Docket No. 50-336
B14019

Attachment 1

Millstone Nuclear Power Station, Unit No. 2

Proposed Technical Specification Change
Radiation Monitoring Instrumentation

January 1992

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION

INSTRUMENT	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ALARM/TRIP SETPOINT	MEASUREMENT RANGE	ACTION
1. AREA MONITORS					
a. Spent Fuel Storage Ventilation System Isolation	2	*	100 mR/hr	10^{-1} - 10^{+4} mR/hr	13 and 15
b. Control Room Isolation	1	ALL MODES	2 mR/hr	10^{-1} - 10^{4} mR/hr	16
c. Containment High Range	1	1, 2, 3, & 4	100 R/hr	10^{0} - 10^{8} R/hr	17
d. Noble Gas Effluent Monitor (high range) (Unit 2 stack)	1	1, 2, 3, & 4	2×10^{-1} uci/cc	10^{-3} - 10^{5} uci/cc	17
2. PROCESS MONITORS					
a. Containment Atmosphere-Particulate	1	ALL MODES**	the value determined in accordance with specification 4.3.2.1.4.	10 - 10^{+6} cpm	14 and (a)
b. Containment Atmosphere-Gaseous	1	ALL MODES**	the value determined in accordance with Specification 4.3.2.1.4.	10 - 10^{+6} cpm	14 and (a)

* With fuel in storage building.
**These radiation monitors are not required to be operable during Type "A" Integrated Leak Rate Testing.

TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1. AREA MONITORS				
a. Spent Fuel Storage Ventilation System Isolation	S	R	M	*
b. Control Room Isolation	S	R	M	ALL MODES
c. Containment High Range	S	R**	M	1, 2, 3, & 4
d. Noble Gas Effluent Monitor (t[illegible]ange) (Unit 2 [illegible])	S	R	M	1, 2, 3, & 4
2. PROCESS MONITORS				
a. Containment Atmosphere-Particulate	S	R	M	ALL MODES
b. Containment Atmosphere-Gaseous	S	R	M	ALL MODES

*With fuel in storage building
**Calibration of the sensor with a radioactive source need only be performed on the lowest range. Higher ranges may be calibrated electronically.

Amendment No. 49, 100, 120

3/4.3.1 AND 3/4.3.2 PROTECTIVE AND ENGINEERED SAFETY FEATURES (ESF) INSTRUMENTATION (Continued)

The maximum allowable trip value for these monitors corresponds to calculated concentrations at the site boundary which would not exceed the concentrations listed in 10 CFR Part 20, Appendix B, Table II. Exposure for a year to the concentrations in 10 CFR Part 20, Appendix B. Table corresponds to a total body dose to an individual of 500 mrem which is well below the guidelines of 10 CFR Part 100 for an individual at any point on the exclusion area boundary for two hours.

Determination of the monitor's trip value in counts per minute, which is the actual instrument response, involves several factors including: 1) the atmospheric dispersion (x/Q), 2) isotopic composition of the sample, 3) sample flow rate, 4) sample collection efficiency, 5) counting efficiency, and 6) the background radiation level at the detector. The x/Q of 5.8×10^{-6} sec/m^3 is the highest annual average x/Q estimated for the site boundary (0.49 miles in the NE sector) for vent releases from the containment and 7.5×10^{-8} sec/m^3 is the highest annual average x/Q estimated for an off-site location (3 miles in the NNE sector) for releases from the Unit 1 stack. This calculation also assumes that the isotopic composition is xenon-135 for gaseous radioactivity and cesium-137 for particulate radioactivity (Half Lives greater than 8 days). The upper limit of 5×10^5 cpm is approximately 90 percent of full instrument scale.

3/4.3.3 MONITORING INSTRUMENTATION

3/4.3.3.1 RADIATION MONITORING INSTRUMENTATION

The OPERABILITY of the radiation monitoring channels ensures that 1) the radiation levels are continually measured in the areas served by the individual channels and 2) the alarm or automatic action is initiated when the radiation level trip setpoint is exceeded.

The spent fuel storage area monitors provide a signal to direct the ventilation exhaust from the spent fuel storage area through a filter train when the dose rate exceeds the setpoint. The filter train is provided to reduce the particulate and iodine radioactivity released to the atmosphere. Should an accident involving spent fuel occur, the 100 mR/hr actuation setpoint would be sufficient to limit any consequences at the exclusion area boundary to those evaluated in the NRC Safety Evaluation, Section 15 (May 1974).