LA SALLE COUNTY STATION

INSTRUCTIONS FOR UPDATING YOUR OFFSITE DOSE CALCULATION MANUAL (ODCM)

Changes to the ODCM are identified by a vertical line in the right margin of the page. To update your copy of the La Salle ODCM, remove and destroy the following pages and figures and insert pages and figures as indicated.

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7.1 DATA COMMON TO ALL NUCLEAR STATIONS

This section contains data that is generically applicable to all stations.

TABLE 7.2-1

AQUATIC ENVIRONMENT DOSE PARAMETERS

PARAMETER	LA SALLE
U^w, water usage, liters/hr	0.042
U^f, fish consumption, kg/hr	2.4×10^{-4}
$1/M^w$	1
$1/M^f$	1
F^w, ft^3/sec	1.37×10^4
F^f, ft^3/sec	1.37×10^4
t^f, hr*	24
t^w, hr**	97

B_i - Regulatory Guide 1.109, Revision 1, October 1977, Table A-1, Column 2 for freshwater fish. See Table 7.1-12.

Parameter	
F^t, ft^3/sec	Not Applicable.*** No outdoor tanks without overflow pipes connected to other storage tanks.
F_o^w, ft^3/sec	
$1/M_o^w$	
t_o^w, hr	
V^t, gal	
t_o, hr	

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*t^f (hr) = 24 hr (all stations) for the fish ingestion pathway

**t^w (hr) = 97 hr (distance to Peoria is 97 miles; flow rate of 1 mph assumed)

***There is a 10 Ci limit for temporary outdoor storage tanks without holding basins, unless parameters are specified.

8.0 RADIOACTIVE EFFLUENT TREATMENT SYSTEMS, MODELS FOR SETTING GASEOUS AND LIQUID EFFLUENT MONITOR ALARM AND TRIP SETPOINTS, AND ENVIRONMENTAL RADIOLOGICAL MONITORING

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8.0 RADIOACTIVE EFFLUENT TREATMENT SYSTEMS, MODELS FOR SETTING GASEOUS AND LIQUID EFFLUENT MONITOR ALARM AND TRIP SETPOINTS, AND ENVIRONMENTAL RADIOLOGICAL MONITORING

8.1 GASEOUS RELEASES

8.1.1 System Design

8.1.1.1 Gaseous Radwaste Treatment System

A gaseous radwaste treatment system shall be any system designed and installed to reduce radioactive gaseous effluents by collecting primary coolant system off-gases from the primary system and providing for delay or holdup for the purpose of reducing the total radioactivity prior to release to the environment.

8.1.1.2 Ventilation Exhaust Treatment System

A ventilation exhaust treatment system shall be any system designed and installed to reduce gaseous radioiodine or radioactive material in particulate form in effluents by passing ventilation or vent exhaust gases through charcoal adsorbers and/or HEPA filters for the purpose of removing iodines or particulates from the gaseous exhaust stream prior to the release to the environment (such a system is not considered to have any effect on noble gas effluents). Engineered Safety Feature (ESF) atmospheric cleanup systems are not considered to be ventilation exhaust treatment system components.

8.1.2 Alarm and Trip Setpoints

Alarm and trip setpoints of gaseous effluent monitors at the principal points of release of ventilation exhaust air containing radioactivity are established to ensure that the release limits of 10 CFR 20 are not exceeded. The setpoints

Similarly, Equation 2.10 can be rewritten:

$$\sum_i \left[\bar{L}_i \, (\chi/Q)_s Q_{ts} f_i \exp(-\lambda_i R/3600u_s) + 1.11 \, S_i Q_{ts} f_i \right] < 3000 \, \frac{\text{mrem}}{\text{yr}} \quad (8.3)$$

Equation 8.3 can be solved for Q_{ts} and a corresponding release limit be determined. The most conservative release limit determined from Equations 8.1 and 8.3 will be used in selecting the appropriate alarm and trip setpoints for a vent stack release.

The exact settings will be selected to ensure that 10 CFR 20 limits are not exceeded.

Surveillance frequencies for gaseous effluent monitors will be as stated in Table 4.3.7.11-1 of the Technical Specifications. Calibration methods will be consistent with the definitions found in Section 1.0 of the Technical Specifications.

