

ENCLOSURE

RADIOACTIVE EFFLUENT TECHNICAL SPECIFICATIONS

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TABLE 3.5-6

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

RELEASE PATHWAY/INSTRUMENTATION	MCO*	REQUIRED ACTION
1. Liquid Radwaste Effluent Discharge Line	1	With the number of channels operable less than the MCO requirement:
a. Monitor (RMS-18) provides automatic termination of release upon exceeding alarm/trip setpoint		a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and,
		b. Effluent releases via this pathway may continue provided that prior to initiating a release:
		1. Two independent samples are analyzed in accordance with the Surveillance Requirements of Specification 3.9.1.1 and;
		2. Two members of the facility staff independently verify the release rate calculations and the discharge line valving.
b. Flow rate measurement device	1	With the number of channels operable less than the MCO requirement:
		a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and,
		b. Effluent releases via this pathway may be continued, provided that the flow rate is estimated at least once per 4 hours during actual releases. Pump performance curves generated "in situ" and tank volumes may be used to estimate flow.

\*MCO - Minimum Channels Operable

TABLE 3.5-6 (Continued)

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

RELEASE PATHWAY/INSTRUMENTATION	MCO*	REQUIRED ACTION
2. Steam Generator Blowdown Effluent Line		
a. Monitor (RMS-19) provides automatic termination of blowdown from all three Steam Generators upon exceeding alarm/trip setpoint	1	<p>With the number of channels operable less than the MCO requirement:</p> <p>a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and,</p> <p>b. Effluent releases via this pathway may continue provided that grab samples are analyzed for gross radioactivity (beta or gamma) with a lower limit of detection of at least <math>1.0E-07</math> <math>\mu\text{Ci/ml}</math> or are analyzed for principle gamma emitters consistent with Table 4.10-1;</p> <p>1. Once per 24 hours when the specific activity of the secondary coolant is <math>\leq 0.01</math> <math>\mu\text{Ci/ml}</math> Dose Equivalent I-131, or;</p> <p>2. Once per 12 hours when the specific activity of the secondary coolant is <math>&gt; 0.01</math> <math>\mu\text{Ci/ml}</math> Dose Equivalent I-131.</p>
b. Flow rate measurement devices - each Steam Generator has its own blowdown flow rate measuring device	1 per S/G	<p>With the number of channels operable less than the MCO requirement:</p> <p>a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and,</p> <p>b. Effluent releases via this pathway may continue provided that the flow rate for the affected blowdown line(s) is estimated at least once per 24 hours.</p>

\*MCO - Minimum Channels Operable

TABLE 3.5-6 (Continued)

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

RELEASE PATHWAY/INSTRUMENTATION	MCO*	REQUIRED ACTION
3. Discharge Canal Flow	Note 1	With the number of channels operable less than the MCO requirement suspend effluent release via this pathway.
4. Tank Level Indicating Devices		With the number of channels operable less than the MCO requirement:
a. Refueling Water Storage Tank	1	a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and,
b. Monitor Tanks		
Tank A	1	
Tank B		b. Liquid additions to the affected tank(s) may continue provided that the liquid level for the affected tanks is estimated during all liquid additions to the affected tank(s).
c. Waste Condensate Tanks		
Tank C	1	
Tank D	1	
Tank E	1	
d. Temporary Tanks (Note 2)	1 per Tank	
5. Containment Fan Cooling Water Monitor (Service Water Effluent Line)		
a. Monitor (RMS-16) does not provide automatic termination of release upon exceeding alarm setpoint	1	With the number of channels operable less than the MCO requirement:
		a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and,

\*MCO - Minimum Channels Operable

TABLE 3.5-6 (Continued)

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

RELEASE PATHWAY/INSTRUMENTATION	MCO*	REQUIRED ACTION
		<ul style="list-style-type: none"> <li>b. Effluent releases via this pathway may continue provided that, once per 24 hours, grab samples are collected and analyzed for gross radioactivity (beta or gamma) with a lower limit of detection of at least <math>1.0\text{E-}07</math> <math>\mu\text{Ci/ml}</math> or are analyzed for principal gamma emitters consistent with Table 4.10-1.</li> </ul>
6. Composite Sampler for Settling Ponds	1	<p>With the number of channels operable less than the MCO requirement:</p> <ul style="list-style-type: none"> <li>a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and,</li> <li>b. Effluent releases via this pathway may continue provided that, once per 24 hours, grab samples are collected and analyzed for gross radioactivity (beta or gamma) with lower limit of detection of at least <math>1.0\text{E-}07</math> <math>\mu\text{Ci/ml}</math> or are analyzed for principal gamma emitters consistent with Table 4.10-1.</li> </ul>

