

LASALLE COUNTY STATION

RADIOACTIVE WASTE AND ENVIRONMENTAL MONITORING

ANNUAL REPORT 1987

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INTRODUCTION

LaSalle Station, a two-unit BWR plant is located near Marseilles, Illinois, in LaSalle County, 3.5 miles south of the Illinois River. Each reactor is designed to have a capacity of 1078 MW net. Unit No. 1 loaded fuel in March 1982. Unit No. 2 loaded fuel in late December 1983. The plant has been designed to keep releases to the environment at levels below those specified in the regulations.

Liquid effluents from LaSalle County Station are released to the Illinois River in controlled batches after radiopassay of each batch. Gaseous effluents are released to the atmosphere after delay to permit decay of short half-life gases. Releases to the atmosphere are calculated on the basis of analyses of daily grab samples of noble gases and continuously collected composite samples of iodine and particulate matter. The results of effluent analyses are summarized on a monthly basis and reported to the Nuclear Regulatory Commission as required per Technical Specifications. Airborne concentrations of noble gases, I-131 and particulate radioactivity in off-site areas are calculated using effluent and meteorological data on isotopic composition of effluents.

Environmental monitoring is conducted by sampling at indicator and reference (background) locations in the vicinity of the LaSalle County Station to measure changes in radiation or radioactivity levels that may be attributable to plant operations. If significant changes attributable to LaSalle County Station are measured, these changes are correlated with effluent releases. External gamma radiation exposure from noble gases and I-131 in milk are the most critical pathways at this site; however, an environmental monitoring program is conducted which includes other pathways of less importance.

SUMMARY

Gaseous and liquid effluents for the period remained at a fraction of the Technical Specification limits. Calculations of environmental concentrations based on effluent, Illinois River flow, and meteorological data for the period indicate that consumption by the public of radionuclides attributable to the plant are unlikely to exceed the regulatory limits. Gamma radiation exposure from noble gases released to the atmosphere represented the critical pathway for the period with a maximum individual dose estimated to be $5.46E-02$ mrem for the year, when a shielding and occupancy factor of 0.7 is assumed. The assessment of radiation doses are performed in accordance with the Offsite Dose Calculation Manual (ODCM). The results of analysis confirm that the station is operating in compliance with 10CFR50 and 40CFR190.

1.0 EFFLUENTS

1.1 Gaseous Effluents to the Atmosphere

Measured concentrations and isotopic composition of noble gases, radioiodine, and particulate radioactivity released to the atmosphere during the year, are listed in Table 1.1-1. A total of $6.51\text{E}+03$ curies of fission and activation gases was released with a maximum release rate of $3.8\text{E}+03$ $\mu\text{Ci}/\text{sec}$.

A total of $1.67\text{E}-02$ curies of I-131 was released during the year, with an average release rate of $1.80\text{E}-03$ $\mu\text{Ci}/\text{sec}$ for all iodines.

A total of 2.95 curies of beta-gamma emitters and less than $3.78\text{E}-06$ curies of alpha emitters was released as airborne particulate matter, with an average release rate of $7.25\text{E}-03$ $\mu\text{Ci}/\text{sec}$.

A total of 16.7 curies of tritium was released, with an average release rate of 6.43 $\mu\text{Ci}/\text{sec}$.

1.2 Liquids Released to the Illinois River

A total of $3.82\text{E}+06$ liters of radioactive liquid waste (prior to dilution) containing $9.20\text{E}-01$ curies (excluding tritium, gases, and alpha) were discharged after dilution with a total of $3.27\text{E}+09$ liters of water. These wastes were released at a monthly average concentration of $2.84\text{E}-05$ $\mu\text{Ci}/\text{ml}$, discharge; on an unidentified nuclide basis. A total of $8.88\text{E}-06$ curies of alpha radioactivity and 1.09 curies of tritium were released. Monthly release estimates and principal radionuclides in liquid effluents are given in Table 1.2-1.

2.0 SOLID RADIOACTIVE WASTE

Solid radioactive wastes were shipped to Hanford, Washington; Beatty, Nevada; Richland, Washington; Barnwell Nuclear Center, South Carolina by Chemical Nuclear Company, Hittman Nuclear and Development Company, and Tri-State Motor Transport. The record of waste shipments is summarized in Table 2.0-1.

3.0 DOSE TO MAN

3.1 Gaseous Effluent Pathways

Gamma Dose Rates

Gamma air and whole body dose rates off-site were calculated based on measured release rates, isotopic composition of the noble gases, and meteorological data for the period (Table 3.1-1). Isodose contours of whole body dose are shown in Figure 3.1-1 for the year.

Based on measured effluents and meteorological data, the maximum dose to an individual would be $5.46\text{E-}02$ mrem for the year, with an occupancy or shielding factor of 0.7 included. The maximum gamma air dose was $9.70\text{E-}02$ mrad.

Beta Air and Skin Rates

The range of beta particles in air is relatively small (on the order of a few meters or less); consequently, plumes of gaseous effluents may be considered "infinite" for purpose of calculating the dose from beta radiation incident on the skin. However, the actual dose to sensitive skin tissues is difficult to calculate because this depends on the beta particle energies, thickness of inert skin, and clothing covering sensitive tissues. For purposes of this report the skin is taken to have a thickness of 7 mg/cm^2 and an occupancy factor of 1.0 is used. The skin dose from beta and gamma radiation for the year was $8.43\text{E-}02$ mrem.

The air concentrations of radioactive noble gases at the off-site receptor locations are given in Figure 3.1-2. The maximum off-site beta air dose for the year was $1.37\text{E-}02$ mrad.

Radioactive Iodine

The human thyroid exhibits a significant capacity to concentrate ingested or inhaled iodine, and the radioiodine, I-131, released during routine operation of the plant, may be made available to man thus resulting in a dose to the thyroid. The principal pathway of interest for this radionuclide is ingestion of radioiodine in milk by an infant. Calculation made in previous years indicate that contributions to doses from inhalation of I-131 and I-133, and I-133 in milk, are negligible.

Iodine-131 Concentrations in Air

The calculated concentration contours for I-131 in air are shown in Figure 3.1-3. Included in these calculations is an iodine cloud depletion factor which accounts for the phenomenon of elemental iodine deposition on the ground. The maximum off-site average concentration is estimated to be $7.66\text{E-}04$ pCi/m³ for the year.

Dose to Infant's Thyroid

The hypothetical thyroid dose to an infant living near the plant via ingestion of milk was calculated. The radionuclide considered was I-131 and the source of milk was taken to be the nearest dairy farm with the cows pastured from May to October. The maximum infant's thyroid dose was $3.54\text{E-}02$ mrem during the year (Table 3.1-1).

Concentrations of Particulates in Air

Concentration contours of radioactive airborne particulates are shown in Figure 3.1-4. The maximum off-site average level is estimated to be $7.42\text{E-}05$ pCi/m³.

Summary of Doses

Table 3.1-1 summarizes the doses resulting from releases of airborne radioactivity via the different exposure pathways.

3.2 Liquid Effluent Pathways

The three principal pathways through the aquatic environment for potential doses to man from liquid waste are ingestion of potable water, eating aquatic foods, and exposure while walking on the shoreline. Not all of these pathways are applicable at a given time or station but a reasonable approximation of the dose can be made by adjusting the dose formula for season of the year or type and degree of use of the aquatic environment. NRC* developed equations were used to calculate the doses to the whole body, lower GI tract, thyroid, bone and skin; specific parameters for use in the equations are given in the Commonwealth Edison Off-site Dose Calculation Manual. The maximum whole body dose for the year was $6.21\text{E-}05$ mrem and no organ dose exceeded $3.16\text{E-}04$ mrem.

4.0 SITE METEOROLOGY

A summary of the site meteorological measurements taken during each quarter of the year is given in Appendix II. The data are presented as cumulative joint frequency distributions of 375' level wind direction and wind speed class by atmospheric stability class determined from the temperature difference between the 375' and 33' levels. Data recovery for these measurements was about 99.1%.

5.0 ENVIRONMENTAL MONITORING

Table 5.0-1 provides an outline of the radiological environmental monitoring program as required in the Technical Specifications.

Except for tables of special interest, tables listing all data are no longer included in the annual report. All data tables are available for inspection at the Station or in the Corporate offices.

Specific findings for various environmental media are discussed below.

* Nuclear Regulatory Commission, Regulatory Guide 1.109 (Rev. 1).

5.1 Gamma Radiation

External radiation dose from on-site sources and noble gases released to the atmosphere was measured at ten indicator and four reference (background) locations using $\text{CaSO}_4:\text{Dy}$ thermoluminescent dosimeters (TLDs). A comparison of the TLD results for reference stations with on-site and off-site indicator stations is included in Table 5.1-1. A total of 48 additional TLDs were installed on June 1, 1980 such that each sector was covered at both five miles and the site boundary. Six (6) TLD locations were added to the monitoring program on July 1, 1985.

5.2 Airborne I-131 and Particulate Radioactivity

Concentrations of airborne I-131 and particulate radioactivity at monitoring locations are summarized in Tables 5.0-3 through 5.0-6. Locations of the samplers are shown in Figure 5.0-1. Airborne I-131 remained below the LLD of 0.10 pCi/m^3 throughout the year.

Gross beta concentrations ranged from 0.004 to 0.067 pCi/m^3 , with an average concentration of 0.027 pCi/m^3 . All gamma-emitting isotopes were below their respective LLD levels. No radioactivity attributable to station operation was detected in any sample.

5.3 Terrestrial Radioactivity

Well water was collected quarterly from five off-site wells and analyzed for tritium and gamma-emitting isotopes. All results were below the limits of detection, indicating that there was no measurable amount of radioactivity due to the station releases.

5.4 Aquatic Radioactivity

Weekly surface water samples from the Illinois River at Seneca, Kaiser Corporation, and LSCS Cooling Lake were composited monthly and analyzed for gamma-emitting isotopes. Weekly samples from the same locations were composited quarterly and analyzed for tritium. None of the composited samples indicated the presence of tritium or gamma-emitting isotopes above their respective LLD levels.

Sediment samples were collected twice a year, from one indicator location (downstream at Cooling Lake) and analyzed for gamma-emitters. Gamma-emitters were below the detection limits, indicating the presence of no radioactivity due to station operation.

Levels of gamma radioactivity in fish were measured and found in all samples to be below the lower limits of detection for the program.

5.5 Milk

Milk samples were collected monthly from November through April and weekly from May through October and analyzed for iodine-131 and gamma-emitting isotopes.

I-131 remained below the detection limit of 0.5 pCi/l.

Cs-134 and Cs-137 were below the LLD level of 5 pCi/l. All other gamma-emitting isotopes, except naturally-occurring K-40, were below their respective LLDs. There was no indication of the effect on the environment due to station operation.

5.6 Sample Collections

All samples were collected as scheduled except those listed in the Listing of Missed Samples, Appendix III.

5.7 Program Modifications

There were no program modifications in 1987.

6.0 ANALYTICAL PROCEDURES

A summary of the procedures used for analyzing radioactivity in environmental samples is given in Appendix III of the report for the period January-December 1985. Procedures used during the period covered by this report remained essentially unchanged.

7.0 MILCH ANIMAL CENSUS

A census of milch animals was conducted within five miles of the station. The survey was conducted by a "door-to-door" canvas and by information from Illinois Agricultural Agents. The census was conducted by A. Lewis on August 29, 1987.

There are no dairy farms within a five mile radius of the LaSalle County Power Station. A list of dairies that were sampled follows.

L-15 Granby Dairy Farm

Number of cows - 170
Number of fresh cows - 130

Diet consists of the following:

Ground feed*	15 lbs. per day
Corn silage	Free choice
Green chop	Free choice

* Ground feed consists of:

Corn	2,000 lbs.
Soybean meal	250 lbs.
Minerals	50 lbs.
Salt	25 lbs.

L-16 Lowery Dairy Farm

Number of cows - 100
Number of fresh cows - 80

Diet consists of the following:

Ground feed*	20 lbs. per day
Corn silage	Free choice
Alfalfa hay	Free choice

* Ground corn mix consists of:

Corn	2,500 lbs.
Soybean meal	600 lbs.
Oats	600 lbs.
Minerals	200 lbs.
Salt	50 lbs.

L-17 Norsen Dairy Farm

Number of cows - 31
Number of fresh cows - 28

Diet consists of the following:

Ground corn mix*	20 lbs. per day
Pasture	Free choice
Hay	Free choice

L-17 Norsen Dairy Farm (continued)

* Ground corn mix consists of:

Corn	1,600 lbs.
Oats	400 lbs.
Protein	100 lbs.
Minerals	50 lbs.
Salt	20 lbs.

L-18 Boldt Dairy Farm

Number of cows - 40
Number of fresh cows - 36

Diet consists of the following:

Ground corn mix*	20 lbs. per day
Hay	Free choice
Green chop	Free choice

* Ground corn mix consists of:

Corn	2,000 lbs.
Soybean meal	600 lbs.
Oats	300 lbs.
Minerals	50 lbs.
Salt	50 lbs.

8.0 NEAREST RESIDENT CENSUS

A census of the nearest residences within a five (5) mile radius was conducted by A. Lewis on August 29, 1987. A list of the nearest residences follows.

<u>Direction</u>	<u>Distance</u>
N	2.2 miles
NNE	1.4 miles
NE	1.8 miles
ENE	3.4 miles
E	3.1 miles
ESE	1.6 miles
SE	1.5 miles
SSE	1.1 miles
S	2.2 miles
SSW	2.0 miles
SW	0.7 miles
WSW	1.3 miles
W	0.9 miles
WNW	1.0 miles
SW	2.6 miles
WSW	1.2 miles

9.0 INTERLABORATORY COMPARISON PROGRAM RESULTS

Teledyne Isotopes Midwest Laboratory has participated in interlaboratory comparison (crosscheck) programs since the formulation of its quality control program in December 1971. These programs are operated by agencies which supply environmental-type samples (e.g., milk or water) containing concentrations of radionuclides known to the issuing agency but not to participant laboratories. The purpose of such a program is to provide an independent check on the laboratory's analytical procedures and to alert it to any possible problems.

Participant laboratories measure the concentrations of specified radionuclides and report them to the issuing agency. Several months later, the agency reports the known values to the participant laboratories and specifies control limits. Results consistently higher or lower than the known values or outside the control limits indicate a need to check the instruments or procedures used.

The results in Table A-1 were obtained through participation in the environmental sample crosscheck program for milk, water, air filters, and food samples during the period May 1984 through December 1987. This program has been conducted by the U. S. Environmental Protection Agency Intercomparison and Calibration Section, Quality Assurance Branch, Environmental Monitoring and Support Laboratory, Las Vegas, Nevada.

The results in Table A-2 were obtained for thermoluminescent dosimeters (TLDs) during the period 1976, 1977, 1979, 1980, 1984, and 1985-1986 through participation in the Second, Third, Fourth, Fifth, Seventh, and Eighth International Intercomparison of Environmental Dosimeters under the sponsorships listed in Table A-2.

Table A-3 lists results of the analyses on in-house spiked samples.

Table A-4 lists results of the analyses on in-house "blank" samples.

Attachment B lists acceptance criteria for "spiked" samples.

