

TABLE 4.11-2  
RADIOACTIVE GASEOUS WASTE SAMPLING AND ANALYSIS PROGRAM

Gaseous Release Type	Frequency	Minimum Analysis Frequency	Type of Activity Analysis	Lower Limit of Detection (uci/ml) <sub>a</sub>
a. Waste Gas Storage Tank	P Each Tank Grab Sample	P Each Tank	Principal Gamma Emitters <sup>e</sup>	1 X 10 <sup>-4</sup>
b. Containment Purge	P Each Purge Grab Sample <sup>b</sup>	P Each Purge <sup>b</sup>	Principal Gamma Emitters <sup>e</sup>	1 X 10 <sup>-4</sup>
			H-3	1 X 10 <sup>-6</sup>
c. Condenser Evacuation System and Gland Seal Exhaust*	W Grab Sample <sup>b</sup>	M <sup>b</sup> Particulate Sample	Principal Gamma Emitters <sup>e</sup>	1 X 10 <sup>-4</sup>
		M <sup>b</sup>	H-3	1 X 10 <sup>-6</sup>
		M <sup>b</sup> Iodine Adsorbing/Media	I-131	1 X 10 <sup>-12</sup>
	Continuous <sup>d</sup>	Noble Gas Monitor	Noble Gases	1 X 10 <sup>-6</sup>
d. Auxiliary Building Vent	Continuous <sup>d</sup>	W <sup>c</sup> Iodine Adsorbing/Media	I-131	1 X 10 <sup>-12</sup>
		Continuous <sup>d</sup>	W <sup>c</sup> Particulate Sample	Principal Gamma Emitters <sup>e</sup>
	Continuous <sup>d</sup>	M Composite Particulate Sample	Gross Alpha	1 X 10 <sup>-11</sup>
	Continuous <sup>d</sup>	M Composite	H-3	1 X 10 <sup>-6</sup>
	Continuous <sup>d</sup>	Q Composite Particulate Sample	Sr-89, Sr-90	1 X 10 <sup>-11</sup>
	Continuous <sup>d</sup>	Noble Gas Monitor	Noble Gases	1 X 10 <sup>-6</sup>
e. Incinerated Oil <sup>f</sup>	P Each Batch <sup>g</sup>	P Each Batch <sup>g</sup>	Principal Gamma Emitters	5 X 10 <sup>-7</sup>

\* As equipment becomes operational

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TABLE 4.11-2 (cont)

TABLE NOTATION

- a. The lower limit of detection (LLD) is defined in Table Notation a. of Table 4.12-1 of Specification 4.12.1.1.
- b. Analyses shall also be performed following any operational occurrence which has altered the mixture of radionuclides as indicated by RCS analysis. (i.e., start-up.)
- c. Samples shall be changed at least once per 7 days and analyses shall be completed within 48 hours after changing. Analyses shall also be performed at least once per 24 hours for 7 days following each shutdown, startup or similar operational occurrence which lead to significant increases or decreases in radioiodine in the Reactor Coolant System. When samples collected for 24 hours are analyzed, the corresponding LLD's may be increased by a factor of 10.
- d. The ratio of the sample flow rate to the sampled stream flow rate shall be known for the time period covered by each dose or dose rate calculation made in accordance with Specification 3.11.2.1, 3.11.2.2, 3.11.2.3.
- e. The principal gamma emitters for which the LLD specification applies exclusively are the following radionuclides: Kr-87, Kr-88, Xe-133, Xe-133M, Xe-135 and Xe-138 for gaseous emissions and Mn-54, Fe-59, Co-58, Co-60, Zn-65, Mo-99, Cs-134, Cs-137, Ce-141 and Ce-144 for particulate emissions. This list does not mean that only these nuclides are to be detected and reported. Other peaks which are measurable and identifiable, together with the above nuclides, shall also be identified and reported.
- f. Releases from incinerated oil are discharged through the Auxiliary Boiler System. Releases shall be accounted for based on pre-release grab sample data.
- g. Samples of waste oil to be incinerated shall be collected from the container in which the waste oil stored (e.g., waste oil storage tank, 55 gal. drums) prior to transfer to the Auxiliary Boiler System and shall be representative of container contents.

## RADIOACTIVE EFFLUENTS

### DOSE, RADIOIODINES, RADIOACTIVE MATERIAL IN PARTICULATE FORM, AND RADIONUCLIDES OTHER THAN NOBLE GASES

#### LIMITING CONDITION FOR OPERATION

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3.11.2.3 The dose to A MEMBER OF THE PUBLIC from radioiodines, radioactive materials in particulate form, and radionuclides other than noble gases with half-lives greater than 8 days in gaseous effluents released to unrestricted areas shall be limited to the following:

- a. During any calendar quarter to less than or equal to 7.5 mrem to any organ;
- b. During any calendar year to less than or equal to 15 mrem to any organ;
- c. Less than 0.1% of the 3.11.2.3(a) and (b) limits as a result of burning contaminated oil.

APPLICABILITY: At all times.

#### ACTION:

- a. With the calculated dose from the release of radioiodines, radioactive materials in particulate form, or radionuclides other than noble gases in gaseous effluents exceeding any of the above limits, prepare and submit to the Commission within 30 days, pursuant to Specification 6.9.2, a Special Report which identifies the cause(s) for exceeding the limit and defines the corrective actions taken to reduce the releases and the proposed corrective action to be taken to assure that subsequent release will be within the above limits.
- b. The provisions of Specification 3.0.3, 3.0.4, and 6.9.1.13 are not applicable.

#### SURVEILLANCE REQUIREMENTS

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4.11.2.3 DOSE CALCULATIONS Cumulative dose contributions for the total time period shall be determined in accordance with the ODCM at least once every 31 days.