8.1.3 <u>Station Vent Stack Monitor OPLD5J</u>

Releases of radioactive noble gases from the station vent stack release point are monitored by an offline monitoring system consisting of three instrument channels. Samples of the effluent stream are taken by an isokinetic probe just prior to discharge into the atmosphere. Gas flow through the monitoring system is provided by vacuum pumps; one for the low-range detection system and one for the mid- and high-range detection systems. A sample conditioning skid, upstream of the detection system, filters particulate and iodine and provides for collection of particulate and iodine grab samples.

The low-range detection system consists of a beta scintillation detector, a shielded sampling chamber, and a preamplifier.

The mid- and high-range detection systems consists of solid-state CdTe (Cl) detectors, shielded sample chambers, and pre-ampliers. Signals from the three detection systems are processed by a microprocessor which also controls the system pumps and monitors process stream and sample flowrates. The individual detection system outputs and other system parameters are displayed on a digital readout and control module. A three-pen recorder is utilized to record the individual detection system results in $\mu Ci/cm^3$. The detection system whose output is indicative of the existing release activity is converted by the microprocessor to µCi/sec utilizing the existing process stream flowrate and recorded on a single-pen recorder. This µCi/sec value is also compared to an operator-entered alarm point.

The recorders and digital readout and control module are located in the main control room. The sample conditioning skid, detection skid, and microprocessor are located in the auxiliary building on the 796 ft 6 in. elevation. Power is supplied to this monitor from Division 1 power.

Detector efficiencies are initially determined by calibration with Xe-133 gas. Once operational, efficiency factors will be based on monitor response and isotopic analysis data.

The alarm setpoint for this monitor will be selected to ensure that the combined release rate of the station vent stack and SGTS stack does not exceed the most conservative release limit determined from Equations 8.1 and 8.3 by setting the alarm point at or below one-half the release limit.

8.1.4 Standby Gas Treatment Stack Monitor

Release of radioactivity from the standby gas treatment system (SGTS) stack is monitored by one of three SGTS monitoring systems.

Two of the systems consist of a beta sensitive scintillation detector for particulate; a beta sensitive scintillation detector for low-range noble gas; a beta sensitive scintillation detector for high-range noble gas; and a gamma sensitive scintillation detector for iodine. Provisions are made for system inlet and outlet grab samples.

The monitoring system uses a microprocessor to analyze the data from the beta and gamma scintillation detectors. This microprocessor performs background subtraction and compares the radiation values against operator entered alarm limits. A four-pen strip chart recorder records the monitoring system output. Alarms are located in the main control room.

Power is supplied to this monitor subsystem from Division 2 power. The equipment for each monitoring channel is skid mounted and located on the 786 ft 6 in. elevation in the auxiliary building.

The third SGTS monitor (OPLD2J) utilizes an isokinetic probe to sample the effluent stream prior to discharge into the atmosphere. The offline monitor consists of three detection systems. Gas flow through the system is provided by vacuum pumps; one for the low-range detection system and one for the mid- and high-range detection systems. A sample conditioning skid, upstream of the detection system, filters particulate and iodine and provides for collection of particulate and iodine grab samples.

The low-range detection system consists of a beta scintillation detector, a shielded sampling chamber, and a preamplifier. The mid- and high-range detection systems consist of solid-state CdTe (Cl) detectors, shielded sample chambers, and preamplifiers. Signals from the three detection systems are processed by a microprocessor which also controls the system pumps and monitors process stream and sample flowrates.

The individual detection system outputs and other system parameters are displayed on a digital readout and control module. A three-pen recorder is utlized to record the individual detection system results in μCi/cm^3. The detection system whose output is indicative of the existing release activity is converted by the microprocessor to μCi/sec utilizing the existing process stream flowrate and recorded on a single-pen recorder. This μCi/sec value is also compared to an operator-entered alarm point.

The recorders and digital readout and control module are located in the main control room. The sample conditioning skid, detection skid, and microprocessor are located in the auxiliary building on the 796 ft 6 in. elevation. Power is supplied to this monitor from Division 2 power.

Detector efficiencies are initially determined by calibration with Xe-133 gas. Once operational, efficiency factors will be based on monitor response and isotopic analysis data.

The alarm setpoint for this monitor will be selected to ensure that the combined release rate of the station vent stack and SGTS stack does not exceed the most conservative release limit determined from Equations 8.1 and 8.3 by setting the alarm point at or below one-half the release limit.

