Continued)

c. The Auxiliary Feed Pump Turbine Steam Generator Level Control System shall be demonstrated OPERABLE by performance of a CHANNEL CHECK at least once per 12 hours, a CHANNEL FUNCTIONAL TEST at least once per 31 days, and a CHANNEL CALIBRATION at least once per 18 months.

d. The Auxiliary Feed Pump Turbine Speed Switch, Auxiliary Feed Pump Suction Pressure Interlocks, and Auxiliary Feed Pump Turbine Inlet Steam Pressure Interlocks shall be demonstrated OPERABLE by performance of a CHANNEL FUNCTIONAL TEST at least once per 31 days, and a CHANNEL CALIBRATION at least once per 18 months.*

* Eighteen-month surveillance test for AF Pump Speed Switch due in March 1982 delayed until March 31, 1982.