\*MCO - Minimum Channels Operable

Note 1 - Pump curves for Unit 2 operating circulating water pumps may be used to satisfy this MCO. If no Unit 2 circulating water pumps are operating the pump curves for circulating water pumps operating in Unit 1 may be used to satisfy this MCO.

Note 2 - A temporary tank is defined as any tank having a capacity of  $\geq 100$  gallons used for the receipt or transfer of radioactive liquids.

TABLE 3.5-7

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

RELEASE PATHWAY/INSTRUMENTATION	MCO*	REQUIRED ACTION
1. Plant Vent		
a. Radionoble gas monitor (RMS-14) provides automatic termination of Waste Gas Decay Tank releases upon exceeding alarm/trip setpoint	1	<p>With the number of channels operable less than the MCO requirement:</p> <p>a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and,</p> <p>b. Effluent releases via this pathway may continue provided that prior to initiating a release:</p> <ol style="list-style-type: none"> <li>1. Two independent samples are analyzed in accordance with the Surveillance Requirements of Specification 3.9.3.1 and;</li> <li>2. Two members of the facility staff independently verify the release rate calculations and the discharge line valving.</li> </ol>
b. Radionoble gas monitors RMS-14 and RMS-34 monitor all effluents from Auxiliary Building Ventilation System without providing automatic termination of release upon exceeding their respective alarm setpoints	1 of the two monitors	<p>With the number of channels operable less than the MCO requirement:</p> <p>a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and,</p> <p>b. Effluent releases via this pathway may continue provided that grab samples are collected once per 12 hours and are analyzed for radionoble gases within 24 hours.</p>

\*MCO - Minimum Channels Operable

TABLE 3.5-7 (Continued)

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

RELEASE PATHWAY/INSTRUMENTATION	MCO*	REQUIRED ACTION
c. Radioiodine Sampler (RMS-34)	1	<p>With the number of channels operable less than the MCO requirement:</p> <p>a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and,</p> <p>b. Effluent release via this pathway may continue provided that a continuous sample is collected utilizing auxiliary sampling equipment as required by Table 4.10-2.</p>
d. Particulate Sampler (RMS-34)	1	<p>With the number of channels operable less than the MCO requirement:</p> <p>a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and,</p> <p>b. Effluent releases via this pathway may continue provided that a continuous sample is collected utilizing auxiliary sampling equipment as required by Table 4.10-2.</p>
e. Sampler flow rate monitor (RMS-34) and vacuum gauge (RMS-34)	1 of the two monitors	<p>With the number of channels operable less than the MCO requirement:</p> <p>a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and,</p> <p>b. Effluent releases via this pathway may continue the flow rate is estimated once per 4 hours.</p>

\*MCO - Minimum Channels Operable

TABLE 3.5-7 (Continued)

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

RELEASE PATHWAY/INSTRUMENTATION	MCO*	REQUIRED ACTION
f. Plant vent flow rate monitor	1	With the number of channels operable less than the MCO requirement: a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and, b. Effluent releases via this pathway may continue provided that flow rate is estimated once per 4 hours.
2. Waste Gas Holdup System Explosive Gas Monitoring System	1	With the number of channels operable less than the MCO requirement: a. Exert best efforts to return the instruments to operable status within 14 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and, b. When continuous monitoring is out of service daily grab samples will be taken and analyzed during normal operations and once per 4 hours during degassing operations.
3. Containment Vessel via Plant Vent		
a. Radionoble gas monitor (RMS-12) provides automatic termination of containment vessel releases upon exceeding alarm/trip setpoint	1	With the number of channels operable less than the MCO requirement: a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and, b. Effluent releases via this pathway may continue provided that either of the Plant Vent Radionoble Gas Monitors (RMS-14 or RMS-34) is operable; otherwise, suspend all releases via this pathway.