8.1.5 SJAE Off-Gas Monitors

The steam jet air ejector (SJAE) monitor subsystem continually measures and records the gamma radiation in the off-gas as it is drawn from the main condenser by the steam jet air ejectors before it passes through the holdup line and carbon beds enroute to the station vent stack.

A continuous representative sample is drawn from the off-gas system via a stainless steel sample line. A 14 cm^3 serum vial is inserted into the sample chamber, evacuated, then filled with a representative sample of off-gas. This sampling equipment is located on panel 1D18-J034 (2D18-J034).

This monitor system consists of two channels. One channel contains a gamma sensitive ionization chamber and a linear radiation monitor and the other channel contains a gamma sensitive ionization chamber and a logarithmic radiation monitor. The ion chambers sensitivity is 1 to 10^6 mR/hr. The gamma sensitive ionization chamber RE-1D18-N002 (RE-2D18-N002) is connected to the logarithmic readout channel. This channel has alarm functions but no trip functions. Power is supplied from Unit 1 (2) 125-Vdc power supply via inverters and from the 120-Vac instrument bus for the recorder. The gamma sensitive ionization chamber RE-1D18-N012 (RE-2D18-N012) is connected to the linear readout channel. Power is supplied to this channel from Unit 1 (2) 24-Vdc power supply and from the 120-Vac instrument bus for the recorder. Both channels measure the radiation levels in the off-gas and their recorders are located in the control room.

The initial alarm setpoint for the logarithmic SJAE off-gas monitor is establihsed at or below the Technical Specification 3.11.2.7 off-gas release rate limit using an empirical relationship between mR/hr and μCi/sec at design off-gas flowrates. Once operational, the monitor response and measured μCi/sec off-gas data will be used to determine the alarm setpoint at or below the Technical Specification limit.

8.1.6 Off-gas Post-treatment Monitors

The off-gas post-treatment monitor subsystem continually measures and records the gamma radiation in the off-gas after it has passed through the holdup line and carbon beds.

A continous representative sample is drawn from the system by one of two vacuum pumps. This monitor system consists of two identical channels consisting of NaI (Tl) activated scintillation detectors, shielded sample chambers, preamplifiers, and log count rate monitors. The log count rate monitor includes an integral power supply, for providing high voltage to the detectors, and trip relays whose outputs initiate alarm annunciators and isolate the flow of off-gas to the station vent stack.

The off-gas isolation setpoint will be at or below one-half the station vent stack release limit and is converted into the monitor units of counts per seconds (cps):

$$\text{cps} \leq \frac{\text{Release limit } (\mu\text{Ci/sec}) \times \text{Efficiency } \left(\frac{\text{cps}}{\mu\text{Ci/cm}^3}\right)}{472 \left(\frac{\text{cm}^3\text{/sec}}{\text{cfm}}\right) \times \text{cfm}} \qquad (8.4)$$

where:

cfm = off-gas flowrate

The initial efficiency factor is determined by calibration with Cs-137/Ba-137m solution. Once operational, the monitor response and measured μCi/sec off-gas data will be used to determine the efficiency factor.

The sample panel with pumps, detectors, shielded sample chambers, and preamplifiers are located in the off-gas filter building on the 690 ft elevation. The log count rate monitors and two-channel recorder are located in the main control room. Power is supplied to these monitors form Unit 1 (2) 24-Vdc power supply and from the 120-Vac instrument bus for the recorder.

8.1.7 Allocation of Effluents from Common Release Points

Radioactive gaseous effluents released from the plant vent stack are comprised of contributions from both units. Estimates of noble gas contributions from each unit will be allocated by considering appropriate operating conditions and measured SJAE off-gas activities. Allocation of radioiodine and radioactive particulate releases to a specific unit is not as practical and is influenced greatly by in-plant leakage. Under normal operating conditions, allocation will be made using reactor coolant iodine ativities. During unit shutdown or periods of known major in-plant leakage, the apportionment will be adjusted accordingly. The allocation of the effluents will be estimated on a monthly basis.

