

June 9, 1989

Docket No. 50-333

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Dear Mr. Brons:

SUBJECT: REPLACEMENT PAGES RELATED TO AMENDMENT NO. 127 (TAC NO. 68319)

Due to a clerical error, Amendment No. 127 was issued with eight pages on which the page numbers were crossed out. Please replace those pages with the attached.

We regret any problems this error may have caused.

Sincerely,

Original signed by

David E. LaBarge, Project Manager
Project Directorate I-1
Division of Reactor Projects

Enclosure:
Corrected pages

cc: w/enclosure
See next page

[REPLACEMENT PAGES AMEND 127]

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Table 2.1-1

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

<u>Instrument</u>	<u>Minimum Channels Operable</u>	<u>Action</u>
Gross radioactivity monitors providing alarm and automatic termination of release		
Liquid radwaste effluent line	1	(a)
Gross beta or gamma radioactivity monitors providing alarm but not providing automatic termination of release		
Service water system effluent line	1	(b)
Flow rate measurement devices		
Liquid radwaste effluent line	1	(c)

NOTES FOR TABLE 2.1-1

(a) With the number of operable channels less than the required minimum number, effluent releases may continue provided that prior to initiating a release:

a. Two independent samples are analyzed;

b. Two technically qualified members of the facility staff verify the discharge line valving;

Otherwise, suspend release of radioactive effluents via this pathway.

(b) With the number operable of channels less than the required minimum number, effluent releases in this pathway may continue provided that, at least once per 12 hours, grab samples are collected and analyzed for principal gamma emitters at a limit of detection of at least 5×10^{-7} microcuries/ml. The principal gamma emitters for which the LLD specification applies exclusively are described in Note (c) to Table 2.2-1.

(c) With the number of operable channels less than the required minimum number, effluent releases via this pathway may continue provided the flow rate is estimated at least once per four hours during actual releases. Pump curves or tank level decreases generated in situ may be used to estimate flow.

TABLE 3.2-1

RADIOACTIVE GASEOUS WASTE SAMPLING AND ANALYSIS PROGRAM

Gaseous Release Type	Sampling Frequency	Minimum Analysis Frequency	Type of Activity Analysis	Lower Limit of Detection (LLD)(a) (uCi/ml)
Main Stack and Refuel Floor Vent and Reactor Building Vent and Turbine Building Vent and Radwaste Building Vent	Monthly Grab Sample(d)	Monthly Noble Gases(b)	Principal Gamma Emitters(b)	1 x 10 ⁻⁴
	Quarterly Grab Sample	Quarterly	H-3	1 x 10 ⁻⁶
	Continuous(c)	Weekly Charcoal Sample(e)	I-131	1 x 10 ⁻¹²
			I-133	None
	Continuous(c)	Weekly Particulate Sample(e)	Principal Gamma Emitters(b)	1 x 10 ⁻¹¹
			(I-131, I-133, others)	None
	Continuous(c)	1 Wk/Mo Particulate Sample	Gross Alpha	1 x 10 ⁻¹¹
	Continuous(c)	4 Wk/Qr Composite Particulate Sample	Sr-89, Sr-90	1 x 10 ⁻¹¹
	Continuous(c)	Noble Gas Monitor	Noble Gases Gross Beta or Gamma	1 x 10 ⁻⁵
Incinerated Oil(f)	Prior to Each Batch(g)	Each Batch(g)	Principal Gamma Emitters(b)	5 x 10 ⁻⁷
			I-131	1 x 10 ⁻⁶

Amendment No. 93 127

NOTES FOR TABLE 3.2-1 (continued)