Table A-1. U.S. Environmental Protection Agency's crosscheck program, comparison of EPA and Teledyne Isotopes Midwest Laboratory results for milk, water, air filters, and food samples, 1984 through 1987.^a

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/l ^b		
				TIML Result ±2σ ^c	EPA Result ^d 1s, N=1	Control Limits
STW-358	Water	May 1984	Gr. alpha	3.0±0.6	3±5.0	0.0-11.7
			Gr. beta	6.7±1.2	6±5.0	0.0-14.7
STM-366	Milk	June 1984	Sr-89	21±3.1	25±5.0	16.3-33.7
			Sr-90	13±2.0	17±1.5	14.4-19.6
			I-131	46±5.3	43±6.0	32.6-53.4
			Cs-137	38±4.0	35±5.0	26.3-43.7
			K	1577±172	1496±75	1336-1626
STW-368	Water	July 1984	Gr. alpha	5.1±1.1	6±5.0	0.0-14.7
			Gr. beta	11.9±2.4	13±5.0	4.3-21.7
STW-369	Water	August 1984	I-131	34.3±5.0	34.0±6.0	23.6-44.4
STW-370	Water	August 1984	H-3	3003±253	2817±356	2200-3434
STF-371	Food	July 1984	Sr-89	22.0±5.3	25.0±5.0	14.3-33.7
			Sr-90	14.7±3.1	20.0±1.5	17.4-22.6
			I-131	<172	39.0±6.0	28.6-49.4
			Cs-137	24.0±5.3	25.0±5.0	14.3-33.7
			K	2503±132	2605±130	2379-2831
STAF-372	Air Filter	August 1984	Gr. alpha	15.3±1.2	17±5.0	8.3-25.7
			Gr. beta	56.0±0.0	51±5.0	42.3-59.7
			Sr-90	14.3±1.2	18±1.5	15.6-20.4
			Cs-137	21.0±2.0	15±5.0	6.3-23.7
STW-375	Water	Sept 1984	Ra-226	5.1±0.4	4.9±0.7	3.6-6.2
			Ra-228	2.2±0.1	2.3±0.4	1.7-2.9
STW-377	Water	Sept 1984	Gr. alpha	3.3±1.2	5.0±5.0	0.0-13.7
			Gr. beta	12.7±2.3	16.0±5.0	7.3-24.7
STW-379	Water	Oct 1984	H-3	2860±312	2810±205	2454-3166
STW-380	Water	Oct 1984	Cr-51	<36	40±5.0	31.3-48.7
			Co-60	20.3±1.2	20±5.0	11.3-28.7
			Zn-65	150±8.1	147±5.0	138.3-155.7
			Ru-106	<30	47±5.0	36.3-55.7
			Cs-134	31.3±7.0	31±5.0	22.3-39.7
			Cs-137	26.7±1.2	24±5.0	15.3-32.7

Table A-1. (continued)

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/l ^b		
				TIML Result $\pm 2\sigma^c$	EPA Result ^d 1s, N=1	Control Limits
STM-382	Milk	Oct 1984	Sr-89	15.7±4.2	22±5.0	13.3-30.7
			Sr-90	12.7±1.2	16±1.5	13.4-18.6
			I-131	41.7±3.1	42±6.0	31.6-42.4
			Cs-137	31.3±6.1	32±5.0	23.3-40.7
			K	1447±66	1517±76	1386-1648
STW-384	Water (Blind)	Oct 1984 Sample A	Gr. alpha	9.7±1.2	14±5.0	5.3-22.7
			Ra-226	3.3±0.2	3.0±0.5	2.2-3.8
			Ra-228	3.4±1.6	2.1±0.3	1.6-2.6
			Uranium	NA ^e		0.0-15.4
	Sample B	Gr. beta	48.3±5.0	64±5.0	55.3-72.7	
		Sr-89	10.7±4.6	11±5.0	2.3-19.7	
		Sr-90	7.3±1.2	12±1.5	9.4-14.6	
		Co-60	16.3±1.2	14±5.0	5.3-22.7	
		Cs-134	<2	2±5.0	0.0-10.7	
		Cs-137	16.7±1.2	14±5.0	5.3-22.7	
STAF-387	Air Filter	Nov 1984	Gr. alpha	18.7±1.2	15±5.0	6.3-23.7
			Gr. beta	59.0±5.3	52±5.0	43.3-60.7
			Sr-90	18.3±1.2	21±1.5	18.4-23.6
			Cs-137	10.3±1.2	10±5.0	1.3-18.7
STW-388	Water	Dec 1984	I-131	28.0±2.0	36±6.0	25.6-36.4
STW-389	Water	Dec 1984	H-3	3583±110	3182±360	2558-3806
STW-391	Water	Dec 1984	Ra-226	8.4±1.7	8.6±1.3	6.4-10.8
			Ra-228	3.1±0.2	4.1±0.6	3.0-5.2
STW-392	Water	Jan 1985	Sr-89	<3.0	3.0±5.0	0.0-11.7
			Sr-90	27.3±5.2	30.0±1.5	27.4-32.6
STW-393	Water	Jan 1985	Gr. alpha	3.3±1.2	5±5.0	0.0-13.7
			Gr. beta	17.3±3.0	15±5.0	6.3-23.7
STF-395	Food	Jan 1985	Gr. alpha	4.7±2.3	6.0±5.0	0.0-14.7
			Gr. beta	11.3±1.2	15.0±5.0	6.3-23.7
			Sr-89	25.3±6.4	34.0±5.0	25.3-42.8
			Sr-90	27.0±8.8	26.0±1.5	23.4-28.6
			I-131	38.0±2.0	35.0±6.0	24.6-45.4
			Cs-137	32.7±2.4	29.0±5.0	20.3-37.7
			K	1410±212	1382±120	1174-1590

Table A-1. (continued)

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/l ^b			
				TIML Result $\pm 2\sigma^c$	EPA Result ^d		
				1s, N=1	Control Limits		
STW-397	Water	Feb 1985	Cr-51	<29	48 \pm 5.0	39.3-56.7	
			Co-60	21.3 \pm 3.0	20 \pm 5.0	11.3-28.7	
			Zn-65	53.7 \pm 5.0	55 \pm 5.0	46.3-63.7	
			Ru-106	<23	25 \pm 5.0	16.3-33.7	
			Cs-134	32.3 \pm 1.2	35 \pm 5.0	26.3-43.7	
			Cs-137	25.3 \pm 3.0	25 \pm 5.0	16.3-33.7	
STW-398	Water	Feb 1985	H-3	3869 \pm 319	3796 \pm 634	3162-4430	
STM-400	Milk	March 1985	I-131	7.3 \pm 2.4	9.0 \pm 0.9	7.4-10.6	
STW-402	Water	March 1985	Ra-226	4.6 \pm 0.6	5.0 \pm 0.8	3.7-6.3	
			Ra-228	<0.8	9.0 \pm 1.4	6.7-11.3	
			Reanalysis Ra-228	9.0 \pm 0.4			
STW-404	Water	March 1985	Gr. alpha	4.7 \pm 2.3	6 \pm 5.0	0.0-14.7	
			Gr. beta	11.3 \pm 1.2	15 \pm 5.0	6.3-23.7	
STAF-405	Air Filter	March 1985	Gr. alpha	9.3 \pm 1.0	10.0 \pm 5.0	1.3-18.7	
			Gr. beta	42.0 \pm 1.1	36.0 \pm 5.0	27.3-44.7	
			Sr-90	13.3 \pm 1.0	15.0 \pm 1.5	12.4-17.6	
			Cs-137	6.3 \pm 1.0	6.0 \pm 5.0	0.0-14.7	
STW-407	Water	April 1985	I-131	8.0 \pm 0.0	7.5 \pm 0.8	6.2-8.8	
STW-408	Water	April 1985	H-3	3399 \pm 150	3559 \pm 630	2929-4189	
STW-409	Water	April 1985					
			(Blind)	Gr. alpha	29.7 \pm 1.8	32.0 \pm 5.0	23.3-40.7
			Sample A	Ra-226	4.4 \pm 0.2	4.1 \pm 0.6	3.1-5.1
				Ra-228	NA ^e	6.2 \pm 0.9	4.6-7.8
				Uranium	NA ^e	7.0 \pm 6.0	0.0-17.4
			Sample B	Gr. beta	74.3 \pm 11.8	72.0 \pm 5.0	63.3-80.7
				Sr-89	12.3 \pm 7.6	10.0 \pm 5.0	1.3-18.7
				Sr-90	14.7 \pm 2.4	15.0 \pm 1.5	12.4-17.6
				Co-60	14.7 \pm 2.4	15.0 \pm 5.0	6.3-23.7
				Cs-134	12.0 \pm 2.0	15.0 \pm 5.0	6.3-23.7
				Cs-137	14.0 \pm 2.0	12.0 \pm 5.0	3.3-20.7

Table A-1. (continued)

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/l ^b		
				TIML Result $\pm 2\sigma^c$	EPA Result ^d 1s, N=1	Control Limits
STW-413	Water	May 1985	Sr-89	36.0 \pm 12.4	39.0 \pm 5.0	30.3-47.7
			Sr-90	14.3 \pm 4.2	15.0 \pm 1.5	12.4-17.6
STW-414	Water	May 1985	Gr. alpha	8.3 \pm 4.1	12.0 \pm 5.0	3.3-20.7
			Gr. beta	8.7 \pm 1.2	11.0 \pm 5.0	2.3-19.7
STW-416	Water	June 1985	Cr-51	44.7 \pm 6.0	44.0 \pm 5.0	45.3-52.7
			Co-60	14.3 \pm 1.2	14.0 \pm 5.0	5.3-22.7
			Zn-65	50.3 \pm 7.0	47.0 \pm 5.0	38.3-55.7
			Ru-106	55.3 \pm 5.8	62.0 \pm 5.0	53.3-70.7
			Cs-134	32.7 \pm 1.2	35.0 \pm 5.0	26.3-43.7
			Cs-137	22.7 \pm 2.4	20.0 \pm 5.0	11.3-28.7
STW-418	Water	June 1985	H-3	2446 \pm 132	2416 \pm 351	1807-3025
STM-421	Milk	June 1985	Sr-89	10.3 \pm 4.6	11.0 \pm 5.0	2.3-19.7
			Sr-90	9.0 \pm 2.0	11.0 \pm 1.5	8.4-13.6
			I-131	11.7 \pm 1.2	11.0 \pm 6.0	0.6-21.4
			Cs-137	12.7 \pm 1.2	11.0 \pm 5.0	2.3-19.7
			K	1512 \pm 62	1525 \pm 132	1393-1657
STW-423	Water	July 1985	Gr. alpha	5.0 \pm 0.0	11.0 \pm 5.0	2.3-19.7
			Gr. beta	5.0 \pm 2.0	8.0 \pm 5.0	0.0-16.7
STW-425	Water	August 1985	I-131	25.7 \pm 3.0	33.0 \pm 6.0	22.6-43.4
STW-426	Water	August 1985	H-3	4363 \pm 83	4480 \pm 447	3704-5256
STAF-427	Air Filter	August 1985	Gr. alpha	11.3 \pm 0.6	13.0 \pm 5.0	4.3-21.7
			Gr. beta	46.0 \pm 1.0	44.0 \pm 5.0	35.3-52.7
			Sr-90	17.7 \pm 0.6	18.0 \pm 1.5	15.4-20.6
			Cs-137	10.3 \pm 0.6	8.0 \pm 5.0	0.0-16.7
STW-429	Water	Sept 1985	Sr-89	15.7 \pm 0.6	20.0 \pm 5.0	11.3-28.7
			Sr-90	7.0 \pm 0.0	7.0 \pm 1.5	4.4-9.6
STW-430	Water	Sept 1985	Ra-226	8.2 \pm 0.3	8.9 \pm 1.3	6.6-11.1
			Ra-228	4.1 \pm 0.3	4.6 \pm 0.7	3.4-5.8
STW-431	Water	Sept 1985	Gr. alpha	4.7 \pm 0.6	8.0 \pm 5.0	0.0-16.7
			Gr. beta	4.7 \pm 1.2	8.0 \pm 5.0	0.0-16.7

Table A-1. (continued)

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/l ^b		
				TIML Result $\pm 2\sigma^c$	EPA Result ^d	
				1s, N=1	Control Limits	
STW-433	Water	Oct 1985	Cr-51	<13	21.0 \pm 5.0	12.3-29.7
			Co-60	19.3 \pm 0.6	20.0 \pm 5.0	11.3-28.7
			Zn-65	19.7 \pm 0.6	19.0 \pm 5.0	10.3-27.7
			Ru-106	<19	20.0 \pm 5.0	11.3-28.7
			Cs-134	17.0 \pm 1.0	20.0 \pm 5.0	11.3-28.7
			Cs-137	19.3 \pm 1.2	20.0 \pm 5.0	11.3-28.7
STW-435	Water	Oct 1985	H-3	1957 \pm 50	1974 \pm 345	1376-2572
STW-436 437	Water (Blind)	Oct 1985				
	Sample A		Gr. alpha	53.0 \pm 1.0	52.0 \pm 13	29.4-74.6
			Ra-226	5.9 \pm 0.1	6.3 \pm 1.0	4.1-7.9
			Ra-228	8.2 \pm 0.1	10.1 \pm 1.5	7.5-12.7
			Uranium	NA ^e	8.0 \pm 10.4	0.0-18.4
	Sample B		Gr. beta	85.7 \pm 2.5	75.0 \pm 5.0	76.3-83.7
			Sr-89	21.3 \pm 1.5	27.0 \pm 5.0	18.3-35.7
			Sr-90	10.3 \pm 0.6	9.0 \pm 1.5	6.4-11.6
			Co-60	18.3 \pm 1.2	18.0 \pm 5.0	9.3-26.7
			Cs-134	16.3 \pm 1.2	18.0 \pm 5.0	9.3-26.7
			Cs-137	19.0 \pm 1.0	18.0 \pm 5.0	9.3-26.7
STM-439	Milk	Oct 1985	Sr-89	50.3 \pm 0.6	48.0 \pm 5.0	39.3-56.7
			Sr-90	23.3 \pm 0.6	26.0 \pm 1.5	23.4-28.6
			I-131	45.7 \pm 3.2	42.0 \pm 6.0	31.6-52.4
			Cs-137	60.7 \pm 0.6	56.0 \pm 5.0	47.3-64.7
			K	1547 \pm 29	1540 \pm 77	1406-1674
STW-441	Water	Nov 1985	Gr. alpha	5.3 \pm 0.6	10.0 \pm 5.0	1.3-18.7
			Gr. beta	11.7 \pm 1.2	13.0 \pm 5.0	4.3-21.7
STW-443	Water	Dec 1985	I-131	46.7 \pm 2.1	45.0 \pm 6.0	34.6-55.4
STW-444	Water	Dec 1985	Ra-226	6.5 \pm 0.1	7.1 \pm 1.1	5.2-9.0
			Ra-228	6.1 \pm 0.1	7.3 \pm 1.1	5.4-9.2
STW-445	Water	Jan 1986	Sr-89	29.7 \pm 2.5	31.0 \pm 5.0	22.3-39.7
			Sr-90	13.7 \pm 0.6	15.0 \pm 1.5	12.4-17.6
STW-446	Water	Jan 1986	Gr. alpha	3.0 \pm 0.0	3.0 \pm 5.0	0.0-11.7
			Gr. beta	5.3 \pm 0.6	7.0 \pm 5.0	0.0-15.7

Table A-1. (continued)

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/l ^b		
				TIML Result ±2σ ^c	EPA Result ^d	
				1s, N=1	Control Limits	
STF-447	Food	Jan 1986	Sr-89	24.3±2.5	25.0±5.0	16.3-33.7
			Sr-90	17.3±0.6	10.0±1.5	7.4-12.6
			I-131	22.7±2.3	20.0±6.0	9.6-30.4
			Cs-137	16.3±0.6	15.0±5.0	6.3-23.7
			K	927±46	950±144	701-1199
STW-448	Water	Feb 1986	Cr-51	45.0±3.6	38.0±5.0	29.3-46.7
			Co-60	19.7±1.5	18.0±5.0	9.3-26.7
			Zn-65	44.0±3.5	40.0±5.0	31.3-48.7
			Ru-106	<9.0	0.0±5.0	0.0-8.7
			Cs-134	28.3±2.3	30.0±5.0	21.3-38.7
			Cs-137	23.7±0.6	22.0±5.0	13.3-30.7
STW-449	Water	Feb 1986	H-3	5176±48	5227±525	4317-6137
STW-450	Water	Feb 1986	total	8.0±0.0	9.0±6.0	0.0-19.4
STM-451	Milk	Feb 1986	I-131	7.0±0.0	9.0±6.0	0.0-19.4
STW-452	Water	March 1986	Ra-226	3.8±0.1	4.1±0.6	3.0-5.2
			Ra-228	11.0±0.5	12.4±1.8	9.2-15.5
STW-453	Water	March 1986	Gr. alpha	6.7±0.6	15.0±5.0	6.3-23.7
			Gr. beta	7.3±0.6	8.0±5.0	0.0-16.7
STW-454	Water	April 1986	I-131	7.0±0.0	9.0±6.0	0.0-19.4
STW-455 456	Water (Blind)	April 1986				
	Sample A		Gr. alpha	15.0±1.0	17.0±5.0	8.3-25.7
			Ra-226	3.1±0.1	2.9±0.4	2.1-3.7
			Ra-228	1.5±0.2	2.0±0.3	1.5-2.5
			Uranium	4.7±0.6	5.0±6.0	0.0-15.4
	Sample B		Gr. beta	28.7±1.2	35.0±5.0	26.3-43.7
			Sr-89	5.7±0.6	7.0±5.0	0.0-15.7
			Sr-90	7.0±0.0	7.0±1.5	4.4-9.6
			Co-60	10.7±1.5	10.0±5.0	1.3-18.7
			Cs-134	4.0±1.7	5.0±5.0	0.0-13.7
			Cs-137	5.3±0.6	5.0±5.0	0.0-13.7

Table A-1. (continued)

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/l ^b		
				TIML Result $\pm 2\sigma^c$	1s, N=1	EPA Result ^d Control Limits
STAF-457	Air Filter	April 1986	Gr. alpha	13.7 \pm 0.6	15.0 \pm 5.0	6.3-23.7
			Gr. beta	46.3 \pm 0.6	47.0 \pm 5.0	38.3-55.7
			Sr-90	14.7 \pm 0.6	18.0 \pm 1.5	15.4-20.6
			Cs-137	10.7 \pm 0.6	10.0 \pm 5.0	1.3-18.7
STU-458	Urine	April 1986	Tritium	4313 \pm 70	4423 \pm 189	4096-4750
STW-459	Water	May 1986	Sr-89	4.3 \pm 0.6	5.0 \pm 5.0	0.0-13.7
			Sr-90	5.0 \pm 0.0	5.0 \pm 1.5	2.4-7.6
STW-460	Water	May 1986	Gr. alpha	5.3 \pm 0.6	8.0 \pm 5.0	0.0-16.7
			Gr. beta	11.3 \pm 1.2	15.0 \pm 5.0	6.3-23.7
STW-461	Water	June 1986	Cr-51	<9.0	0.0 \pm 5.0	0.0-8.7
			Co-60	66.0 \pm 1.0	66.0 \pm 5.0	57.3-74.7
			Zn-65	87.3 \pm 1.5	86.0 \pm 5.0	77.3-94.7
			Ru-106	39.7 \pm 2.5	50.0 \pm 5.0	41.3-58.7
			Cs-134	49.3 \pm 2.5	49.0 \pm 5.0	40.3-57.7
			Cs-137	10.3 \pm 1.5	10.0 \pm 5.0	1.3-18.7
STW-462	Water	June 1986	Tritium	3427 \pm 25	3125 \pm 361	2499-3751
STM-464	Milk	June 1986	Sr-89	<1.0	0.0 \pm 5.0	0.0-8.7
			Sr-90	15.3 \pm 0.6	16.0 \pm 1.5	13.4-18.6
			I-131	48.3 \pm 2.3	41.0 \pm 6.0	30.6-51.4
			Cs-137	43.7 \pm 1.5	31.0 \pm 5.0	22.3-39.7
			K	1567 \pm 114	1600 \pm 80	1461-1739
STW-465	Water	July 1986	Gr. alpha	4.7 \pm 0.6	6.0 \pm 5.0	0.0-14.7
			Gr. beta	18.7 \pm 1.2	18.0 \pm 5.0	9.3-26.7
STW-467	Water	August 1986	I-131	30.3 \pm 0.6	45.0 \pm 6.0	34.4-55.4
STW-468	Water	August 1986	Pu-239	11.3 \pm 0.6	10.1 \pm 1.0	8.3-11.9
STW-469	Water	August 1986	Uranium	4.0 \pm 0.0	4.0 \pm 6.0	0.0-14.4
STAF-470 471 472	Air Filter	Sept 1986	Gr. alpha	19.3 \pm 1.5	22.0 \pm 5.0	13.3-30.7
			Gr. beta	64.0 \pm 2.6	66.0 \pm 5.0	57.3-74.7
			Sr-90	22.0 \pm 1.0	22.0 \pm 5.0	19.4-24.6
			Cs-137	25.7 \pm 1.5	22.0 \pm 5.0	13.3-30.7
STW-473	Water	Sept 1986	Ra-226	6.0 \pm 0.1	6.1 \pm 0.9	4.5-7.7
			Ra-228	8.7 \pm 1.1	9.1 \pm 1.4	6.7-11.5

Table A-1. (continued).

