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TRM1 - TECHNICAL REQUIREMENTS MANUAL UNIT 1

REMOVE MANUAL TABLE OF CONTENTS DATE: 02/10/2004

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CATEGORY: DOCUMENTS TYPE: TRM1
ID: TEXT 3.11.2.1
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A001

3.11 Radioactive Effluents

3.11.2 Gaseous Effluents

3.11.2.1 Dose Rate

TRO 3.11.2.1 The dose rate due to radioactive materials released in gaseous effluents to areas at and beyond the SITE BOUNDARY (See FSAR Section 2.1.1.3) shall be limited to the following:

I. For Noble Gases:

- A. Less than or equal to 500 mrem/yr to the total body, and
- B. Less than or equal to 3000 mrem/yr to the skin

AND

II. For iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half-lives greater than 8 days

- A. Less than or equal to 1500 mrem/yr to any organ (Inhalation pathways only.)

APPLICABILITY: At all times.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Dose rate(s) exceed the above limits	A.1 Restore the release rate to within the above limits	Immediately

TECHNICAL REQUIREMENT SURVEILLANCE

SURVEILLANCE		FREQUENCY
TRS 3.11.2.1.1	Determine the dose rate due to noble gases in gaseous effluents.	See ODCM
TRS 3.11.2.1.2	The dose rate due to iodine-131, iodine-133, tritium, and all radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents shall be determined to be within the limits in accordance with the methodology and parameters of the ODCM by obtaining representative samples and performing analyses in accordance with the sampling and analysis program specified in Table 3.11.2.1-1	See Table 3.11.2.1-1

**TABLE 3.11.2.1-1
RADIOACTIVE GASEOUS EFFLUENT SAMPLING AND ANALYSIS**

Gaseous Release Type	Sampling Method and Frequency	Minimum Analysis Frequency	Type of Activity Analysis	Lower Limit of Detection (LLD) ($\mu\text{Ci/ml}$)
A. Containment Purge	Prior to each purge Grab Sample	Prior to each purge	Principal Noble Gas Gamma Emitters	1E-4
			H-3	1E-6
B. Reactor Building Vents, Turbine Building Vents, and SGTS	31 days ^(a) Grab Sample	31 days ^(a)	Principal Noble Gas Gamma Emitters	1E-4
			H-3	1E-6
	Continuous ^(b) Iodine Cartridge Sample	7 days ^(c)	I-131	1E-12
			I-133	1E-10
	Continuous ^(b) Particulate sample	7 days ^(c)	Principal Particulate Gamma Emitters I-131	1E-11
			Gross Alpha	1E-11
	Continuous ^(b) Particulate Sample	92 days Composite ^(d)	Sr-89, Sr-90	1E-11
			Noble Gases, Gross Beta or Gamma	1E-6 (Xe-133 equivalent)

(a) Noble gas analyses shall be performed following shutdown, startup, or a THERMAL POWER change exceeding 15% of the RATED THERMAL POWER within a 1-hour period.

(b) 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 TROs 3.11.2.1, 3.11.2.2, and 3.11.2.3.

(c) Samples shall be changed at least once per 7 days and analyses shall be completed within 48 hours after changing, or after removal from sampler. Sampling shall also be performed at least once per 24 hours for at least 7 days following each shutdown, startup, or THERMAL POWER change exceeding 15% of RATED THERMAL POWER in 1 hour, and analyses completed within 48 hours of changing. When samples collected for ≤ 24 hours are analyzed, the corresponding LLDs may be increased by a factor of 10.

(d) Minimum frequency for initiation of required analysis.