8.1.8 Symbols Used in Section 8.1

SYMBOLS	NAME	UNIT
Q_{ts}	Total Release Rate, Vent Stack Release	(μCi/sec)
$\overline{S}_i$	Gamma Whole Body Dose Constant, Vent Stack Release	(mrad/yr per μCi/sec)
f_i	Fractional Radionuclide Composition	
$\overline{L}_i$	Beta Skin Dose Constant	(mrem/yr per μCi/m^3)
$(\chi/Q)_s$	Relative Effluent Concentration, Vent Stack Release	(sec/m^3)
λ_i	Radiological Decay Constant	(hr^{-1})
R	Downwind Range	(m)
u_s	Average Wind Speed, Vent Stack Release	(m/sec)
Q_{is}	Release Rate of Nuclide i, Vent Stack Release	(μCi/sec)
S_i	Gamma Dose Constant, Vent Stack Release	(mrad/yr per μCi/sec)

8.1.9 Constants Used In Section 8.1

NUMERICAL VALUE	NAME	UNIT
1.11	Conversion Constant	(mrem/mrad)
3600	Conversion Constant	(sec/hr)

8.2 LIQUID RELEASES

8.2.1 System Design

A liquid radwaste treatment system shall be a system designed and installed to reduce radioactive liquid effluents by collecting the liquids, providing for retention or holdup, and providing for treatment by demineralizer or a concentrator for the purpose of reducing the total radioactivity prior to release to the environment.

8.2.2 Alarm Setpoints

Alarm setpoints of liquid effluent monitors at the principal release points are established to ensure that the limits of 10 CFR 20 are not exceeded in the unrestricted area. The concentration limit (C_{lim}) in the discharge line prior to dilution in the initial dilution stream is:

$$C_{lim} = MPC \quad \frac{F^d_{ave} + F^r_{max}}{F^r_{max}} \qquad (8.5)$$

C_{lim} Limiting Concentration in Discharge Line (μCi/ml)

The maximum concentration in the discharge line permitted to be discharged to the initial dilution stream.

MPC Weighted Maximum Permissible Concentration (μCi/ml)

$$MPC = \frac{\sum_{i=1}^{n} C_i}{\sum_{i=1}^{n} \frac{C_i}{MPC_i}} \quad \text{or} \quad \frac{\sum_{i=1}^{n} A_i}{\sum_{i=1}^{n} \frac{A_i}{MPC_i}} \qquad (8.6)$$

where:

C_i = µCi/ml of nuclide i;

MPC_i = maximum permissible concentration µCi/ml of nuclide i; and

A_i = µCi of nuclide i released in time t.

F^r_{max} Maximum Flow Rate, Radwaste Discharge (ft^3/sec)

The maximum flow rate of radwaste from the discharge tank to the initial dilution stream.

F^d_{ave} Average Flow Rate, Initial Dilution Stream (ft^3/sec)

The average flow rate of the initial dilution stream which carries the radionuclides to the unrestricted area boundary.

Surveillance frequencies for liquid effluent monitors will be as stated in Table 4.3.7.10-1 of the Technical Specifications. Calibration methods will be consistent with the definitions found in Section 1.0 of the Technical Specifications.

8.2.3 Liquid Radwaste Effluent Monitor

The radwaste discharge line is continuously monitored for radioactivity by an offline monitoring system which uses a NaI (Tl) activated scintillation detector. Liquid effluent flow through the monitor is provided by a pump located on a local sample panel.

The monitoring system consists of a scintillation detector, shielded sampling chamber, a preamplifier, and a log count

rate monitor. The log count rate monitor includes an integral power supply, for providing high voltage to the detector, and trip relays, whose outputs initiate high radiation alarm annunciators and initiate isolation of the liquid radwaste discharge header.

The radwaste discharge effluent monitor provides signals to a recorder in the main control room and a recorder in the radwaste control room.

The monitor is powered from a local 120-Vac source through a d-c power supply and has the equipment identification number 0D18-K606.

The alarm setpoint for the liquid radwaste discharge monitor is established at or below the maximum concentration determined in Equation 8.5. The concentration is converted to an alarm setpoint in counts per minute (cpm) using an efficiency curve developed for the monitor through use of a Cs-137/Ba-137m liquid calibration and solid source responses.

8.2.4 Liquid Effluent Monitors

The Unit 1 (2) service water effluent header and Unit 1 (2) RHR service water effluent headers are continuously monitored for radioactivity by an offline monitoring system which uses a NaI (Tl) activated scintillation detector. Liquid effluent flow through each monitoring system is ensured by a pump located on local sample panels.