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/l ^b		
				TIML Result $\pm 2\sigma^c$	EPA Result ^d	
					1s, N=1	Control Limits
STW-474	Water	Sept 1986	Gr. alpha	16.3 \pm 3.2	15.0 \pm 5.0	6.3-23.7
			Gr. beta	9.0 \pm 1.0	8.0 \pm 5.0	0.0-16.7
STW-475	Water	Oct 1986	Cr-51	63.3 \pm 5.5	59.0 \pm 5.0	50.3-67.7
			Co-60	31.0 \pm 2.0	31.0 \pm 5.0	22.3-39.7
			Zn-65	87.3 \pm 5.9	85.0 \pm 5.0	76.3-93.7
			Ru-106	74.7 \pm 7.4	74.0 \pm 5.0	65.3-82.7
			Cs-134	25.7 \pm 0.6	28.0 \pm 5.0	19.3-36.7
			Cs-137	46.3 \pm 1.5	44.0 \pm 5.0	35.3-52.7
STW-476	Water	Oct 1986	H-3	5918 \pm 60	5973 \pm 597	4938-7008
SPW-477 478	Water (Blind)	Oct 1986				
	Sample A		Gr. alpha	34.0 \pm 6.0	40.0 \pm 5.0	31.3-48.7
			Ra-226	5.8 \pm 0.2	6.0 \pm 0.9	4.4-7.6
			Ra-228	2.7 \pm 1.0	5.0 \pm 0.8	3.7-6.3
			Uranium	11.0 \pm 0.0	10.0 \pm 6.0	0.0-20.4
	Sample B		Gr. beta	38.7 \pm 1.2	51.0 \pm 5.0	42.3-59.7
			Sr-89	5.0 \pm 0.0	10.0 \pm 5.0	1.3-18.7
			Sr-90	3.0 \pm 0.0	4.0 \pm 1.5	1.4-6.6
			Co-60	24.7 \pm 1.2	24.0 \pm 5.0	15.3-32.7
			Cs-134	11.0 \pm 2.0	12.0 \pm 5.0	3.3-20.7
			Cs-137	9.3 \pm 1.2	8.0 \pm 5.0	0.0-16.7
STM-479	Milk	Nov 1986	Sr-89	7.7 \pm 1.2	9.0 \pm 5.0	0.3-17.7
			Sr-90	1.0 \pm 0.0	0.0 \pm 1.5	0.0-2.6
			I-131	52.3 \pm 3.1	49.0 \pm 6.0	38.6-59.4
			Cs-137	45.7 \pm 3.1	39.0 \pm 5.0	30.3-47.7
			K	1489 \pm 104	1565 \pm 78	1430-1700
STU-480	Urine	Nov 1986	H-3	5540 \pm 26	5257 \pm 912	4345-6169
STW-481	Water	Nov 1986	Gr. alpha	12.0 \pm 4.0	20.0 \pm 5.0	11.3-28.7
			Gr. beta	20.0 \pm 3.5	20.0 \pm 5.0	11.3-28.7
STW-482	Water	Dec 1986	Ra-226	6.7 \pm 0.2	6.8 \pm 1.0	5.0-8.6
			Ra-228	5.2 \pm 0.2	11.1 \pm 1.7	8.2-14.0
STW-483	Water	Jan 1987	Sr-89	19.7 \pm 5.0	25.0 \pm 5.0	16.3-33.7
			Sr-90	21.0 \pm 2.0	25.0 \pm 1.5	22.4-27.6

Table A-1. (continued).

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/l ^b		
				TIML Result $\pm 2\sigma^c$	EPA Result ^d 1s, N=1	Control Limits
STW-484	Water	Jan 1987	Pu-239	17.0 \pm 2.3	16.7 \pm 1.7	13.8-19.6
STF-486	Food	Jan 1987	Sr-90	36.0 \pm 4.0	49.0 \pm 10.0	31.7-66.3
			I-131	78.0 \pm 3.4	78.0 \pm 8.0	64.1-91.9
			Cs-137	89.7 \pm 3.0	84.0 \pm 5.0	75.3-92.7
			K	942 \pm 56	980 \pm 49	895-1065
STF-487	Food (Blank)	Jan 1987	SR-90	2.0 \pm 0.0	---	
			I-131	<3	---	
			Cs-137	<?	---	
			K	993 \pm 102	---	
STW-488	Water	Feb 1987	Co-60	49.0 \pm 0.0	50.0 \pm 5.0	41.3-58.7
			Zn-65	96.0 \pm 7.2	91.0 \pm 5.0	82.3-99.7
			Ru-106	92.0 \pm 20.2	100.0 \pm 5.0	91.3-108.7
			Cs-134	53.0 \pm 3.4	59.0 \pm 5.0	50.3-67.7
			Cs-137	89.3 \pm 4.6	87.0 \pm 5.0	78.3-95.7
STW-489	Water	Feb 1987	H-3	4130 \pm 140	4209 \pm 420	3479-4939
STW-490	Water	Feb 1987	Uranium	8.3 \pm 1.2	8.0 \pm 6.0	0.0-18.4
STM-491	Milk	Feb 1987	I-131	10.0 \pm 0.0	9.0 \pm 0.9	7.4-10.6
STW-492	Water	Mar 1987	Gr. alpha	3.7 \pm 1.2	3.0 \pm 5.0	0.0-11.7
			Gr. beta	11.3 \pm 1.2	13.0 \pm 5.0	4.3-21.7
STW-493	Water	Mar 1987	Ra-226	7.0 \pm 0.1	7.3 \pm 1.1	5.4-9.2
			Ra-228	7.1 \pm 2.3	7.5 \pm 1.1	5.5-9.5
STW-494	Water	Apr 1987	I-131	8.0 \pm 0.0	7.0 \pm 0.7	5.8-8.2
STAF-495	Air Filter	Apr 1987	Gr. alpha	15.0 \pm 0.0	14.0 \pm 5.0	5.3-22.7
			Gr. beta	41.0 \pm 2.0	43.0 \pm 5.0	34.3-51.7
			Sr-90	16.3 \pm 1.2	17.0 \pm 1.5	14.4-19.6
			Cs-137	7.0 \pm 0.0	8.0 \pm 5.0	0.0-16.7
STW-496 497	Water (Blind) Sample A	Apr 1987	Gr. alpha	30.7 \pm 1.2	30.0 \pm 8.0	16.1-43.9
			Ra-226	3.9 \pm 0.2	3.9 \pm 0.6	2.9-4.9
			Ra-228	4.9 \pm 0.9	4.0 \pm 0.6	3.0-5.0
			Uranium	5.0 \pm 0.0	5.0 \pm 6.0	0.0-15.4

Table A-1. (continued)

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/l ^b		
				TIML Result $\pm 2\sigma^c$	EPA Result ^d	
				1s, N=1	Control Limits	
STW-496 497	Water (Blind)	Apr 1987				
	Sample B		Gr. Beta	69.3±9.4	66.0±5.0	57.3-74.7
			Sr-89	16.3±3.0	19.0±5.0	10.3-27.7
			Sr-90	10.0±0.0	10.0±1.5	7.4-12.6
			Co-60	8.3±3.0	8.0±5.0	0.0-16.7
			Cs-134	19.0±2.0	20.0±5.0	11.3-28.7
			Cs-137	14.7±1.2	15.0±5.0	6.3-23.7
STU-498	Urine	Apr 1987	H-3	6017±494	5620±795	4647-6593
STW-499	Water	May 1987	Sr-89	38.0±6.0	41.0±5.0	32.3-49.7
			Sr-90	21.0±2.0	20.0±1.5	17.4-22.6
STW-500	Water	May 1987	Gr. alpha	9.0±3.4	11.0±5.0	2.3-19.7
			Gr. beta	10.3±1.2	7.0±5.0	0.0-15.7
STW-501	Water	June 1987	Cr-51	40.0±8.0	41.0±5.0	32.3-49.7
			Co-60	60.3±3.0	64.0±5.0	55.3-72.7
			Zn-65	11.3±5.0	10.0±5.0	1.3-18.7
			Ru-106	78.3±6.4	75.0±5.0	66.3-83.7
			Cs-134	36.7±3.0	40.0±5.0	31.3-48.7
			Cs-137	80.3±4.2	80.0±5.0	71.3-88.7
STW-502	Water	June 1987	H-3	2906±86	2895±357	2277-3513
STW-503	Water	June 1987	Ra-226	6.9±0.1	7.3±1.1	5.4-9.2
			Ra-228	13.3±1.0	15.2±2.3	11.2-19.2
STM-504	Milk	June 1987	Sr-89	57.0±4.3	69.0±5.0	60.3-77.7
			Sr-90	32.0±1.0	35.0±1.5	32.4-37.6
			I-131	64.0±2.0	59.0±6.0	48.6-69.4
			Cs-137	77.7±0.6	74.0±5.0	65.3-82.7
			K	1383±17	1525±76	1393-1657
STW-505	Water	July 1987	Gr. alpha	2.3±0.7	5.0±5.0	0.0-13.7
			Gr. beta	4.0±1.0	5.0±5.0	0.0-13.7
STF-506	Food	July 1987	I-131	82.7±4.6	80.0±8.0	66.1-93.9
			Cs-137	53.7±3.0	50.0±5.0	41.3-58.7
			K	1548±57	1680±84	1534-1826
STW-507	Water	Aug 1987	I-131	45.7±4.2	48.0±6.0	37.6-58.4
STW-508	Water	Aug 1987	Pu-239	5.8±0.2	5.3±0.5	4.4-6.2

Table A-1. (continued)

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/l ^b		
				TIML Result $\pm 2\sigma^c$	EPA Result ^d 1s, N=1	Control Limits
STW-509	Water	Aug 1987	Uranium	13.3 \pm 0.3	13.0 \pm 6.0	2.6-23.4
STAF-510	Air Filter	Aug 1987	Gr. alpha	9.7 \pm 0.4	10.0 \pm 5.0	1.3-18.7
			Gr. beta	28.3 \pm 0.6	30.0 \pm 5.0	21.3-38.7
			Sr-90	10.0 \pm 0.9	10.0 \pm 1.5	7.4-12.6
			Cs-137	10.0 \pm 1.0	10.0 \pm 5.0	1.3-18.7
STW-511	Water	Sept 1987	Ra-226	9.9 \pm 0.1	9.7 \pm 1.5	7.2-12.2
			Ra-228	8.1 \pm 1.4	6.3 \pm 1.0	4.6-8.0
STW-512	Water	Sept 1987	Gr. alpha	2.0 \pm 0.6	4.0 \pm 5.0	0.0-12.7
			Gr. beta	11.3 \pm 1.3	12.0 \pm 5.0	3.3-20.7
STW-513	Water	Oct 1987	H-3	4473 \pm 100	4492 \pm 449	3714-5270
STW-514	Water A	Oct 1987	Gr. alpha	29.3 \pm 2.6	28.0 \pm 7.0	15.9-40.1
			Ra-226	4.9 \pm 0.1	4.8 \pm 0.7	3.6-6.1
			Ra-228	4.2 \pm 1.0	3.6 \pm 0.5	2.7-4.5
			Uranium	3.0 \pm 0.1	3.0 \pm 6.0	0.0-13.4
STW-515	Water B	Oct 1987	Gr. beta	72.3 \pm 2.7	72.0 \pm 5.0	63.3-80.7
			Sr-89	14.3 \pm 1.3	16.0 \pm 5.0	7.3-24.7
			Sr-90	9.7 \pm 0.4	10.0 \pm 1.5	7.4-12.6
			Co-60	16.7 \pm 3.0	16.0 \pm 5.0	7.3-24.7
			Cs-134	16.7 \pm 2.3	16.0 \pm 5.0	7.3-24.7
			Cs-137	24.3 \pm 3.3	24.0 \pm 5.0	15.3-32.7
STW-516	Water	Oct 1987	Cr-51	80.3 \pm 17.5	70.0 \pm 5.0	61.3-78.7
			Co-60	16.0 \pm 2.3	15.0 \pm 5.0	6.3-23.7
			Zn-65	46.3 \pm 5.6	46.0 \pm 5.0	37.3-54.7
			Ru-106	57.3 \pm 15.4	61.0 \pm 5.0	52.3-69.7
			Cs-134	23.7 \pm 2.5	25.0 \pm 5.0	16.3-33.7
			Cs-137	51.7 \pm 3.2	51.0 \pm 5.0	42.3-59.7
STU-517	Urine	Nov 1987	H-3	7267 \pm 100	7432 \pm 743	6145-8719
STW-519	Water	Dec 1987	I-131	26.0 \pm 3.0	26.0 \pm 6.0	15.6-36.4

^a Results obtained by Teledyne Isotopes Midwest Laboratory as a participant in the environmental sample crosscheck program operated by the Intercomparison and Calibration Section, Quality Assurance Branch, Environmental Monitoring and Support Laboratory, U. S. Environmental Protection Agency (EPA), Las Vegas, Nevada.

^b All results are in the pCi/l, except for elemental potassium (K) data, which are in mg/l; air filter samples, which are in pCi/filter; and food, which is in pCi/kg.

^c Unless otherwise indicated, the TIML results are given as the mean ± 2 standard deviations for three determinations.

Table A-2. Crosscheck program results, thermoluminescent dosimeters (TLDs).