- (d) Main stack gaseous sampling and analysis shall also be performed following shutdown, startup, or a thermal power change exceeding 20% of rated thermal power in one hour.
1. This requirement applies only if:
 - o Analysis shows that the dose equivalent I-131 concentration in the primary coolant has increased more than a factor of 3; and
 - o The noble gas monitor shows that effluent activity has increased more than a factor of 3; and
 - o Corrections for increases due to changes in thermal power level have been made in both cases.
- (e) Main stack iodine and particulate sampling shall also be performed daily following each shutdown, startup or thermal power change exceeding 20% of rated thermal power in one hour.
1. Daily sampling is not required for thermal power changes if the off gas charcoal filters are in service.
 2. In addition, this requirement applies only if:
 - o Analysis shows that the dose equivalent I-131 concentration in the primary coolant has increased more than a factor of 3; and
 - o The noble gas monitor shows that effluent activity has increased more than a factor of 3; and
 - o Corrections for increases due to changes in thermal power level have been made in both cases.
 3. Daily sampling shall be performed until two consecutive samples show no increase in concentration but not to exceed 7 consecutive days.
 4. LLDs may be increased by a factor of 10 for analysis of daily samples.
 5. Analysis of daily and weekly samples shall be completed within 48 hours of changing.
- (f) Incinerated oil may be discharged via points other than the main stack and building vents (i.e., auxiliary boiler). Whenever oil samples cannot be filtered such as No. 6 bunker fuel oil, raw oil samples shall be collected and analyzed.
- (g) Samples of incinerated oil releases shall be collected from and representative of filtered oil in liquid form. Whenever oil samples cannot be filtered such as No. 6 bunker fuel oil, raw oils samples shall be collected and analyzed.

LIMITING CONDITIONS FOR OPERATION

3.5 MAIN CONDENSER STEAM JET AIR EJECTOR (SJAE)

Applicability

Applies to main condenser offgas discharge rate for noble gases.

Objective

To ensure that the SJAE release rates are maintained at a level compatible for further treatment and release.

Specifications

- a. The gross radioactivity (beta and/or gamma) rate of noble gases measured at the SJAE is given on Table 3.10-1.

SURVEILLANCE REQUIREMENTS

3.5 MAIN CONDENSER STEAM JET AIR EJECTORS (SJAE)

Applicability

Applies to the point of discharge at the SJAE.

Objective

To ensure that the SJAE release rates are properly monitored.

Specifications

- a. The gross radioactivity (beta and/or gamma) rate of noble gases from the SJAE shall be determined to be within the limits of Specification 3.5.a by performing an isotopic analysis of a representative sample of gases taken at the discharge (prior to dilution and/or discharge) of the SJAE, or at the recombiner discharge (prior to delay of the offgas to reduce the total radioactivity) as follows:
 1. At least monthly.
 2. Within 4 hours following an increase as indicated by the SJAE Monitor, of greater than 50% (after factoring out increases due to changes in thermal power level) in the nominal steady state fission gas release from the primary coolant.

LIMITING CONDITIONS FOR OPERATION

3.6 OFFGAS TREATMENT SYSTEM

Applicability

Applies to the system installed for reduction of radioactive materials in gaseous waste prior to discharge.

Objective

To minimize concentration of radioactive materials released from the site.

Specifications

- a. The offgas treatment system shall be used to reduce the concentration of radioactive materials in gaseous effluents prior to release from the plant within 24 hours after the start-up of the second turbine driven feedwater pump.

SURVEILLANCE REQUIREMENTS

3.6 OFFGAS TREATMENT SYSTEM

Applicability

Applies to the calculation of the radiation dose from gaseous effluents containing radioactive materials.

Objective

To ensure that treatment of gaseous wastes by the offgas system is implemented when required.

Specifications

- a. If the charcoal beds are not in service when the offgas treatment system is required, doses due to gaseous releases from the site shall be projected at least monthly in accordance with the ODCM.