Each monitoring system consists of a scintillation detector, shielded sampling chamber, a preamplifier, and a log count rate monitor. The log count rate monitor includes an

integral power supply, for providing high voltage to the detector, and trip relays, whose outputs initiate high radiation alarm annunciators.

The service water effluent monitor provides a signal to a two-pen recorder which it shares with the RBCCW process radiation monitor.

The RHR service water effluent monitors share a common two-pen recorder in the main control room.

All the process liquid monitors have logarithmic scales with a range of 10 to 10^6 CPM. The monitors are powered from the Unit 1 (2) 125-Vdc batteries via inverters.

The equipment identification numbers for the monitors are 1D18-K608 (2D18-K608), service water effluent monitor; 1D18-K604 (2D18-K604), RHR service water A effluent; and 1D18-K605 (2D18-K605), RHR service water B effluent.

Alarm setpoints for these monitors are set at twice the normal full-power background reading to give indication of a significant change in the level of radioactivity monitored.

8.2.5 Allocation of Effluents from Common Release Points

Radioactive liquids released from the radwaste treatment system are comprised of contributions from both units. Under normal operating conditions, it is difficult to apportion the radioactivity between units. Consequently, allocation will normally be made evenly between units. During refueling outages or periods of known major in-plant leakage, the apportionment will be adjusted accordingly. The allocation of the effluents will be estimated on a monthly basis.

8.2.6 Administrative and Procedural Controls for Radwaste Discharges

Administrative and procedural controls have been designed to ensure proper control of radioactive liquid radwaste discharge in order to preclude a release in excess of 10 CFR 20 limits. The discharge rate for each batch is calculated by a technician and then independently verified by operating staff personnel. All liquid radwaste discharges will be from one of two river discharge tanks, 1WF05T or 2WF05T.

The keylock hand switch, OHS-WF048, used for selecting high or low discharge flow is kept locked except when discharging. The key for this switch and the locked valves is under the administrative control of the Shift Engineer.

A documented valve checklist is prepared for each batch discharge. The proper valve lineup is made by the Operator and rechecked by the Radwaste Foreman. The actual discharge is authorized by the Shift Engineer.

The system is equipped with a radiation trip point which alarms and initiates automatic valve closure on the radwaste discharge line to prevent the violation of 10 CFR 20 limits.

8.2.7 Determination of Initial Dilution Stream Flow Rates

For those release paths which have installed flow monitoring instrumentation, that instrumentation will be used to determine the flow rate of the initial dilution stream. This instrumentation will be operated and maintained as prescribed by the Technical Specifications. For those release paths which do not have installed flow monitoring instrumentation, flow rates will be determined by use of appropriate engineering data such as pump curves, differential pressures, or valve position indication.

8.2.8 Symbols Used In Section 8.2

SYMBOL	NAME	UNIT
C_{lim}	Limiting Concentration in Discharge Line	(μCi/ml)
MPC	Weighted Maximum Permissible Concentration	(μCi/ml)
C_i	Nuclide Concentration	μCi/ml
MPC_i	Maximum Permissible Concentration	μCi/ml
A_i	Nuclide Quantity Released	μCi
F^r_{max}	Maximum Flow Rate, Radwaste Discharge	(ft^3/sec)
F^d_{ave}	Average Flow Rate, Initial Dilution Stream	(ft^3/sec)

TABLE 8.4-1

RADIOLOGICAL MONITORING PROGRAM

(1982 - 1983)

SAMPLE MEDIUM	TYPE AND FREQUENCY OF ANALYSIS*	COLLECTION SITES	FREQUENCY OF COLLECTING	NONROUTINE REPORTING LEVELS
1. Airborne				
a. Particulate Filter	Gross beta - W. Sr 89, 90 - Q. comp. Gamma Spec. - Q. comp.	Seneca, Marseilles, Ottawa, Grand Ridge Streator, Ransom, Route 6 at Gonnam Road, Kernan, and six stations near the site (see Figure 8.4-1)	Continuous operation of a sampler for a week	Cs-134, 10 pCi/m^3 Cs-137, 20 pCi/m^3
b. Charcoal Cartridge	I-131	Same as for 1a	Continuous operation of a sampler for 2 weeks	0.9 pCi/m^3
2. TLD	Gamma Radiation	Same as for 1a, plus 40 other sites distributed near the site boundary and at 5 miles (see Figures 8.4-1 and 8.4-2) Minimum of 2 TLD's per packet	Quarterly	None
3. Surface Water	Sr-89, 90 - Q. comp. Gamma Spec. - M. comp. Gross beta - W. Tritium - Q. comp.	Illinois River at intake of Illinois Nitrogen Corp. Illinois River at Marseilles Illinois River at Ottawa Illinois River at Seneca South Kickapoo Creek Cooling lake near recreation area	Weekly	**