Lab Code	TLD Type	Measurement	mR		
			Teledyne Result $\pm 2\sigma^a$	Known Value ^c	Average $\pm 2 \sigma^d$ (all participants)
<u>2nd International Intercomparison^b</u>					
115-2	CaF ₂ :Mn Bulb	Field	17.0 \pm 1.9	17.1	16.4 \pm 7.7
		Lab	20.8 \pm 4.1	21.3	18.8 \pm 7.6
<u>3rd International Intercomparison^e</u>					
115-3	CaF ₂ :Mn Bulb	Field	30.7 \pm 3.2	34.9 \pm 4.8	31.5 \pm 3.0
		Lab	89.6 \pm 6.4	91.7 \pm 14.6	86.2 \pm 24.0
<u>4th International Intercomparison^f</u>					
115-4	CaF ₂ :Mn Bulb	Field	14.1 \pm 1.1	14.1 \pm 1.4	16.0 \pm 9.0
		Lab (Low)	9.3 \pm 1.3	12.2 \pm 2.4	12.0 \pm 7.6
		Lab (High)	40.4 \pm 1.4	45.8 \pm 9.2	43.9 \pm 13.2
<u>5th International Intercomparison^g</u>					
115-5A	CaF ₂ :Mn Bulb	Field	31.4 \pm 1.8	30.0 \pm 6.0	30.2 \pm 14.6
		Lab at beginning	77.4 \pm 5.8	75.2 \pm 7.6	75.8 \pm 40.4
		Lab at end	96.6 \pm 5.8	88.4 \pm 8.8	90.7 \pm 31.2

Table A-2. (Continued)

Lab Code	TLD Type	Measurement	mR		
			Teledyne Result $\pm 2\sigma^a$	Known Value ^c	Average $\pm 2\sigma^d$ (all participants)
115-5B	LiF-100 Chips	Field	30.3 \pm 4.8	30.0 \pm 6.0	30.2 \pm 14.6
		Lab at beginning	81.1 \pm 7.4	75.2 \pm 7.6	75.8 \pm 40.4
		Lab at the end	85.4 \pm 11.7	88.4 \pm 8.8	90.7 \pm 31.2
<u>7th International Intercomparison^h</u>					
115-7A	LiF-100 Chips	Field	75.4 \pm 2.6	75.8 \pm 6.0	75.1 \pm 29.8
		Lab (Co-60)	80.0 \pm 3.5	79.9 \pm 4.0	77.9 \pm 27.6
		Lab (Cs-137)	66.6 \pm 2.5	75.0 \pm 3.8	73.0 \pm 22.2
115-7B	CaF ₂ :Mn Bulbs	Field	71.5 \pm 2.6	75.8 \pm 6.0	75.1 \pm 29.8
		Lab (Co-60)	84.8 \pm 6.4	79.9 \pm 4.0	77.9 \pm 27.6
		Lab (Cs-137)	78.8 \pm 1.6	75.0 \pm 3.8	73.0 \pm 22.2
115-7C	CaSO ₄ :Dy Cards	Field	76.8 \pm 2.7	75.8 \pm 6.0	75.1 \pm 29.8
		Lab (Co-60)	82.5 \pm 3.7	79.9 \pm 4.0	77.9 \pm 27.6
		Lab (Cs-137)	79.0 \pm 3.2	75.0 \pm 3.8	73.0 \pm 22.2

Table A-2. (Continued)

Lab Code	TLD Type	Measurement	mR		
			Teledyne Result $\pm 2\sigma^a$	Known Value ^c	Average $\pm 2\sigma^d$ (all participants)
8th International Intercomparison ⁱ					
115-8A	LiF-100 Chips	Field Site 1	29.5 \pm 1.4	29.7 \pm 1.5	28.9 \pm 12.4
		Field Site 2	11.3 \pm 0.8	10.4 \pm 0.5	10.1 \pm 9.06
		Lab (Cs-137)	13.7 \pm 0.9	17.2 \pm 0.9	16.2 \pm 6.8
115-8B	CaF ₂ :Mn Bulbs	Field Site 1	32.3 \pm 1.2	29.7 \pm 1.5	28.9 \pm 12.4
		Field Site 2	9.0 \pm 1.0	10.4 \pm 0.5	10.1 \pm 9.0
		Lab (Cs-137)	15.8 \pm 0.9	17.2 \pm 0.9	16.2 \pm 6.8
115-8C	CaSO ₄ :Dy Cards	Field Site 1	32.3 \pm 0.7	29.7 \pm 1.5	28.9 \pm 12.4
		Field Site 2	10.6 \pm 0.6	10.4 \pm 0.5	10.1 \pm 9.0
		Lab (Cs-137)	18.1 \pm 0.8	17.2 \pm 0.9	16.2 \pm 6.8

^a Lab result given is the mean ± 2 standard deviations of three determinations.

^b Second International Intercomparison of Environmental Dosimeters conducted in April of 1976 by the Health and Safety Laboratory (GASL), New York, New York, and the School of Public Health of the University of Texas, Houston, Texas.

^c Value determined by sponsor of the intercomparison using continuously operated pressurized ion chamber.

^d Mean ± 2 standard deviations of results obtained by all laboratories participating in the program.

^e Third International Intercomparison of Environmental Dosimeters conducted in summer of 1977 by Oak Ridge National Laboratory and the School of Public Health of the University of Texas, Houston, Texas.

^f Fourth International Intercomparison of Environmental Dosimeters conducted in summer of 1979 by the School of Public Health of the University of Texas, Houston, Texas.

^g Fifth International Intercomparison of Environmental Dosimeter conducted in fall of 1980 at Idaho Falls, Idaho and sponsored by the School of Public Health of the University of Texas, Houston, Texas and Environmental Measurements Laboratory, New York, New York, U.S. Department of Energy.

^h Seventh International Intercomparison of Environmental Dosimeters conducted in the spring and summer of 1984 at Las Vegas, Nevada, and sponsored by the U.S. Department of Energy, the U.S. Nuclear Regulatory Commission, and the U.S. Environmental Protection Agency.

ⁱ Eighth International Intercomparison of Environmental Dosimeters conducted in the fall and winter of 1985-1986 at New York, New York, and sponsored by the U.S. Department of Energy.

Table A-3. In-house spiked samples.

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/l		
				TIML Result n=3	Known Activity	Expected Precision 1s, n=3 ^a
QC-MI-6	Milk	Feb. 1986	Sr-89	6.0±1.9	6.4±3.0	8.7
			Sr-90	14.2±1.7	12.9±2.0	5.2
			I-131	34.2±3.8	35.2±3.5	10.4
			Cs-134	32.0±1.8	27.3±5.0	8.7
			Cs-137	35.8±2.1	35.0±5.0	8.7
QC-W-14	Water	Mar. 1986	Sr-89	1.6±0.4	1.6±1.0	7.1
			Sr-90	2.4±0.2	2.4±2.0	4.2
QC-W-15	Water	Apr. 1986	I-131	44.9±2.4	41.5±7.0	10.6
			Co-60	10.6±1.7	12.1±5.0	7.1 ^b
			Cs-134	30.2±2.4	25.8±8.0	7.1 ^b
			Cs-137	21.9±1.9	19.9±5.0	7.1 ^b
QC-MI-7	Milk	Apr. 1986	I-131	39.7±3.3	41.5±7.0	10.4
			Cs-134	28.7±2.8	25.8±8.0	8.7
			Cs-137	21.2±2.8	19.9±5.0	8.7
SPW-1	Water	May 1986	Gross alpha	15.8±1.8	18.0±5.0	5 ^c
QC-W-16	Water	June 1986	Gross alpha	16.2±0.7	16.9±2.5	8.7
			Gross beta	38.4±3.5	30.2±5.0	8.7
QC-MI-9	Milk	June 1986	Sr-89	<1.0	0.0	7.1 ^b
			Sr-90	12.6±1.8	13.3±3.0	4.2 ^b
			I-131	38.9±7.0	34.8±7.0	10.4
			Cs-134	33.0±3.4	36.1±5.0	8.7
			Cs-137	38.5±2.8	39.0±5.0	8.7
SPW-2	Water	June 1986	Gross alpha	16.8±1.8	18.0±5.0	5 ^c
SPW-3	Water	June 1986	Gross alpha	17.7±0.8	18.0±5.0	5 ^c
QC-W-18	Water	Sep. 1986	Cs-134	34.7±5.6	31.3±5.0	8.7
			Cs-137	51.1±7.0	43.3±8.0	8.7
QC-W-19	Water	Sep. 1986	Sr-89	13.6±4.1	15.6±3.5	7.1 ^b
			Sr-90	6.4±1.6	6.2±2.0	4.2 ^b

Table A-3. In-house spiked samples (continued)

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/l		
				TIML Result n=3	Known Activity	Expected Precision 1s, n=3 ^a
QC-W-21	Water	Oct. 1986	Co-60	19.2±2.2	18.5±3.0	8.7
			Cs-134	31.7±5.2	25.6±8.0	8.7
			Cs-137	23.8±1.0	21.6±5.0	8.7
QC-MI-11	Milk	Oct 1986	Sr-89	12.3±1.8	14.3±3.0	8.7
QC-W-20	Water	Nov. 1986	H-3	3855±180	3960±350	520 ^b
QC-W-22	Water	Dec. 1986	Gross alpha	9.8±1.4	11.2±4.0	8.7
			Gross beta	21.7±2.0	23.8±5.0	8.7
QC-W-23	Water	Jan. 1987	I-131	29.8±2.5	27.9±3.0	10.4
QC-MI-12	Milk	Jan. 1987	I-131	36.5±1.3	32.6±5.0	10.4
			Cs-137	32.6±4.2	27.4±8.0	8.7
SPM-13	Milk	Jan 1987	Sr-89	10.4±2.1	12.2±4.0	8.7
			Sr-90	14.6±1.6	12.6±3.0	5.2
			I-131	49.5±1.2	54.9±8.0	10.4
			Cs-134	<1.6	0.0	8.7
			Cs-137	33.3±0.6	27.4±8.0	8.7
SPW-24	Water	Mar 1987	Sr-89	24.7±3.6	25.9±5.0	8.7
			Sr-90	23.9±3.8	22.8±8.0	5.2
SPW-25	Water	Apr 1987	I-131	28.0±1.9	29.3±5.0	10.6
SPM-14	Milk	Apr 1987	I-131	25.0±2.2	23.9±5.0	10.4
			Cs-134	<2.1	0.0	8.7
			Cs-137	34.2±2.0	27.2±7.0	8.7
SPW-26	Water	Jun 1987	H-3	3422±100	3362±300	520
			Co-60	24.8±1.4	26.5±7.0	8.7
			Cs-134	<2.0	0.0	8.7
			Cs-137	21.2±0.5	21.6±7.0	8.7
SPW-27	Water	Jun 1987	Gr. alpha	8.5±1.9	10.1±4.0	8.7
			Gr. beta	22.6±1.9	21.2±5.0	8.7
SPW-28	Water	Jun 1987	Gr. alpha	8.7±1.3	10.1±4.0	8.7
			Gr. beta	12.2±5.2	9.4±3.0	8.7

Table A-3. In-house spiked samples (continued)

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/l		
				TIML Result n=3	Known Activity	Expected Precision 1s, n=3 ^a
SPW-29	Water	Jun 1987	Gr. alpha	16.4±1.3	18.9±5.0	8.7
			Gr. beta	15.9±4.0	11.8±4.0	8.7
SPM-15	Milk	Jul 1987	Sr-89	19.4±1.6	18.8±3.5	5.2
			I-131	43.5±0.7	45.3±7.0	10.4
			Cs-134	17.9±2.2	16.0±5.3	8.7
			Cs-137	25.4±1.8	22.7±5.0	8.7
SPW-30	Water	Sep 1987	Sr-89	17.5±3.0	14.3±5.0	8.7
			Sr-90	18.4±2.2	17.5±2.2	5.2
SPW-31	Water	Oct 1987	H-3	2053±93	2059±306	520

^a n=3 unless noted otherwise.

^b n=2.

^c n=1.

Table A-4. In-house "blank" samples.

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/l	
				Results (4.66σ)	Acceptance Criteria (4.66σ)
BL-1	D.I. Water	Nov. 1985	Gross alpha Gross beta	<0.1 <0.4	<1 <4
BL-2	D.I. Water	Nov. 1985	Cs-137 (gamma)	<1.9	<10
BL-3	D.I. Water	Nov. 1985	Sr-89 Sr-90	<0.5 <0.6	<5 <1
BL-5	D.I. Water	Nov. 1985	Ra-226 Ra-228	<0.4 <0.4	<1 <1
SPW-2265	D.I. Water	Apr. 1985	Gross alpha Gross beta Sr-89 Sr-90 I-131 Cs-137 (gamma)	<0.6 <2.2 <0.2 <0.4 <0.2 <7.4	<1 <4 <5 <1 <1 <10
BL-6	D.I. Water	Apr. 1986	Gross alpha	<0.4	<1
BL-7	D.I. Water	Apr. 1986	Gross alpha	<0.4	<1
BL-8	D.I. Water	June 1986	Gross alpha	<0.4	<1
BL-9	D.I. Water	June 1986	Gross alpha	<0.3	<1
SPW-3185	D.I. Water	Jan 1987	Ra-226 Ra-228	<0.1 <0.9	<1 <1
SPS-3292	Milk	Jan 1987	I-131 Cs-134 Cs-137	<0.1 <6.2 <6.4	<1 <10 <10
SPW-3554	D.I. Water	Feb 1987	H-3 Gross beta	<180 <2.6	<300 <4
SPS-3555	Milk	Feb 1987	Sr-89 Sr-90	<0.6 1.9±0.4 ^a	<5 <1
SPS-3731	Milk	Mar 1987	Cs-134 Cs-137	<2.2 <2.5	<10 <10

^a Low level (1 - 4 pCi/l) of Sr-90 concentration in milk is not unusual.

Table A-4. In-house "blank" samples (continued).

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/l	
				Results (4.66σ)	Acceptance Criteria (4.66σ)
SPS-3732	D.I. Water	Mar 1987	Sr-89	<0.9	<5
			Sr-90	<0.8	<1
			I-131	<0.3	<1
			Co-60	<2.3	<10
			Cs-134 (gamma)	<2.2	<10
			Cs-137 (gamma)	<2.4	<10
			Ra-226	<0.1	<1
			Ra-228	<1.0	<1
			Np-237	<0.04	<1
			Th-230	<0.05	<0.1
			Th-232	<0.02	<0.1
			U-234	<0.05	<0.1
			U-235	<0.03	<0.1
U-238	<0.03	<0.1			
SPS-4023	Milk	May 1987	I-131	<0.1	<1
SPS-4203	D.I. Water	May 1987	Gross alpha	<0.7	<1
			Gross beta	<1.7	<4
SPS-4204	Milk	May 1987	Sr-89	<0.5	<5
			Sr-90	2.4±0.6 ^a	<1
SPS-4390	Milk	Jun 1987	Cs-134	<4.7	<10
			Cs-137	<5.2	<10
SPS-4391	D.I. Water	Jun 1987	Sr-89	<0.4	<5
			Sr-90	<0.4	<1
			I-121	<0.1	<1
			Co-60	<3.8	<10
			Cs-137	<5.7	<10
			Ra-226	<0.1	<1
			Ra-228	<0.9	<1
SPW-4627	D.I. Water	Aug 1987	Gross alpha	<0.6	<1
			Gross beta	<1.4	<4
			Tritium	<150	
SPS-4628	Milk	Aug 1987	Sr-89	<0.6	<5
			Sr-90	2.4±0.6	<1
SPS-4847	Milk	Sep 1987	Cs-134	<4.4	<10
			Cs-137	<5.3	<10

^a Low level (1 - 4 pCi/l) of Sr-90 concentration in milk is not unusual.

Table A-4. In-house "blank" samples (continued).

Lab Code	Sample Type	Date Collected	Analysis	Concentration in pCi/l	
				Results (4.66 σ)	Acceptance Criteria (4.66 σ)
SPS-4848	D.I. Water	Sep 1987	I-131	<0.2	<1
SPW-4849	D.I. Water	Sep 1987	Co-60	<4.1	<10
			Cs-134	<4.8	<10
			Cs-137	<4.0	<10
			Sr-89	<0.7	<5
			Sr-90	<0.7	<1
SPW-4850	D.I. Water	Sep 1987	Th-228	<0.04	<1
			Th-232	<0.8	<1
			U-234	<0.03	<1
			U-235	<0.03	<1
			U-238	<0.02	<1
			Am-241	<0.06	<1
			Cm-242	<0.04	<1
			Ra-226	<0.1	<1
			Ra-228	<1.0	<2
SPW-4859	D.I. Water	Oct 1987	Fe-55	<0.5	<1
SPS-5348	Milk	Dec 1987	Cs-134	<2.3	<10
			Cs-137	<2.5	<10
SPW-5384	Water	Dec 1987	Co-60	<2.8	<10
			Cs-134	<2.6	<10
			Cs-137	<2.8	<10
			I-131	<0.2	<1
			Ra-226	<0.1	<1
			Ra-228	<1.2	<2
			Sr-89	<0.5	<1
SPW-5385	Water	Nov 1987	Gr. alpha	<0.4	<1
			Gr. beta	<2.2	<4
			Fe-55	<0.3	<1
SPS-5386	Milk	Jan 1988	I-131	<0.1	<1
SPW-5448	"Dead" Water	Jan 1988	H-3	<177	<300

ATTACHMENT B

ACCEPTANCE CRITERIA FOR "SPIKED" SAMPLES

LABORATORY PRECISION: ONE STANDARD DEVIATION VALUES FOR VARIOUS ANALYSES^a

Analysis	Level	One Standard Deviation for Single Determination
Gamma Emitters	5 to 100 pCi/liter or kg >100 pCi/liter or kg	5 pCi/liter 5% of known value
Strontium-89 ^b	5 to 50 pCi/liter or kg >50 pCi/liter or kg	5 pCi/liter 10% of known value
Strontium-90 ^b	2 to 30 pCi/liter or kg >30 pCi/liter of kg	3.0 pCi/liter 10% of known value
Potassium	>0.1 g/liter or kg	5% of known value
Gross Alpha	<20 pCi/liter >20 pCi/liter	5 pCi/liter 25% of known value
Gross Beta	<100 pCi/liter >100 pCi/liter	5 pCi/liter 5% of known value
Tritium	<4,000 pCi/liter >4,000 pCi/liter	1s = (pCi/liter) = 169.85 x (known) .0933 10% of known value
Radium-226, Radium-228	<0.1 pCi/liter	15% of known value
Plutonium	0.1 pCi/liter, gram, or sample	10% of known value
Iodine-131, Iodine-129 ^b	<55 pCi/liter >55 pCi/liter	6 pCi/liter 10% of known value
Uranium-238, Nickel-63 ^b , Technetium-99 ^b	<35 pCi/liter >35 pCi/liter	6 pCi/liter 15% of known value
Iron-55 ^b	50 to 100 pCi/liter	10 pCi/liter 10% of known value

^a From EPA publication, "Environmental Radioactivity Laboratory Intercomparison Studies Program, Fiscal Year 1981-1982, EPA-600/4-81-004.^b TIML limit.