LIMITING CONDITIONS FOR OPERATION

b. The offgas charcoal beds shall be used, when offgas treatment system operation is required and the projected doses over a 31 day period due to gaseous effluent releases to a member of the public would exceed:

1. 0.2 mrad for gamma radiation
2. 0.4 mrad for beta radiation; or
3. 0.3 mrem to any organ

c. With gaseous effluent from the main condenser being discharged without use of the charcoal beds for greater than seven days when treatment is required, and projected doses are in excess of the above limits, prepare and submit to the Commission, within 30-days, a Special Report that includes the following information:

1. Explanation of why gaseous effluent is being discharged without charcoal bed treatment, identification of any inoperable equipment or subsystems, and the reason for the inoperability,
2. Action(s) taken to restore the inoperable equipment to operable status; and
3. Summary description of action(s) taken to prevent a recurrence.

SURVEILLANCE REQUIREMENTS

LIMITING CONDITIONS FOR OPERATION

treatment system under the following conditions:

1. The offgas dilution steam flow instrumentation shall alarm and automatically isolate the offgas recombiner system at low flow less than 6000 pounds per hour or high flow greater than 7200 pounds per hour.
 2. The offgas recombiner inlet temperature sensor shall alarm and automatically isolate the offgas recombiner system at a temperature of not less than 125°C.
 3. The offgas recombiner outlet temperature shall alarm and automatically isolate the offgas treatment system at a temperature of not less than 150°C.
- c. In lieu of continuous hydrogen or oxygen monitoring, the condenser offgas treatment system recombiner effluent shall be analyzed to verify that it contains less than or equal to 4% hydrogen by volume.
- d. With the requirements of the above specifications not satisfied, restore the recombiner system to within operating specifications or suspend use of the charcoal treatment system within 48 hours.

SURVEILLANCE REQUIREMENTS

1. An instrument check shall be performed daily when the offgas treatment system is in operation.
 2. An instrument channel functional test shall be performed once per operating cycle.
 3. An instrument channel calibration shall be performed once per operating cycle.
- c. With condenser offgas treatment system recombiner in service, in lieu of continuous hydrogen or oxygen monitoring, the hydrogen content shall be verified weekly to be less than or equal to 4% by volume.

In the event that the hydrogen content cannot be verified, operation of this system may continue for up to 14 days.

TABLE 3.10-1
RADIATION MONITORING SYSTEMS THAT INITIATE AND/OR ISOLATE SYSTEMS

Minimum No. of Operable Instrument Channels	Trip Function	Trip Level Setting	Total Number of Instrument Channels Provided by Design	Action
1(a)	Refuel Area Exhaust Monitor	(b)	2	(c) or (d)
1(a)	Reactor Building Area Exhaust Monitors	(b)	2	(d)
1(a)	SJAE Radiation Monitors	$\leq 500,000 \mu\text{Ci/sec}$	2	(e)
1(a)	Turbine Building Exhaust Monitors	(b)	2	(f)
1(a)	Radwaste Building Exhaust Monitors	(b)	2	(f)
1(a)	Main Control Room Ventilation	$\leq 4 \times 10^9 \text{ cpm}^{(i)}$	1	(g)
(h)	Mechanical Vacuum Pump Isolation	$\leq 3 \times \text{Normal Full Power Background}$	4	(h)

NOTES FOR TABLE 3.10-1

- (a) Whenever the systems are required to be operable, there shall be one operable or tripped instrument channel per system. From and after the time it is found that this cannot be met, the indicated action shall be taken.
- (b) Trip level setting is in accordance with the methods and procedures of the ODCM.
- (c) Cease operation of the refueling equipment.
- (d) Isolate secondary containment and start the SBGTS.
- (e) Bring the SJAE release rate within the limit within 72 hours or be in hot standby within the next 12 hours.
- (f) Refer to Appendix B LCO 3.1.d.
- (g) Control room isolation is manually initiated.
- (h) Uses same sensors as primary containment isolation on high main steam line radiation. Refer to Appendix A Table 3.2-1 for minimum number of operable instrument channels and action required.
- (i) Conversion factor is $8.15 \times 10^7 \text{ cpm} - 1 \mu\text{Ci/cc}$.