TABLE 8.4-2

RADIOLOGICAL MONITORING PROGRAM

(1984 and Later)

SAMPLE MEDIA	COLLECTION SITE	TYPE OF ANALYSIS	FREQUENCY	NONROUTINE REPORTING LEVELS**
1. Air Monitoring	a. Onsite and near field* 1. Nearsite Station 1 2. Onsite Station 2 3. Onsite Station 3 4. Nearsite Station 4 5. Onsite Station 5 6. Nearsite Station 6	a. Filter - gross beta***	a. Continuous operation of a sampler for a week	Cs-134, 10; Cs-137, 20 pCi/m^3
		b. Charcoal - I-131	b. Continuous operation of a sampler for 2 weeks	0.9 pCi/m^3
		c. Sampling Train - Test and Maintenance	c. Weekly	Not Applicable
	b. Far Field* 7. Seneca 8. Marseilles 9. Grand Ridge 10. Streator 11. Ransom 12. Kernan 13. Route 6 at Gonnam Road 14. Ottawa	a. Filter Exchange	a. Continuous operation of a sampler for a week	Cs-134, 10; Cs-137, 20 pCi/m^3 when analyses are made
		b. Charcoal Exchange	b. Continuous operation of a sampler for 2 weeks	0.9 pCi/m^3 when analyses are made
		c. Sampling Train - Test and Maintenance	c. Weekly	Not Applicable

TABLE 8.4-2 (Cont'd)

SAMPLE MEDIA	COLLECTION SITE	TYPE OF ANALYSIS	FREQUENCY	NONROUTINE REPORTING LEVELS**
2. TLD	a. Same as Item 1, Air Monitoring Sites*	Gamma Radiation	Quarterly	None
	b. Plus 40 other sites distributed about the site boundary and at 5 miles*§ (minimum of 2 TLD's per packet)			
3. Fish	a. Marseilles Pool of Illinois River	Gamma Isotopic	Semi-annual	pCi/kg wet weight Mn-54 3×10^4 Co-58 3×10^4 Zn-65 2×10^4 Cs-137 2×10^3 Fe-59 1×10^4 Co-60 1×10^4 Cs-134 1×10^3
4. Milk	a. Three nearby dairies or private animals including the nearest, if possible	I-131††	a. Weekly during grazing season, May to October	pCi/l I-131, 3 Cs-134, 70 Cs-137, 60 Ba-La-140, 300
			b. Monthly, November to April	Same as above

TABLE 8.4-2 (Cont'd)

SAMPLE MEDIA	COLLECTION SITE	TYPE OF ANALYSIS	FREQUENCY	NONROUTINE REPORTING LEVELS**	
				Nuclides	pCi/l
5. Surface Water	a. Illinois River at Marseilles	Gamma Isotopic	Monthly analysis of weekly composites	H-3	20,000
	b. Illinois River at Ottawa			Mn-54	1,000
	c. Illinois River at Seneca			Fe-59	100
				Co-58	600
	d. South Kickapoo Creek			Co-60	300
	e. Illinois Nitrogen Corp.			Zn-65	200
	f. La Salle County Cooling Lake near recreation area			Zr-Nb-95	400
				I-131	2
				Cs-134	30
				Cs-137	50
				Ba-La-140	100
6. Cooling Water Sample	a. Inlet†††	Gross Beta	Weekly	None	
	b. Discharge†††				
7. Sediment	a. Downstream of Cooling Lake Discharge Structure	Gamma Isotopic	Annual	None	

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*See Figure 8.4-1

**Average concentration over calendar quarter.

***A gamma isotopic analysis shall be performed whenever the gross beta concentration in a sample exceeds by five times (5x) the average concentration of the preceding calendar quarter for the sample location.

†Deleted.

††A gamma isotopic analysis shall be performed if I-131 from the plant is found above the LLD.

†††Provided by station personnel.

§See Figure 8.4-2