APPENDIX I
DATA TABLES AND FIGURES

TABLE 1.1-1

ATTACHMENT A

REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: LASALLE COUNTY NPS UNIT 1 & 2 DOCKET NOS.: 50-373, 50-374

YEAR: 1987

I. Gaseous Effluents	UNITS	JAN	FEB	MAR	1ST QTR TOT	APR	MAY	JUN	2ND QTR TOT	6 MO TOTAL
1. Gross Radioactivity Release										
a. Noble Gas Release Main Stack	Curies	1.59E+01	None Detected	None Detected	1.59E+01	None Detected	None Detected	None Detected	0	1.59E+01
b. Maximum Release Rate (grab sample)	uCi/sec	3.80E+03	N/A	N/A	3.80E+03	N/A	N/A	N/A	0	3.80E+03
c. Isotopes Released										
Kr-85m	Curies	2.50E-03	-	-	2.50E-03	-	-	-	-	2.50E-03
Kr-87	Curies	2.40E-01	<8.00E-08	+	2.40E-01	<8.00E-08	+	+	-	2.40E-01
Kr-88	Curies	3.80E-01	<8.30E-08	+	3.80E-01	<8.30E-08	+	+	-	3.80E-01
Xe-133	Curies	9.10E+00	<4.10E-08	+	9.10E+00	<4.10E-08	+	+	-	9.10E+00
Xe-135	Curies	4.60E+00	<1.70E-08	+	4.60E+00	<1.70E-08	+	+	-	4.60E+00
Xe-135m	Curies	8.60E-01	-	-	8.60E-01	-	-	-	-	8.60E-01
Xe-138	Curies	6.70E-01	<1.40E-05	+	6.70E-01	<1.40E-05	+	+	-	6.70E-01
d. Percent of Stack Limit										
	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
e. Average Release Rate	uCi/sec	6.00E+00	N/A	N/A	-	N/A	N/A	N/A	-	-
2. Main Stack Iodine Release										
a. Isotopes Released										
I-131	Curies	4.63E-04	2.90E-04	3.16E-04	1.07E-03	9.20E-03	9.38E-04	<2.40E-12	1.01E-02	1.12E-02
I-132	Curies	2.37E-03	1.55E-03	-	3.92E-03	7.19E-02	4.23E-03	7.34E-04	7.69E-02	8.08E-02
I-133	Curies	3.75E-03	2.93E-03	2.61E-03	9.29E-03	4.01E-02	5.14E-03	1.66E-04	4.54E-02	5.47E-02
I-134	Curies	2.93E-03	-	-	2.93E-03	1.27E-03	2.24E-03	-	3.51E-03	6.44E-03
I-135	Curies	8.50E-04	5.07E-03	5.86E-03	1.18E-02	3.75E-03	8.15E-03	2.16E-04	1.21E-02	2.99E-02
b. Percent of Stack Limit										
	%	0.00	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00
c. Average Release Rate	uCi/sec	3.90E-03	4.10E-03	2.85E-03	-	2.00E-03	2.84E-03	3.92E-03	-	-

*Data to be presented in an errata to this report.

+Activity of each sample is less than LLD given (uCi/cc).

TABLE 1.1-1 (continued)

ATTACHMENT A
REPORT OF RADIOACTIVE EFFLUENTS

LRP-1110-3
Revision 3
November 19, 1986
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FACILITY: LASALLE COUNTY MPS UNIT 1 & 2 DOCKET NOS.: 50-373, 50-374

YEAR: 1987

I. Gaseous Effluents(Cont)	UNITS	JAN	FEB	MAR	1ST QTR TOT	APR	MAY	JUN	2ND QTR TOT	6 MO TOTAL
3. Main Stack Particulate Release										
a. Gross Radioactivity (B-)	milli-curies	2.29E-01	1.20E+00	1.44E-01	1.57E+00	9.05E-01	1.85E-01	2.57E-01	1.35E+00	2.92E+00
b. Gross Alpha Radioactivity	mCi	2.00E-09	4.00E-09	3.00E-09	9.00E-09	2.00E-09	*	*	2.00E-09	1.10E-08
c. Isotopes Released										
Cr-51	mCi	-	8.80E-01	-	8.80E-01	-	-	-	-	8.80E-01
Mn-54	mCi	2.80E-02	1.50E-01	5.12E-02	2.29E-01	1.54E-02	1.89E-03	1.53E-02	3.26E-02	2.62E-01
Co-58	mCi	<1.20E-12	+	+	-	+	+	+	-	-
Fe-59	mCi	<3.00E-12	+	+	-	+	+	+	-	-
Co-60	mCi	2.01E-01	1.73E-01	9.31E-02	4.67E-01	8.90E-01	1.70E-01	2.42E-01	1.30E+00	1.77E+00
Zn-65	mCi	<2.50E-12	+	+	-	+	+	+	-	-
Sr-89	mCi	<4.00E-09	1.10E-02	<3.00E-09	1.10E-02	<3.00E-09	*	*	-	1.10E-02
Sr-90	mCi	<2.00E-09	<2.00E-09	<2.00E-09	-	<2.00E-09	*	*	-	-
Zr-95	mCi	-	-	-	-	-	-	-	-	-
Nb-95	mCi	-	-	-	-	-	-	-	-	-
Ru-103	mCi	-	-	-	-	-	-	-	-	-
Ag-110m	mCi	-	-	-	-	-	1.32E-02	-	1.32E-02	1.32E-02
Sb-124	mCi	-	-	-	-	-	-	-	-	-
Cs-134	mCi	<1.20E-12	+	+	-	+	+	+	-	-
Cs-136	mCi	7.60E-05	-	-	7.60E-05	-	-	-	-	7.60E-05
Cs-137	mCi	<1.60E-12	+	+	-	+	+	+	-	-
Ba-140/La-140	mCi	-	-	-	-	-	-	-	-	-
Ce-141	mCi	<2.00E-12	+	+	-	+	+	+	-	-
Ce-144	mCi	<8.40E-12	+	+	-	+	+	+	-	-

*Data to be presented in an errata to this report.
+Activity of each sample is less than LLD given (uCi/cc).

TABLE 1.1-1 (continued)

ATTACHMENT A

LRP-1110-3
Revision 3
November 19, 1986
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REPORT OF RADIOACTIVE EFFLUENTS

FACILITY: LASALLE COUNTY NPS UNIT 1 & 2 DOCKET NOS.: 50-373, 50-374

YEAR: 1987

I. Gaseous Effluents(Cont)	UNITS	JAN	FEB	MAR	1ST QTR TOT	APR	MAY	JUN	2ND QTR TOT	6 MO TOTAL
3. Main Stack Particulate Release										
d. Percent Main Stack Limit	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
e. Average Release Rate	uCi/sec	3.20E-02	1.40E-02	2.27E-03	-	4.82E-03	4.67E-03	1.31E-04	-	-
4. Sum of Iodine and Particulate										
a. Percent Main Stack Limit	Curies	1.06E-02	1.10E-02	8.93E-03	3.05E-02	1.27E-01	2.09E-02	1.37E-03	1.49E-01	1.80E-01
d. Percent Main Stack Limit	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5. Gaseous Tritium										
a. Release	Curies	6.10E-01	1.09E+00	1.50E+01	1.67E+01	+	1.27E-02	+	1.27E-02	1.67E+01
b. Average Release Rate	uCi/sec	2.30E-01	4.60E-01	2.50E+01	-	N/A	2.10E-02	N/A	-	-
c. Percent Tech Spec Limit	%	0.00	0.01	0.02	0.03	0.00	0.05	0.00	0.05	0.04

*Data to be presented in an errata to this report.
+Activity of each sample is less than LLD given (uCi/cc).

TABLE 1.1-1 (continued)

ATTACHMENT A

LASALLE COUNTY NUCLEAR POWER STATION
UNITS ONE AND TWO
DOCKET NUMBERS 50-373 AND 50-374

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1987)

GASEOUS EFFLUENTS-SUMMATION OF ALL RELEASES

			Third Quarter	Fourth Quarter
A. Fission and Activation Gases				
1.	Total release	Ci	4.14E+03	2.35E+03
2.	Average release rate for period	uCi/sec	1.97E+02	1.04E+02
3.	Percent of Tech. Spec. limit	%	1.48E+00	5.30E-01
B. Iodines				
1.	Total iodine-131	Ci	9.23E-04	3.53E-03
2.	Average release rate for period	uCi/sec	2.77E-04	3.31E-04
3.	Percent of Tech. Spec. limit	%	1.58E+00	6.60E-01
C. Particulates				
1.	Particulates with T1/2 >8 days	Ci	2.62E-02	4.92E-03
2.	Average release rate for period	uCi/sec	6.74E-03	2.94E-03
3.	Percent of Tech. Spec. limit	%	8.20E-01	3.00E-01
4.	Gross alpha radioactivity	Ci	3.78E-06	<1.00E-11
D. Tritium				
1.	Total release	Ci	<1.00E-06	<1.00E-06
2.	Average release rate for period	uCi/sec	0.00E+00	0.00E+00
3.	Percent of Tech. Spec. limit	%	0.00E+00	0.00E+00

"<" indicates activity of sample is less than LLD given in uCi/ml

TABLE 1.1-1 (continued)

EFFLUENT AND WASTE DISPOSAL REPORT (1987)

GASEOUS EFFLUENTS-ELEVATED RELEASE

Nuclides Released		July	Aug.	Sept.	Third Quarter
1. Fission Gases					
Ar-41	Ci	7.49E-01	0.00E+00	7.86E+00	8.61E+00
Kr-85m	Ci	4.17E+01	2.50E+02	2.93E+02	5.85E+02
Kr-87	Ci	2.53E+01	1.02E+02	1.13E+02	2.41E+02
Kr-88	Ci	6.95E+01	3.46E+02	3.78E+02	7.93E+02
Xe-133	Ci	2.05E+02	6.50E+02	7.97E+02	1.65E+03
Xe-133m	Ci	<1.00E-06	<1.00E-06	<1.00E-06	<1.00E-06
Xe-135	Ci	2.72E+00	8.63E+02	<1.00E-06	8.65E+02
Xe-138	Ci	<1.00E-06	<1.00E-06	<1.00E-06	<1.00E-06
Total for period	Ci	3.45E+02	2.21E+03	1.59E+03	4.14E+03
2. Iodines					
I-131	Ci	2.97E-04	2.59E-04	3.67E-04	9.23E-04
I-132	Ci	1.34E-03	1.18E-03	6.66E-04	3.19E-03
I-133	Ci	3.01E-03	2.07E-03	6.66E-03	1.17E-02
I-134	Ci	6.05E-04	<1.00E-11	1.43E-03	2.04E-03
I-135	Ci	1.94E-03	9.13E-04	1.60E-03	4.46E-03
Total for period	Ci	7.19E-03	4.42E-03	1.07E-02	2.23E-02
3. Particulates					
Mn-54	Ci	4.13E-05	1.30E-05	6.21E-05	1.16E-04
Co-58	Ci	1.09E-05	<1.00E-04	<1.00E-04	1.09E-05
Fe-59	Ci	<1.00E-04	<1.00E-04	<1.00E-04	<1.00E-04
Co-60	Ci	1.94E-04	2.56E-02	2.66E-04	2.60E-02
Zn-65	Ci	<1.00E-04	<1.00E-04	<1.00E-04	<1.00E-04
Sr-89	Ci	<1.00E-11	6.48E-06	3.94E-05	4.59E-05
Sr-90	Ci	6.48E-06	<1.00E-11	2.16E-06	8.64E-06
Mo-99	Ci	<1.00E-04	<1.00E-04	<1.00E-04	<1.00E-04
Cs-134	Ci	<1.00E-04	<1.00E-04	<1.00E-04	<1.00E-04
Cs-137	Ci	<1.00E-04	<1.00E-04	<1.00E-04	<1.00E-04
Ce-141	Ci	<1.00E-04	<1.00E-04	<1.00E-04	<1.00E-04
Ce-144	Ci	<1.00E-04	<1.00E-04	<1.00E-04	<1.00E-04
Total for period	Ci	2.53E-04	2.56E-02	3.69E-04	2.62E-02

"<" indicates activity of sample is less than LLD given in uCi/ml

TABLE 1.1-1 (continued)
EFFLUENT AND WASTE DISPOSAL REPORT (1987)
GASEOUS EFFLUENTS-ELEVATED RELEASE

Nuclides Released		Oct.	Nov.	Dec.	Fourth Quarter
1. Fission Gases					
Ar-41	CI	6.69E+00	2.38E+00	0.00E+00	9.07E+00
Kr-85m	CI	1.71E+02	5.47E+01	9.12E+01	3.17E+02
Kr-87	CI	<1.00E-06	<1.00E-06	<1.00E-06	<1.00E-06
Kr-88	CI	1.90E+02	3.42E+01	1.26E+02	3.50E+02
Xe-133	CI	9.64E+02	2.86E+02	4.19E+02	1.67E+03
Xe-133m	CI	<1.00E-06	<1.00E-06	<1.00E-06	<1.00E-06
Xe-135	CI	9.00E-04	<1.00E-06	<1.00E-06	9.00E-04
Xe-138	CI	<1.00E-06	<1.00E-06	<1.00E-06	<1.00E-06
Total for period	CI	1.33E+03	3.77E+02	6.36E+02	2.35E+03
2. Iodines					
I-131	CI	9.13E-04	2.19E-03	4.26E-04	3.53E-03
I-132	CI	7.14E-03	6.60E-03	3.65E-03	1.74E-02
I-133	CI	7.13E-03	5.52E-03	3.99E-03	1.66E-02
I-134	CI	3.80E-03	8.47E-04	<1.00E-11	4.65E-03
I-135	CI	1.08E-02	5.04E-03	4.26E-03	2.01E-02
Total for period	CI	2.98E-02	2.02E-02	1.23E-02	6.23E-02
3. Particulates					
Cr-51	CI	4.22E-04	4.32E-04	0.00E+00	8.54E-04
Mn-54	CI	5.51E-05	7.00E-04	2.50E-05	7.80E-04
Co-58	CI	<1.00E-04	3.89E-05	<1.00E-04	3.89E-05
Fe-59	CI	<1.00E-04	<1.00E-04	<1.00E-04	<1.00E-04
Co-60	CI	2.28E-04	2.82E-03	2.04E-04	3.25E-03
Zn-65	CI	<1.00E-04	<1.00E-04	<1.00E-04	<1.00E-04
Sr-89	CI	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Sr-90	CI	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11
Mo-99	CI	<1.00E-04	<1.00E-04	<1.00E-04	<1.00E-04
Cs-134	CI	<1.00E-04	<1.00E-04	<1.00E-04	<1.00E-04
Cs-137	CI	<1.00E-04	<1.00E-04	<1.00E-04	<1.00E-04
Ce-141	CI	<1.00E-04	<1.00E-04	<1.00E-04	<1.00E-04
Ce-144	CI	<1.00E-04	<1.00E-04	<1.00E-04	<1.00E-04
Total for period	CI	7.05E-04	3.99E-03	2.29E-04	4.92E-03

"<" indicates activity of sample is less than LLD given in uCi/ml
DOCUMENT ID 0655h/

TABLE 1.2-1

ATTACHMENT A
REPORT OF RADIOACTIVE EFFLUENTS

LRP-1110-3
Revision 3
November 19, 1986
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FACILITY: LASALLE COUNTY NPS UNIT 1 & 2 DOCKET NOS.: 50-373, 50-374

YEAR: 1987

II. Liquid Effluents (Cont)	UNITS	JAN	FEB	MAR	1ST QTR TOT	APR	MAY	JUN	2ND QTR TOT	6 MO TOTAL
1. Gross Radioactivity (B-)			None				None	None		
a. Total Release	Curies	1.00E-03	Released	3.07E-02	3.17E-02	5.00E-03	Released	Released	5.00E-03	3.67E-02
b. Avg. Conc. Released	uCi/ml	9.10E-09	N/A	2.74E-05	-	5.33E-05	N/A	N/A	5.33E-05	-
c. Max. Conc. Released	uCi/ml	9.10E-09	N/A	1.90E-04	-	4.60E-05	N/A	N/A	4.60E-05	-
d. Percent of Tech Spec	%	0.00	N/A	0.00	0.00	0.00	N/A	N/A	0.00	0.0
2. Tritium										
a. Total Release	Curies	3.10E-02	N/A	7.14E-02	1.02E-01	3.80E-02	N/A	N/A	3.80E-02	1.40E-01
b. Avg. Conc. Released	uCi/ml	3.90E-04	N/A	3.63E-04	-	5.20E-04	N/A	N/A	5.20E-04	-
c. Percent of Tech Spec	%	0.00	N/A	0.00	0.00	0.00	N/A	N/A	0.00	0.00
3. Dissolved Noble Gases										
a. Total Release	Curies	+	N/A	+	-	+	N/A	N/A	-	-
b. Avg. Conc. Released	uCi/ml	N/A	N/A	N/A	-	N/A	N/A	N/A	-	-
c. Percent of Tech Spec	%	-	N/A	-	-	-	N/A	N/A	-	-
4. Gross Alpha Radioactivity										
a. Total Release	Curies	4.80E-08	N/A	2.07E-07	2.55E-07	1.20E-07	N/A	N/A	1.20E-07	3.75E-07
b. Avg. Conc. Released	uCi/ml	4.40E-13	N/A	6.90E-05	-	5.33E-05	N/A	N/A	5.33E-05	-
5. Volume of Liquid Waste	Liters	7.30E+04	N/A	1.99E+05	2.72E+05	7.45E+04	N/A	N/A	7.45E+04	3.47E+05
6. Volume of Dilution Water	Liters	8.20E+07	N/A	1.32E+08	2.14E+08	7.63E+07	N/A	N/A	7.63E+07	2.88E+08

*Data to be presented in an errata to this report.
*Activity of each sample is less than LLD given (uCi/cc).