\*MCO - Minimum Channels Operable



TABLE 3.5-7 (Continued)

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

RELEASE PATHWAY/INSTRUMENTATION	MCO*	REQUIRED ACTION
b. Radioparticulate Monitor (RMS-11) provides automatic termination of containment vessel releases exceeding alarm/trip setpoints	1	With the number of channels operable less than the MCO requirement: a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and, b. Effluent releases via this pathway may continue provided that either of the Plant Vent Radionoble Gas Monitors (RMS-14 or RMS-34) is operable; otherwise, suspend all releases via this pathway.
c. Sampler flow rate monitor (RMS-11)	1	With the number of channels operable less than the MCO requirement: a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and, b. Effluent releases via this pathway may continue provided that the flow rate is estimated once per 4 hours.
4. Condenser Vacuum Pump Vent		
a. Radionoble gas monitor (RMS-15) diverts effluents from Condenser Vacuum Pump Vent to the Plant Vent upon exceeding alarm/trip setpoint	1	With the number of channels operable less than the MCO requirement: a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and,

\*MCO - Minimum Channels Operable

TABLE 3.5-7 (Continued)

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

RELEASE PATHWAY/INSTRUMENTATION	MCO*	REQUIRED ACTION
		b. Effluent releases via this pathway may continue provided that; <ol style="list-style-type: none"> <li>1. Grab samples are collected once per 12 hours and are analyzed within 24 hours for radionoble gases, or;</li> <li>2. The effluent is diverted to the Plant Vent and RMS-14 is operable.</li> </ol>
b. Flow rate measuring devices (once for each Vacuum Pump)	one for each pump in service	With the number of channels operable less than the MCO requirement: <ol style="list-style-type: none"> <li>a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and,</li> <li>b. Effluent releases via this pathway may continue provided the flow rate is estimated once per 4 hours.</li> </ol>
5. Fuel Handling Building Lower Level Exhaust Vent		
a. Radionoble gas monitor (RMS-20)	1	With the number of channels operable less than the MCO requirement: <ol style="list-style-type: none"> <li>a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and,</li> <li>b. Effluent releases via this pathway may continue provided that grab samples are taken once per 12 hours and analyzed for radionoble gases within 24 hours.</li> </ol>

\*MCO - Minimum Channels Operable

TABLE 3.5-7 (Continued)

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

RELEASE PATHWAY/INSTRUMENTATION	MCO*	REQUIRED ACTION
b. Sampler flow rate monitor (RMS-20)	1	With the number of channels operable less than the MCO requirement: a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and,  b. Effluent releases via this pathway may continue provided the flow rate is estimated once per 4 hours.
6. Fuel Handling Building Upper Level Exhaust Vent		
a. Radionoble gas monitor (RMS-21) trips the exhaust and supply fans for the upper level of the Fuel Handling Building upon exceeding alarm/trip setpoint	1	With the number of channels operable less than the MCO requirement: a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and,  b. Effluent releases via this pathway may continue provided that:  1. The Plant Vent Radionoble Gas Monitor (RMS-14) is operable, or  2. Grab samples are collected once per 12 hours and are analyzed within 24 hours for radionoble gases.

\*MCO - Minimum Channels Operable

TABLE 3.5-7 (Continued)

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

RELEASE PATHWAY/INSTRUMENTATION	MCO*	REQUIRED ACTION
b. Sampler flow rate monitor (RMS-21)	1	<p>With the number of channels operable less than the MCO requirement:</p> <p>a. Exert best efforts to return the instruments to operable status within 30 days and, if unsuccessful, explain in the next Semiannual Radioactive Effluent Release Report why the inoperability was not corrected in a timely manner in accordance with Specification 6.9.1.d and,</p> <p>b. Effluent releases via this pathway may continue provided the flow rate is estimated once per 4 hours.</p>

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\*MCO - Minimum Channels Operable

3.16.4.3 If the actions taken to comply with paragraph 3.16.4.1.b do not reduce the concentration of hydrogen and/or oxygen in the affected tank to  $\leq 6\%$  by volume within 24 hours, a notification must be made to the Commission in accordance with Specification 6.6. Once the concentration of hydrogen and/or oxygen in the affected tank is  $\leq 6\%$  by volume, paragraphs 3.16.4.1.a and 3.16.4.2 apply.

3.16.5 Waste Gas Decay Tanks (Radioactive Materials)

Applicability

Applies to the four Waste Gas Decay Tanks.

