INSTRUMENTATION

3/4.3.3 MONITORING INSTRUMENTATION

RADIATION MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.1 The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE with their alarm/trip setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3-6.

ACTION:

a. With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.

b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.

c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.1 Each radiation monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-3.

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ALARM/TRIP SETPOINT	MEASUREMENT RANGE	ACTION
1. AREA MONITORS					
a. Fuel Storage Pool Area					
i. Criticality Monitor	(1)	*	≤ 15 mR/hr	$(10^{-1} - 10^{4})$ mR/hr	25
ii. Ventilation System Isolation	(1)	**	(≤ 2 x background)	$(1 - 10^{5})$ cpm	27
b. Containment - Purge & Exhaust Isolation	(1)	6	(≤ 2 x background)	$(1 - 10^{5})$ cpm	28
c. Control Room Isolation	(1)	All MODES	(≤ 2 x background)	$(10^{-1} - 10^{4})$mR/hr	29
d. Containment Area	2	1, 2, 3 & 4	( ) rad/hr	$1-10^{8}$ rad/hr	30
2. PROCESS MONITORS					
a. Fuel Storage Pool Area - Ventilation System Isolation					
i. Gaseous Activity	(1)	**	(≤ 2 x background)	$(1 - 10^{5})$ cpm	27
ii. Particulate Activity	(1)	**	(≤ 2 x background)	$(1 - 10^{5})$ cpm	27
b. Containment					
i. Gaseous Activity					
a)Purge & Exhaust Isolation	(1)	6	(≤ 2 x background)	$(1 - 10^{5})$ cpm	28
b)RCS Leakage Detection	(1)	1, 2, 3 & 4	N/A	$(1 - 10^{5})$ cpm	26
ii. Particulate Activity					
a)Purge & Exhaust Isolation	(1)	6	(≤ 2 x background)	$(1 - 10^{5})$ cpm	28
b)RCS Leakage Detection	(1)	1, 2, 3 & 4	N/A	$(1 - 10^{5})$ cpm	26

* With fuel in the storage pool or building
** With irradiated fuel in the storage pool

TABLE 3.3-6 (Continued)

ACTION STATEMENTS

ACTION 25 - With the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per 24 hours.

ACTION 26 - With the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification (3.4.6.1).

ACTION 27 - With the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification (3.9.12).

ACTION 28 - With the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirement, comply with the ACTION requirements of Specification (3.9.9).

ACTION 29 - With the number of OPERABLE channels less than required by the Minimum Channels OPERABLE requirement, within 1 hour initiate and maintain operation of the control room emergency ventilation system in the recirculation mode of operation.

ACTION 30 - With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirement, restore the inoperable Channel(s) to OPERABLE status within 7 days, or be in at least HOT STANDBY within the next 6 hours, in at least HOT SHUTDOWN within the following 6 hours and in COLD SHUTDOWN within the subsequent 24 hours.

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
1. AREA MONITORS				
a. Fuel Storage Pool Area				
i. Criticality Monitor	S	R	M	*
ii. Ventilation System Isolation	S	R	M	**
b. Containment - Purge & Exhaust Isolation	S	R	M	6
c. Control Room Isolation	S	R	M	All MODES
d. Containment Area	S	R	M	1, 2, 3 & 4
2. PROCESS MONITORS				
a. Fuel Storage Pool Area - Ventilation System Isolation				
i. Gaseous Activity	S	R	M	**
ii. Particulate Activity	S	R	M	**
b. Containment				
i. Gaseous Activity				
a) Purge & Exhaust Isolation	S	R	M	6
b) RCS Leakage Detection	S	R	M	1, 2, 3, & 4
ii. Particulate Activity				
a) Purge & Exhaust Isolation	S	R	M	6
b) RCS Leakage Detection	S	R	M	1, 2, 3, & 4

*With fuel in the storage pool or building.
**With irradiated fuel in the storage pool.

TABLE 4.3-3 (Continued)

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES FOR WHICH SURVEILLANCE IS REQUIRED
PROCESS MONITORS (Continued)				
c. Noble Gas Effluent Monitors				
i. Radwaste Building Exhaust System	S	R	M	1, 2, 3 & 4
ii. Auxiliary Building Exhaust System	S	R	M	1, 2, 3 & 4
iii. Steam Safety Valve Discharge	S	R	M	1, 2, 3 & 4
iv. Atmospheric Steam Dump Valve Discharge	S	R	M	1, 2, 3 & 4
v. Shield Building Exhaust System	S	R	M	1, 2, 3 & 4
vi. Containment Purge & Exhaust System	S	R	M	1, 2, 3 & 4
vii. Condenser Exhaust System	S	R	M	1, 2, 3 & 4

3/4.3.3.3 SEISMIC INSTRUMENTATION

The OPERABILITY of the seismic instrumentation ensures that sufficient capability is available to promptly determine the magnitude of a seismic event and evaluate the response of those features important to safety. This capability is required to permit comparison of the measured response to that used in the design basis for the facility to determine if plant shutdown is required pursuant to Appendix "A" of 10 CFR Part 100. The instrumentation is consistent with the recommendations of Regulatory Guide 1.12, "Instrumentation for Earthquakes," April 1974.

3/4.3.3.4 METEOROLOGICAL INSTRUMENTATION

The OPERABILITY of the meteorological instrumentation ensures that sufficient meteorological data is available for estimating potential radiation doses to the public as a result of routine or accidental release of radioactive materials to the atmosphere. This capability is required to evaluate the need for initiating protective measures to protect the health and safety of the public and is consistent with the recommendations of Regulatory Guide 1.23, "Onsite Meteorological Programs," February 1972.

3/4.3.3.5 REMOTE SHUTDOWN INSTRUMENTATION

The OPERABILITY of the remote shutdown instrumentation ensures that sufficient capability is available to permit shutdown and maintenance of HOT STANDBY of the facility from locations outside of the control room. This capability is required in the event control room habitability is lost and is consistent with General Design Criteria 19 of 10 CFR 50.

3/4.3.3.6 ACCIDENT MONITORING INSTRUMENTATION

The OPERABILITY of the accident monitoring instrumentation ensures that sufficient information is available on selected plant parameters to monitor and assess these variables following an accident. This capability is consistent with the recommendations of Regulatory Guide 1.97, "Instrumentation for Light-Water-Cooled Nuclear Power Plants to Assess Plant and Environs Conditions During and Following an Accident," December 1980 and NUREG-0737, "Clarification of TMI Action Plan Requirements," November, 1980.