TABLE 1.2-1 (continued)

ATTACHMENT A
REPORT OF RADIOACTIVE EFFLUENTS

LRP-1110-3
Revision 3
November 19, 1986
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FACILITY: LASALLE COUNTY NPS UNIT 1 & 2 DOCKET NOS.: 50-373, 50-374

YEAR: 1987

II. Liquid Effluents (Cont)	UNITS	JAN	FEB	MAR	1ST QTR TOT	APR	MAY	JUN	2ND QTR TOT	3 RD TOTAL
7. Isotopes Released	milli-									
Total	curies	1.00E+00	None Released	3.07E+01	3.17E+01	4.30E+01	None Released	None Released	4.30E+01	7.47E+01
Cr-51	mCi	-	N/A	-	-	1.50E-01	N/A	N/A	1.50E-01	1.50E-01
Mn-54	mCi	3.30E-01	N/A	1.26E+00	1.59E+00	8.70E-01	N/A	N/A	8.70E-01	2.46E+00
Co-58	mCi	-	N/A	2.80E-02	2.80E-02	2.30E-01	N/A	N/A	2.30E-01	2.58E-01
Fe-59	mCi	<9.40E-08	N/A	+	-	+	N/A	N/A	-	-
Co-60	mCi	6.20E-01	N/A	2.39E+00	3.01E+00	3.30E+00	N/A	N/A	3.30E+00	6.31E+00
Zn-65	mCi	<9.00E-08	N/A	+	+	1.20E-01	N/A	N/A	1.20E-01	1.20E-01
Sr-89	mCi	1.80E-03	N/A	1.15E-03	2.95E-03	4.40E-04	N/A	N/A	4.40E-04	3.39E-03
Sr-90	mCi	1.00E-04	N/A	3.04E-04	4.04E-04	1.40E-04	N/A	N/A	1.40E-04	5.44E-04
Cs-134	mCi	<4.30E-08	N/A	+	-	+	N/A	N/A	-	-
Cs-137	mCi	<5.70E-08	N/A	+	-	2.80E-02	N/A	N/A	2.80E-02	2.80E-02
Ce-141	mCi	<7.60E-08	N/A	+	-	+	N/A	N/A	-	-
Ce-144	mCi	<3.10E-07	N/A	+	-	+	N/A	N/A	-	-
Xe-133	mCi	<3.40E-07	N/A	+	-	+	N/A	N/A	-	-
Xe-133m	mCi	<3.40E-07	N/A	+	-	+	N/A	N/A	-	-
Xe-135	mCi	<4.00E-08	N/A	+	-	+	N/A	N/A	-	-
Fe-55	mCi	4.30E-02	N/A	2.70E+01	2.70E+01	5.00E-02	N/A	N/A	5.00E-02	2.71E+01
Cs-137	mCi	1.40E-02	N/A	<5.70E-08	1.40E-02	+	N/A	N/A	-	1.40E-02

*Data to be presented in an errata to this report.
+Activity of each sample is less than LLD given (uCi/cc).

TABLE 1.2-1 (continued)

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1987)

LIQUID EFFLUENTS-SUMMATION OF ALL RELEASES

		Third Quarter	Fourth Quarter	
A. Fission and Activation Gases				
1.	Total release (not including tritium, gases, alpha)	Ci	6.20E-02	7.90E-01
2.	Average concentration released	uCi/sec	6.21E-06	6.06E-05
3.	Maximum concentration released	uCi/sec	8.10E-05	1.50E-03
4.	Percent of Tech. Spec. limit	%	2.85E-06	3.03E-05
B. Tritium				
1.	Total release	Ci	3.62E-01	5.94E-01
2.	Average concentration released	uCi/ml	3.70E-04	3.13E-04
3.	Percent of Tech. Spec. limit	%	1.86E-05	1.48E-04
C. Dissolved Noble Gases				
1.	Total release	Ci	0.00E+00	0.00E+00
2.	Average concentration released	uCi/ml	<1.00E-05	<1.00E-05
3.	Percent of Tech. Spec. limit	%	0.00E+00	0.00E+00
D. Gross Alpha Radioactivity				
1.	Total release	Ci	3.06E-06	5.19E-06
2.	Average concentration released	uCi/ml	2.58E-09	2.60E-09
E. Volume of Waste Released				
		liters	1.18E+06	2.02E+06
F. Volume of Dilution Water				
		liters	2.16E+09	6.06E+08

"<" indicates activity of sample is less than LLD given in uCi/ml

TABLE 1.2-1 (continued)
EFFLUENT AND WASTE DISPOSAL REPORT (1987)

LIQUID EFFLUENTS

Nuclides Released		July	Aug.	Sept.	Third Quarter
Na-24	CI	1.10E-05	0.00E+00	No	1.10E-05
Cr-51	CI	1.59E-02	2.20E-02	Releases	3.79E-02
Mn-54	CI	2.23E-03	3.34E-03		5.57E-03
Fe-55	CI	3.90E-04	8.87E-04		1.28E-03
Co-58	CI	5.36E-04	8.49E-04		1.39E-03
Fe-59	CI	<5.00E-07	3.16E-04		3.16E-04
Co-60	CI	6.73E-03	8.62E-03		1.54E-02
Zn-65	CI	7.90E-05	1.16E-04		1.95E-04
Sr-89	CI	1.55E-06	4.68E-06		6.23E-06
Sr-90	CI	6.70E-07	1.01E-06		1.68E-06
Mo-99	CI	<5.00E-07	<5.00E-07		<5.00E-07
I-131	CI	<1.00E-06	<1.00E-06		<1.00E-06
Xe-133	CI	<1.00E-05	<1.00E-05		<1.00E-05
Xe-133m	CI	<1.00E-05	<1.00E-05		<1.00E-05
Cs-134	CI	<5.00E-07	<5.00E-07		<5.00E-07
Xe-135	CI	<1.00E-05	<1.00E-05		<1.00E-05
Cs-137	CI	<5.00E-07	<5.00E-07		<5.00E-07
Ce-141	CI	<5.00E-07	<5.00E-07		<5.00E-07
Ce-144	CI	<5.00E-07	<5.00E-07		<5.00E-07
Total for period	CI	2.59E-02	3.61E-02	0.00E+00	6.20E-02

"<" indicates activity of sample is less than LLD given in uCi/ml

TABLE 1.2-1 (continued)

EFFLUENT AND WASTE DISPOSAL REPORT (1987)

LIQUID EFFLUENTS

Nuclides Released		Oct.	Nov.	Dec.	Fourth Quarter
Na-24	C1	2.79E-03	No	1.54E-03	4.33E-03
Cr-51	C1	1.92E-01	Releases	4.38E-01	6.30E-01
Mn-54	C1	2.57E-02		1.55E-02	4.12E-02
Fe-55	C1	1.69E-03		4.84E-04	2.17E-03
Co-58	C1	6.67E-03		2.86E-03	9.63E-03
Fe-59	C1	2.84E-04		1.00E-03	1.25E-03
Co-60	C1	7.33E-02		1.84E-02	9.17E-02
Zn-65	C1	3.91E-03		3.05E-03	6.96E-03
Sr-89	C1	9.32E-06		2.22E-06	1.54E-05
Sr-90	C1	2.19E-06		6.64E-07	2.85E-06
Nb-95	C1	0.00E+00		7.10E-05	7.10E-05
Mo-99	C1	3.89E-05		<5.00E-07	3.89E-05
Tc-99m	C1	0.00E+00		1.15E-05	1.15E-05
Ag-110m	C1	3.47E-04		7.08E-04	1.05E-03
I-131	C1	<1.00E-06		1.10E-03	1.10E-03
I-133	C1	5.67E-05		0.00E+00	5.67E-05
Xe-133	C1	<1.00E-05		<1.00E-05	<1.00E-05
Xe-133m	C1	<1.00E-05		<1.00E-05	<1.00E-05
Cs-134	C1	<5.00E-07		1.03E-04	1.03E-04
Xe-135	C1	<1.00E-05		<1.00E-05	<1.00E-05
Cs-136	C1	0.00E+00		1.84E-04	1.84E-04
Cs-137	C1	2.38E-05		2.31E-04	2.54E-04
Ce-141	C1	<5.00E-07		<5.00E-07	<5.00E-07
Ce-144	C1	<5.00E-07		<5.00E-07	<5.00E-07
Total for period	C1	3.07E-01	0.00E+00	4.83E-01	7.90E-01

"<" indicates activity of sample is less than LLD given in uCi/ml

TABLE 2.0-1

ATTACHMENT A
REPORT OF RADIOACTIVE EFFLUENTS

LRP-1110-3
Revision 3
November 19, 1986
13

FACILITY: LASALLE COUNTY WPS UNIT 1 & 2 DOCKET NOS.: 50-373, 50-374

YEAR: 1987

III. Solid Waste Shipped Offsite for Burial or Disposal		UNITS	JAN	FEB	MAR	1ST QTR TOT	APR	MAY	JUN	2ND QTR TOT	6 MO TOTAL
1. Spent Resins, Filter Sludges, Evaporator Bottoms, etc.											
a. Quantity Shipped	Cu. meters		6.30E+01	2.85E+01	1.19E+01	1.03E+02	3.97E+01	9.59E+00	3.94E+00	5.32E+01	1.56E+02
b. Type of Waste			EB+SR	EB+SR	EW	-	EW+SR	EW	SR	-	-
c. Activity - Total Measured	Curies		5.80E+01	9.07E+02	1.76E+01	9.83E+02	7.63E+01	5.52E+01	7.14E+01	2.03E+02	1.19E+03
d. Principle Nuclides Measured/%											
	Mn-54		32	23	33	-	32	32	09	-	-
	Cr-51		22	16	22	-	22	22	61	-	-
	Co-60		19	14	19	-	19	20	23	-	-
e. Type of Container (LSA, Type A, Type B, Lge Quantity)			LSA	LSA	LSA	-	LSA	LSA	LSA	-	-
	Container Volume	Cu. meters	2.12E-01	2.18E-01	2.12E-01	-	2.12E-01	2.12E-01	3.94E+00	-	-
			2.72E+00	3.80E+00	-	-	3.28E-01	2.15E+00	-	-	-
f. Solidification Agent			Cement	Cement	Cement	-	Cement	Cement	Cement	-	-
2. Dry Compressible Waste, Contaminated Equipment, etc.											
a. Quantity Shipped	Cu. meters		1.69E+01	1.80E+01	1.73E+01	5.22E+01	1.95E+01	1.97E+01	1.79E+01	5.70E+01	1.09E+02
b. Activity - Total Measured	Curies		1.58E-01	3.73E-01	3.53E-01	8.84E-01	3.46E-01	8.69E-01	1.57E+00	2.79E+00	3.67E+00
c. Principle Nuclides Measured/%											
	Mn-54		32	31	27	-	28	27	16	-	-
	Cr-51		22	6	5	-	5	5	5	-	-
	Co-60		20	31	28	-	28	27	50	-	-
d. Type of Container (LSA, Type A, Type B, Lge Quantity)			LSA	LSA	LSA	-	LSA	LSA	LSA	-	-
	Container Volume	Cu. meters	2.10E-01	2.10E-01	2.10E-01	-	2.12E-01	2.12E-01	2.12E-01	-	-
			2.70E+00	3.30E-01	3.30E-01	-	2.72E+00	2.72E+00	2.72E+00	-	-
e. Type of Waste			DAW	DAW	DAW	-	DAW	DAW	DAW	-	-

TABLE 2.0-1 (continued)

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1987)

SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

		July	Aug.	Sept.	Third Quarter
1.	Spent resins, filter sludges evaporator bottoms, etc.				
a.	Quantity shipped	cu.m. 1.97E+01	7.00E+01	6.26E+01	1.52E+02
b.	Total activity (measured)	Ci 1.17E+02	5.70E+01	2.49E+02	4.23E+02
c.	Major nuclides (estimate)				
	Co-60	25	25	26	
	Fe-55	57	55	03	
	Mn-54	11	11	17	
	Cr-51	03	04	61	
d.	Container type	LSA	LSA	LSA	
e.	Container volume	cu.m. 3.94E+00	4.62E+00 2.12E-01	4.62E+00 3.29E-01 2.12E-01	
f.	Solidification agent	Cement	Cement	Cement	
2.	Dry compressible waste, contaminated equipment, etc.				
a.	Quantity shipped	cu.m. 7.39E+01	3.62E+01	1.71E+01	1.27E+02
b.	Total activity (measured)	Ci 1.69E+00	8.21E-01	4.89E-01	3.00E+00
c.	Major nuclides (estimate)				
	Co-60	28	28	06	
	Fe-55	04	03	35	
	Mn-54	28	28	06	
	Cr-51	15	16	35	
d.	Container type	LSA	LSA	LSA	
e.	Container volume	cu.m. 1.90E+01 2.72E+00 2.12E-01	2.72E+00 2.12E-01	2.72E+00 3.29E-01 2.12E-01	

TABLE 2.0-1 (continued)

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1987)

SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

		Oct.	Nov.	Dec.	Fourth Quarter
1.	Spent resins, filter sludges evaporator bottoms, etc.				
a.	Quantity shipped	cu.m. 7.21E+01	6.14E+01	6.89E+01	2.02E+02
b.	Total activity (measured)	Ci 2.20E+02	3.24E+02	1.36E+02	6.80E+02
c.	Major nuclides (estimate)				
	Co-60	25	05	25	
	Co-58	03	23	02	
	Fe-55	55	08	55	
	Mn-54	11	43	11	
d.	Container type	LSA	LSA	LSA	
e.	Container volume	cu.m. 4.62E+00 3.29E-01 2.12E-01	4.62E+00 3.29E-01 2.12E-01	4.62E+00 3.29E-01 2.12E-01	
f.	Solidification agent	Cement	Cement	Cement	
2.	Dry compressible waste, contaminated equipment, etc.				
a.	Quantity shipped	cu.m. 0.00E+00	0.00E+00	1.95E+01	1.95E+01
b.	Total activity (measured)	Ci 0.00E+00	0.00E+00	3.15E-02	3.15E-02
c.	Major nuclides (estimate)				
	Co-60	N/A	N/A	28	
	Mn-54	N/A	N/A	28	
	Cr-51	N/A	N/A	16	
d.	Container type	N/A	N/A	LSA	
e.	Container volume	cu.m. N/A	N/A	2.12E-01	

TABLE 2.0-1 (continued)

BWA - Richland, Washington
 BSC - Bismarck, South Carolina
 CN - Chem Nuclear Co.
 HN - Hittman Nuclear & Development Co.
 TSMT - Tri-State Motor Transit
 USE - U.S. Ecology

ATTACHMENT A
 REPORT OF RADIOACTIVE WASTE SUMMARY
 UNITS 1/2
 LASALLE COUNTY NUCLEAR POWER STATION

LRP-1110-3
 Revision 3
 November 19, 1986
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DATE	DISPOSITION OF MATERIAL		Type of Waste	Type of Container	Solidification Agent	Shipment Volume (ft ³)	Shipment Activity (mCi)	Volume Per Month (ft ³)	Activity Per Month (mCi)
	TRANS. CO.	RECIPIENT SITE							
1-2-87	HN	BSC	EB	LSA	CEMENT	105	2709.15		
1-5-87	HN	USE	EB	LSA	CEMENT	105	3460.28		
1-6-87	HN	BSC	EB	LSA	CEMENT	105	3287.69		
1-7-87	HN	USE	EB	LSA	CEMENT	105	3472.76		
1-8-87	HN	BSC	EB	LSA	CEMENT	105	3323.84		
1-9-87	HN	BSC	EB	LSA	CEMENT	135	2457.48		
1-12-87	HN	BSC	EB	LSA	CEMENT	105	3394.70		
1-13-87	HN	BSC	EB	LSA	CEMENT	105	3454.97		
1-14-87	HN	USE	EB	LSA	CEMENT	105	2884.15		
1-15-87	HN	BSC	EB	LSA	CEMENT	135	2723.48		
1-16-87	HN	BSC	SR	LSA	N/A	168.5	756.77		
1-16-87	HN	USE	EB	LSA	CEMENT	105	3069.93		
1-19-87	HN	USE	EB	LSA	CEMENT	105	2992.54		
1-20-87	HN	USE	EB	LSA	CEMENT	105	3471.13		
1-22-87	TSMT	USE	DAM	LSA	N/A	596.5	157.97		