Objective

To define the operating requirements for the Waste Gas Decay Tanks.

Specification

- 3.16.5.1 The quantity of radioactivity contained in each Waste Gas Decay Tank shall at all times be limited to  $\leq 1.9E4$  curies noble gases (considered as Xe-133).
- 3.16.5.2 With the quantity of radioactive materials in any Waste Gas Decay Tank exceeding the above limit, immediately suspend all additions of radioactive material to the tank and within 48 hours reduce the tank contents to within the limit.
- 3.16.5.3 If Specification 3.16.5.2 is not completed within 48 hours, a prompt notification must be made to the Commission in accordance with Specification 6.6.

3.17.1.5 The provisions of Specification 3.0 are not applicable.

3.17.1.6 Deviations are permitted from the required sampling schedule if specimens are unobtainable due to hazardous conditions, seasonal unavailability, or to malfunction of automatic sampling equipment. If the latter, every effort shall be made to complete corrective action prior to the end of the next sampling period.

3.17.2 Land Use Census

Applicability

Applies to the land use census.

Objective

To define the requirements for the conduct of the land use census.

Specification

3.17.2.1 A land use census shall be conducted and shall identify the location of the nearest milk animal, the nearest residence and the nearest garden of greater than 500 square feet producing fresh leafy vegetables in each of the 16 meteorological sectors within a distance of five miles.

3.17.2.2 With a land use census identifying a location(s) that yields a calculated dose or dose commitment greater than the values currently being calculated in Specification 4.10.4.1, identify the new location(s) in the next Semiannual Radioactive Effluent Release report, pursuant to Specification 6.9.1.d.

3.17.2.3 With the land use census identifying a location which yields an annual calculated dose or dose commitment of a specific pathway which is 20% greater than that at a current sampling location:

- (a) add the new location(s) to the radiological environmental monitoring program within 30 days and,
- (b) if desired, delete the sampling location having the lowest calculated dose or dose commitments via the same exposure pathway, excluding the control station location, from the monitoring program after October 31 of the year in which the land use census was conducted, and
- (c) identify the new location(s) in the next Semiannual Radioactive Effluent Release Report, Specification 6.9.1.d, including a revised figure(s) and table for the ODCM reflecting the new location(s).

3.17.3 Interlaboratory Comparison Program

Applicability

Applies to the interlaboratory comparison program of like media.

Objective

To ensure precision and accuracy of laboratory analyses.

Specification

3.17.3.1 Analyses shall be performed on radioactive materials supplied by EPA as a part of an Interlaboratory Comparison Program of like media within the environmental program as per Table 3.17-1.

3.17.3.2 With analyses not being performed as required above, report the corrective actions taken to prevent a recurrence to the

Waste Gas Decay Tanks (Hydrogen and Oxygen)

This specification is provided to ensure that the concentration of potentially explosive gas mixtures contained in the waste gas holdup system is maintained below the flammability limits of hydrogen and oxygen. (Control features are included in the system to prevent the hydrogen and oxygen concentrations from reaching these flammability limits. These control features include isolation of the source of hydrogen and/or oxygen, or injection of dilutants to reduce the concentration below the flammability limits.) Maintaining the concentration of hydrogen and oxygen below their flammability limits provides assurance that the releases of radioactive materials will be controlled in conformance with the requirements of General Design Criterion 60 of Appendix A to 10 CFR Part 50.

Waste Gas Decay Tanks (Radioactive Materials)

The tanks included in this specification are those tanks for which the quantity of radioactivity contained is not limited directly or indirectly by another Technical Specification to a quantity that is less than the quantity that provides assurance that in the event of an uncontrolled release of the tank's contents, the resulting total body exposure to a member of the public at the nearest site boundary will not exceed 0.5 rem in an event of 2 hours duration.

Restricting the quantity of radioactivity contained in each gas storage tank provides assurance that in the event of an uncontrolled release of the tank's contents, the resulting total body exposure to a member of the public at the nearest site boundary will not exceed 0.5 rem. This is consistent with Branch Technical Position ETSB 11-5 in NUREG-0800, July 1981.

Solidification of Wet Radioactive Waste

This specification ensures that the packaging of wet radioactive wastes meets the requirements of 10 CFR Part 20 and 10 CFR Part 71 prior to their shipment from the site for disposal.