TABLE 2.0-1 (continued)

WMA - Richland, Washington
 BSC - Barnwell, South Carolina
 CN - Cram Nuclear Co.
 HN - Hittman Nuclear & Development Co.
 TSMT - Tri-State Motor Transit
 USE - U.S. Ecology

ATTACHMENT A
 REPORT OF RADIOACTIVE WASTE SUMMARY
 UNITS 1/2
 LASALLE COUNTY NUCLEAR POWER STATION

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DATE	DISPOSITION OF MATERIAL		Type of Waste	Type of Container	Solidification Agent	Shipment Volume (ft ³)	Shipment Activity (mCi)	Volume Per Month (ft ³)	Activity Per Month (mCi)
	TRANS. CO.	BURIAL SITE							
1-22-87	HN	USE	EB	LSA	CEMENT	105	3125.55		
1-23-87	HN	USE	EB	LSA	CEMENT	105	2959.08		
1-26-87	HN	USE	EB	LSA	CEMENT	105	2604.66		
1-28-87	HN	USE	EB	LSA	CEMENT	105	2691.79		
1-29-87	HN	USE	EB	LSA	CEMENT	105	2652.80		
1-30-87	HN	USE	EB	LSA	CEMENT	105	2483.75	2822	58138.47
2-3-87	HN	USE	EB	LSA	CEMENT	105	1752.80		
2-4-87	HN	USE	EB	LSA	CEMENT	105	2482.25		
2-4-87	HN	USE	EB	LSA	CEMENT	105	2099.95		
2-5-87	HN	USE	EB	LSA	CEMENT	105	1339.97		
2-6-87	HN	USE	EB	LSA	CEMENT	105	1312.64		
2-10-87	HN	BSC	SR	LSA	N/A	135	228790.0		
2-10-87	HN	USE	EB	LSA	CEMENT	105	1879.64		
2-24-87	HN	BSC	SR	LSA	N/A	135	664610.0		
2-25-87	TSMT	USE	DAW	LSA	N/A	635.2	373.88		

TABLE 2.0-1 (continued)

RWA - Richland, Washington
 BSC - Barnwell, South Carolina
 CN - Chem Nuclear Co.
 HN - Hittman Nuclear & Development Co.
 TSMT - Tri-State Motor Transit
 USE - U.S. Ecology

ATTACHMENT A
 REPORT OF RADIOACTIVE WASTE SUMMARY
 UNITS 1/2
 LASALLE COUNTY NUCLEAR POWER STATION

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DATE	DISPOSITION OF MATERIAL		Type of Waste	Type of Container	Solidification Agent	Shipment Volume (ft ³)	Shipment Activity (mCi)	Volume Per Month (ft ³)	Activity Per Month (mCi)
	TRANS. CO.	BURIAL SITE							
2-27-87	HN	USE	EB	LSA	CEMENT	105	2742.16	1640.2	907383.3
3-6-87	TSMT	USE	DAW	LSA	N/A	609.6	353.32		
3-27-87	HN	USE	EW	LSA	CEMENT	105	4918.54		
3-30-87	HN	USE	EW	LSA	CEMENT	105	4865.83		
3-31-87	HN	USE	EW	LSA	CEMENT	105	5004.02		
3-31-87	HN	USE	EW	LSA	CEMENT	105	3743.13	1029.6	17984.84
4-3-87	TSMT	USE	EW DAW	LSA	CEMENT	692.6	271.93		
4-7-87	HN	BSC	SR	LSA	CEMENT	76	21000.00		
4-8-87	HN	USE	EW	LSA	CEMENT	105	3567.83		
4-10-87	HN	USE	EW	LSA	CEMENT	105	4217.78		
4-14-87	HN	BSC	SR	LSA	N/A	163	1070.5		
4-14-87	HN	USE	EW	LSA	CEMENT	105	3912.87		
4-16-87	HN	BSC	SR	LSA	N/A	163	11112.0		
4-16-87	HN	USE	EW	LSA	CEMENT	105	2710.44		
4-20-87	HN	USE	EW	LSA	CEMENT	105	3039.32		

TABLE 2.0-1 (continued)

RWA - Richland, Washington
 BSC - Barnwell, South Carolina
 CN - Chem Nuclear Co.
 HN - Hillman Nuclear & Development Co.
 TSMT - Tri-State Motor Transit
 USE - U.S. Ecology

ATTACHMENT A
 REPORT OF RADIOACTIVE WASTE SUMMARY
 UNITS 1/2
 LASALLE COUNTY NUCLEAR POWER STATION

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DATE	DISPOSITION OF MATERIAL		Type of Waste	Type of Container	Solidification Agent	Shipment Volume (ft ³)	Shipment Activity (mCi)	Volume Per Month (ft ³)	Activity Per Month (mCi)
	TRANS. CO.	BURIAL SITE							
4-22-87	HN	USE	EW	LSA	CEMENT	105	3008.99		
4-24-87	HN	BSC	SR	LSA	N/A	163	10716.0		
4-24-87	HN	USE	EW	LSA	CEMENT	105	2282.86		
4-28-87	HN	USE	EW	LSA	CEMENT	98.9	1702.88	2091.5	68733.4
5-4-87	TSMT	USE	DAW	LSA	N/A	642	182.91		
5-7-87	HN	USE	SR	LSA	CEMENT	76	36000.0		
5-5-87	HN	USE	EW	LSA	CEMENT	105	6303.36		
5-7-87	HN	USE	EW	LSA	CEMENT	105	8981.28		
5-13-87	HN	USE	DAW EW	LSA	CEMENT	105	4562.32	1033	56029.87
6-4-87	TSMT	USE	DAW	LSA	N/A	628.5	1576.12		
6-17-87	HN	USE	DAW	LSA	CEMENT	139	71407.13	767.5	72983.25

TABLE 2.0-1 (continued)

EFFLUENT AND WASTE DISPOSAL SEMIANNUAL REPORT (1987)

SOLID WASTE SHIPPED OFFSITE FOR BURIAL OR DISPOSAL

3. Solid waste disposition

<u>Date</u>	<u>Transport Company</u>	<u>Destination</u>
07/16/87	HN	Beatty, NV
07/31/87	HN	Beatty, NV
07/22/87	HN	Beatty, NV
07/27/87	HN	Beatty, NV
07/03/87	HN	Beatty, NV
08/07/87	HN	Barnwell, SC
08/10/87	HN	Hanford, SC
08/19/87	TSMT	Beatty, NV
08/19/87	TSMT	Hanford, WA
08/20/87	TSMT	Hanford, WA
08/13/87	HN	Barnwell, SC
07/17/87	TSMT	Waltz Mill, PA
07/21/87	TSMT	Waltz Mill, PA
07/21/87	TSMT	Hanford, WA
07/11/87	TSMT	Hanford, WA
09/04/87	HN	Barnwell, SC
08/25/87	HN	Hanford, WA
08/28/87	HN	Beatty, NV
08/27/87	TSMT	Hanford, WA
08/31/87	HN	Beatty, NV
09/02/87	HN	Beatty, NV
09/03/87	HN	Beatty, NV
09/04/87	HN	Beatty, NV
09/09/87	HN	Barnwell, SC
09/14/87	HN	Barnwell, SC
09/11/87	HN	Hanford, WA
09/11/87	HN	Beatty, NV
09/14/87	HN	Beatty, NV
09/18/87	TSMT	Beatty, NV
09/17/87	HN	Beatty, NV
09/18/87	HN	Beatty, NV
09/17/87	HN	Barnwell, SC
09/20/87	HN	Barnwell, SC
09/21/87	HN	Beatty, NV

Transport Company Key

CN = Chem Nuclear

HN = Rittman Nuclear

TSMT = Tri-State Motor Transport

DOCUMENT ID 0655h/

TABLE 2.0-1 (continued)

3. Solid waste disposition (Continued)

<u>Date</u>	<u>Transport Company</u>	<u>Destination</u>
09/25/87	HN	Beatty, NV
09/22/87	HN	Beatty, NV
09/22/87	HN	Beatty, NV
09/24/87	HN	Beatty, NV
09/28/87	HN	Beatty, NV
09/29/87	HN	Beatty, NV
10/01/87	HN	Beatty, NV
10/01/87	HN	Beatty, NV
10/05/87	HN	Beatty, NV
10/02/87	HN	Beatty, NV
10/06/87	HN	Beatty, NV
10/06/87	HN	Beatty, NV
10/07/87	HN	Beatty, NV
10/08/87	HN	Beatty, NV
10/08/87	HN	Beatty, NV
10/09/87	HN	Beatty, NV
10/09/87	HN	Beatty, NV
10/13/87	HN	Beatty, NV
10/13/87	HN	Beatty, NV
10/14/87	HN	Beatty, NV
10/15/87	HN	Beatty, NV
10/15/87	HN	Beatty, NV
10/16/87	HN	Beatty, NV
10/23/87	HN	Beatty, NV
10/23/87	HN	Barnwell, SC
11/02/87	HN	Barnwell, SC
10/27/87	HN	Beatty, NV
10/30/87	HN	Beatty, NV
11/05/87	HN	Barnwell, SC
11/06/87	HN	Barnwell, SC
11/06/87	HN	Beatty, NV
11/10/87	HN	Beatty, NV
11/10/87	HN	Beatty, NV
11/12/87	HN	Beatty, NV
11/12/87	HN	Beatty, NV
11/16/87	HN	Beatty, NV
11/16/87	HN	Beatty, NV
11/18/87	HN	Barnwell, SC

Transport Company Key

CN = Chem Nuclear

HN = Hittman Nuclear

TSMT = Tri-State Motor Transport

TABLE 2.0-1 (continued)

3. Solid waste disposition (Continued)

<u>Date</u>	<u>Transport Company</u>	<u>Destination</u>
11/17/87	HN	Beatty, NV
11/18/87	HN	Beatty, NV
11/19/87	HN	Beatty, NV
11/20/87	HN	Barnwell, NV
11/20/87	HN	Beatty, NV
11/23/87	HN	Beatty, NV
11/23/87	HN	Beatty, NV
11/30/87	HN	Beatty, NV
11/30/87	HN	Beatty, NV
12/01/87	HN	Beatty, NV
12/07/87	HN	Barnwell, SC
12/03/87	HN	Beatty, NV
12/03/87	HN	Beatty, NV
12/04/87	HN	Beatty, NV
12/07/87	HN	Beatty, NV
12/08/87	HN	Beatty, NV
12/17/87	HN	Barnwell, SC
12/09/87	HN	Beatty, NV
12/10/87	HN	Beatty, NV
12/14/87	HN	Beatty, NV
12/16/87	HN	Beatty, NV
12/16/87	HN	Beatty, NV
12/18/87	HN	Beatty, NV
12/28/87	HN	Beatty, NV
12/29/87	CN	Channahon, IL

Transport Company Key

CN = Chem Nuclear

HN = Hittman Nuclear

TSMT = Tri-State Motor Transport

Figure 3.1-1

Estimated Cumulative Gamma Dose (in mrem)
from the LaSalle Station for the period
January-December 1987

Isopleth Labels

Small figure - multiply by 10^{-3}
Large figure - multiply by 10^{-4}

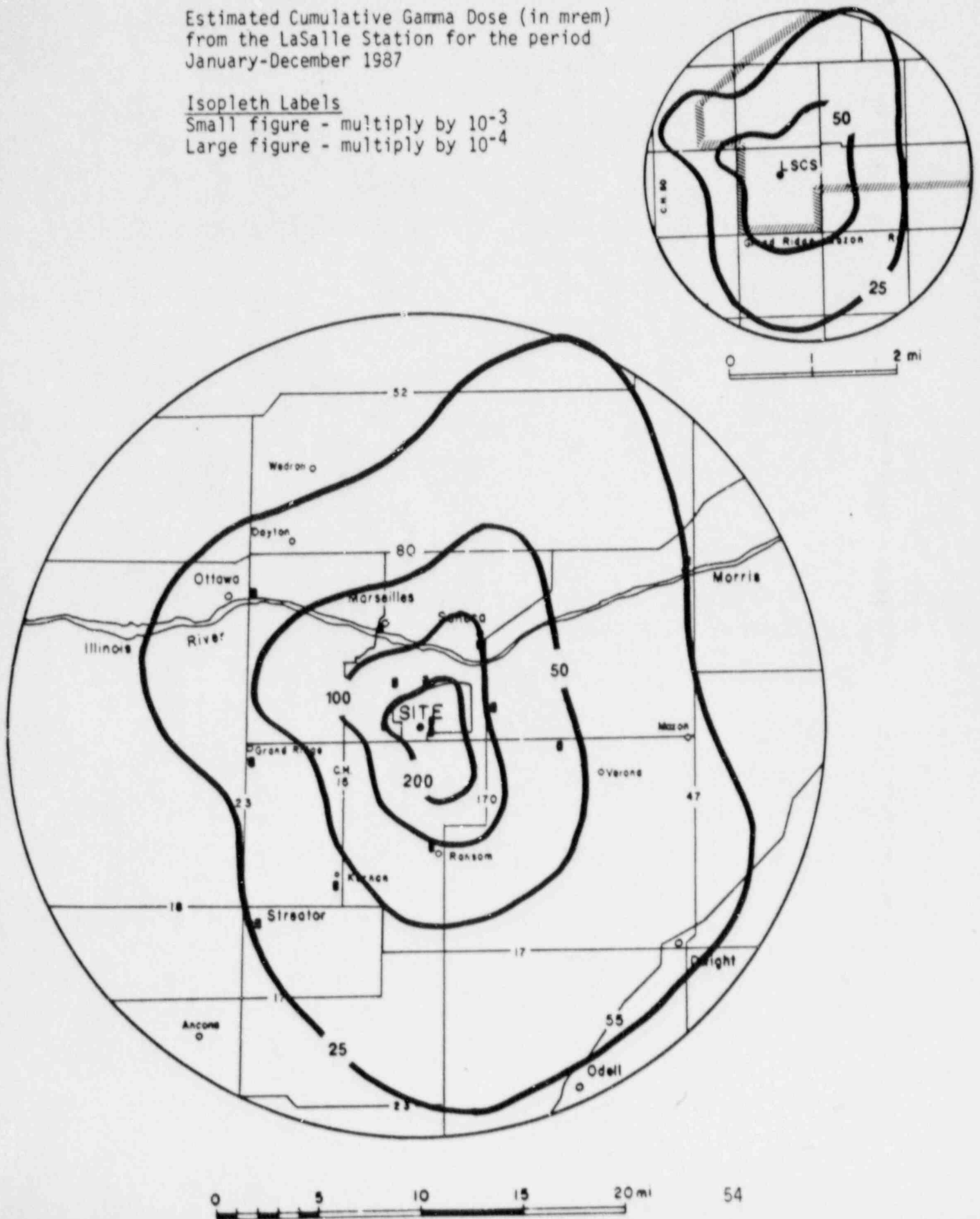


Figure 3.1-2

Estimated Total Concentrations (in pCi/m³)
of Nobles Gases from the LaSalle Station
for the period January-December 1987

Isopleth Labels

Small figure - multiply by 10⁻²
Large figure - multiply by 10⁻²

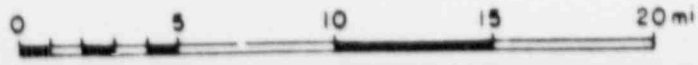
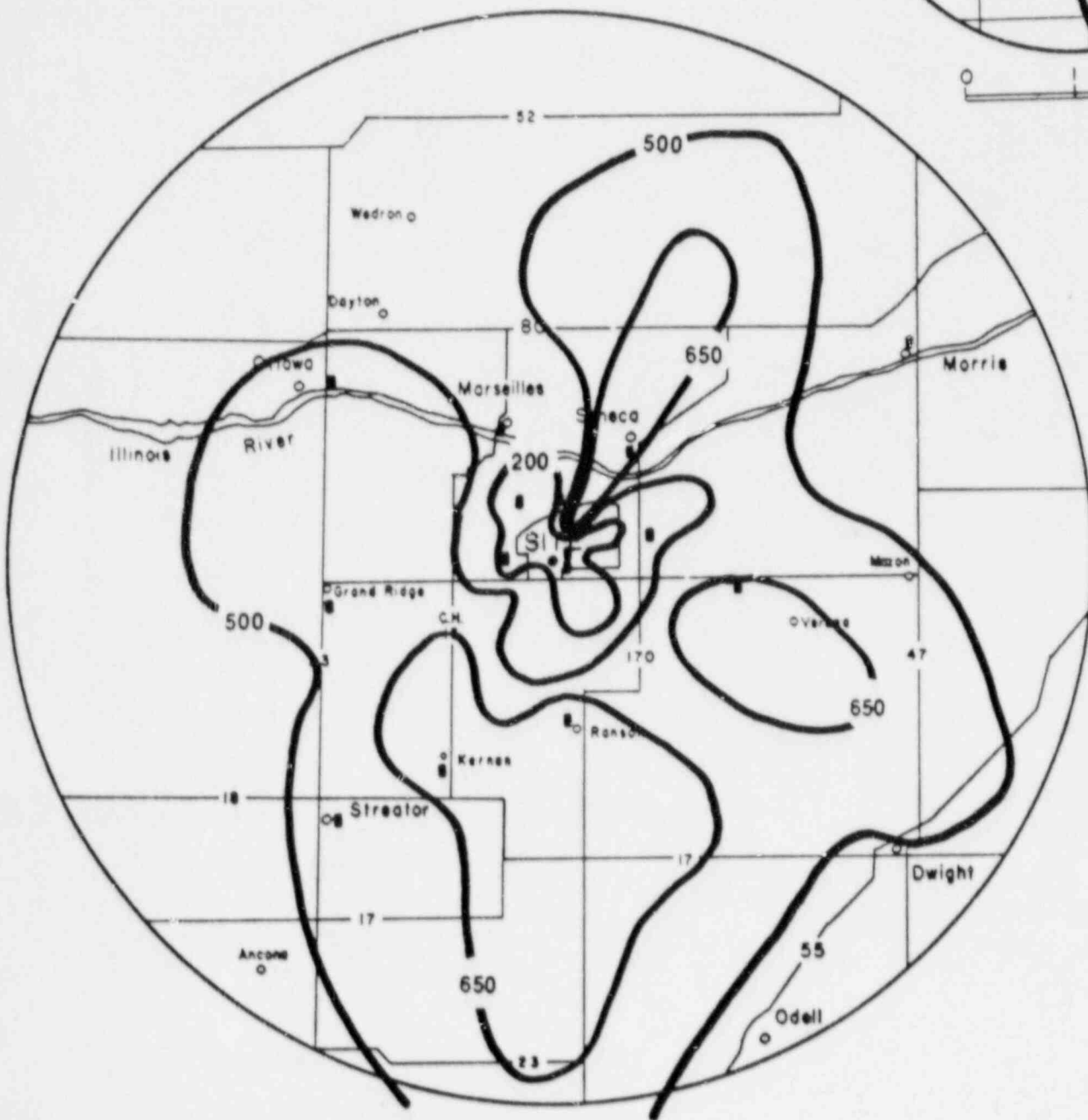
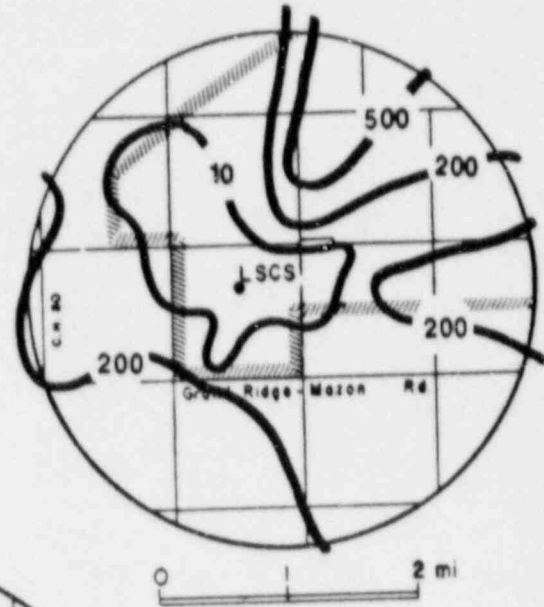


Figure 3.1-3

Estimated Total Concentrations (in pCi/m³)
of Iodine from the LaSalle Station for
the period January-December 1987

Isopleth Labels

Small figure - multiply by 10⁻⁶
Large figure - multiply by 10⁻⁶

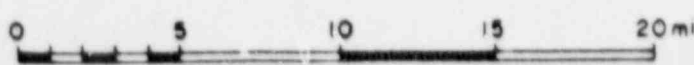
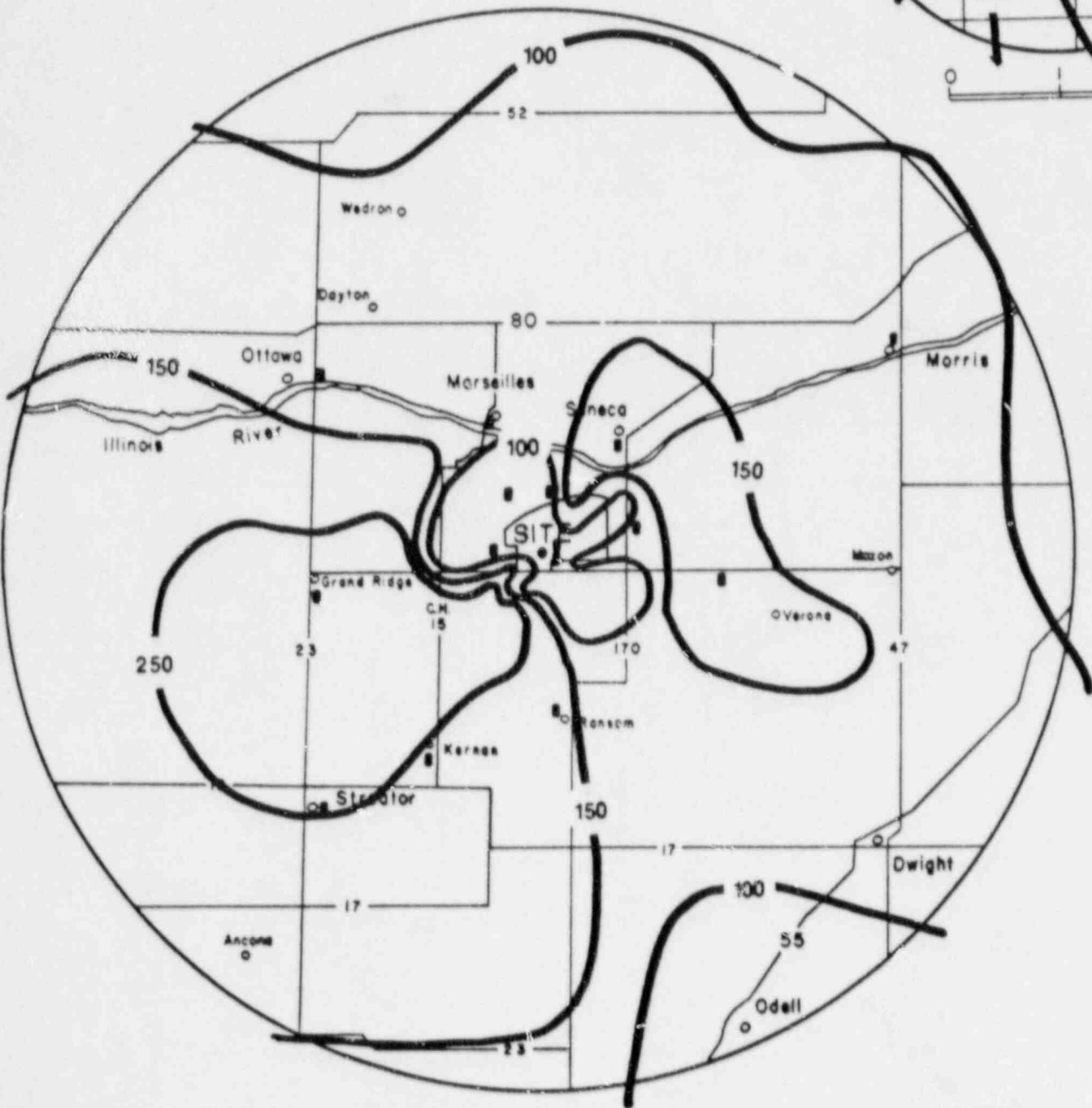
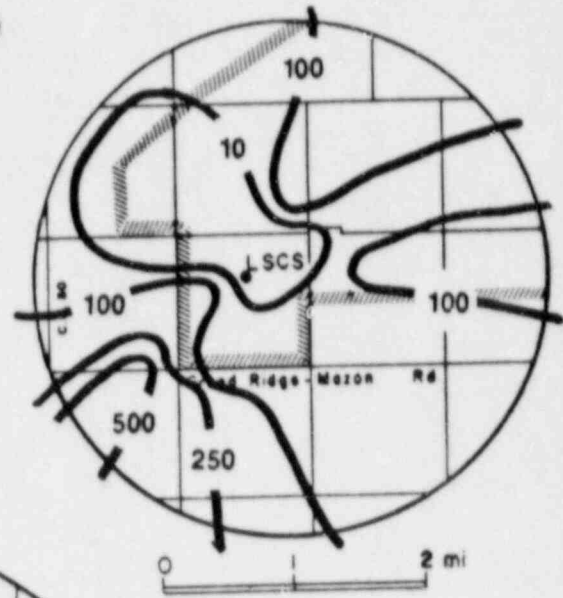


Figure 3.1-4

Estimated Total Concentrations (in pCi/m^3) of
Particulate Matter from the LaSalle Station
for the period January-December 1987

Isopleth Labels

Small figure - multiply by 10^{-7}

Large figure - multiply by 10^{-7}

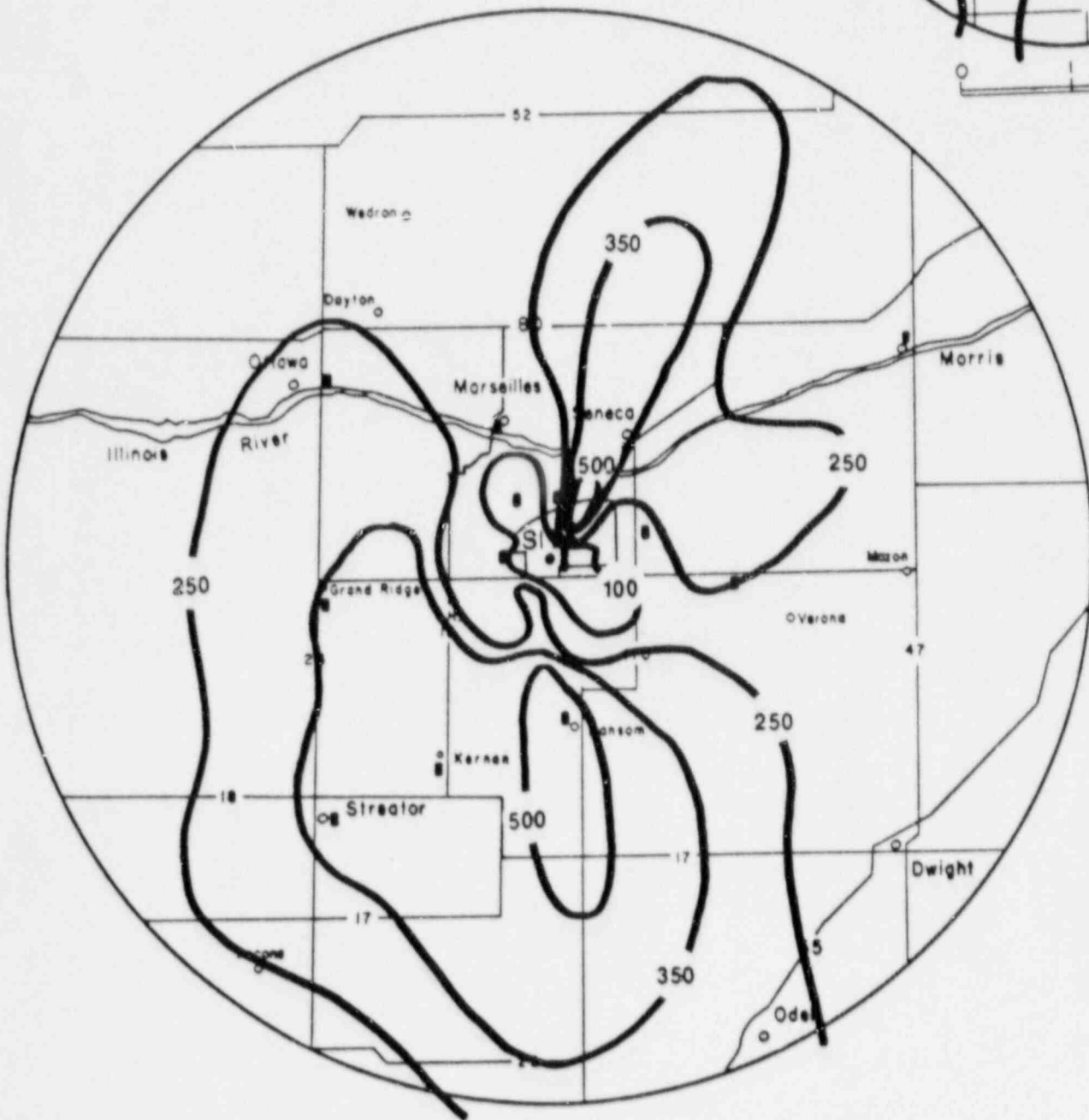
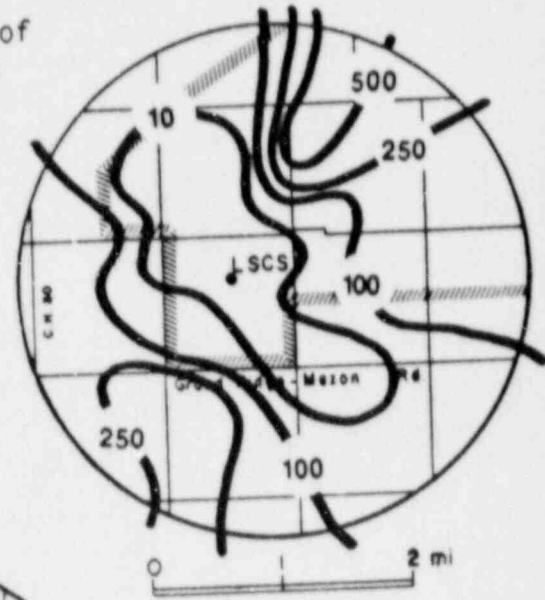


TABLE 3.1-1

LASALLE UNIT ONE

1987 ANNUAL REPORT
 MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
 PERIOD OF RELEASE - 01/01/87 TO 12/31/87 CALCULATED 04/13/88

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR (MRAD)	1.09E-04 (ESE)	0.00E-01 ()	7.04E-02 (ESE)	2.65E-02 (ESE)	9.70E-02 (ESE)
BETA AIR (MRAD)	2.85E-05 (E)	0.00E-01 ()	1.01E-02 (E)	3.57E-03 (E)	1.37E-02 (E)
TOT. BODY (MREM)	5.38E-05 (ESE)	0.00E-01 ()	3.95E-02 (ESE)	1.50E-02 (ESE)	5.46E-02 (ESE)
SKIN (MREM)	1.02E-04 (ESE)	0.00E-01 ()	6.18E-02 (ESE)	2.24E-02 (ESE)	8.43E-02 (ESE)
ORGAN (MREM)	2.09E-03 (ESE)	3.99E-03 (ESE)	2.40E-02 (ESE)	5.39E-03 (ESE)	3.54E-02 (ESE)
	THYROID	THYROID	THYROID	THYROID	THYROID

THIS IS A REPORT FOR THE CALENDAR YEAR 1987

COMPLIANCE STATUS - 10 CFR 50 APP. I

	QTRLY OBJ	% OF APP I.				YRLY OBJ	% OF APP. I
		1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-NOV		
GAMMA AIR (MRAD)	5.0	0.00	00.00	1.41	0.53	10.0	0.97
BETA AIR (MRAD)	10.0	0.00	00.00	0.10	0.04	20.0	0.07
TOT. BODY (MREM)	2.5	0.00	00.00	1.58	0.60	5.0	1.09
SKIN (MREM)	7.5	0.00	00.00	0.82	0.30	15.0	0.56
ORGAN (MREM)	7.5	0.03	0.05	0.32	0.07	15.0	0.24
		THYROID	THYROID	THYROID	THYROID		THYROID

RESULTS BASED UPON
 ODCM REVISION 11
 UPDATE CS118
 FEBRUARY 1986

TABLE 3.2-1

LASALLE UNIT ONE

1987 ANNUAL REPORT
 MAXIMUM DOSES (MREM) RESULTING FROM LIQUID EFFLUENTS
 PERIOD OF RELEASE - 01/01/87 TO 12/31/87 CALCULATED 04/13/88

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	1.04E-06	0.00E-01	2.85E-06	3.03E-05	3.42E-05
INTERNAL ORGAN	3.73E-06	0.00E-01	1.86E-05	1.48E-04	1.70E-04
	GI-LLI		GI-LLI	GI-LLI	GI-LLI

THIS IS A REPORT FOR THE CALENDAR YEAR 1987

COMPLIANCE STATUS - 10 CFR 50 APP. I

	QTRLY OBJ	----- % OF APP I. -----				YRLY OBJ	% OF APP. I
		1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-NOV		
TOTAL BODY (MREM)	1.5	0.00	00.00	0.00	0.00	3.0	0.00
CRIT. ORGAN(MREM)	5.0	0.00	00.00	0.00	0.00	10.0	0.00
		GI-LLI		GI-LLI	GI-LLI		GI-LLI

RESULTS BASED UPON
 ODCM REVISION 11
 UPDATE CS118
 FEBRUARY 1986

TABLE 3.2-1 (continued)

LASALLE UNIT TWO

1987 ANNUAL REPORT
 MAXIMUM DOSES (MREM) RESULTING FROM LIQUID EFFLUENTS
 PERIOD OF RELEASE - 01/01/87 TO 12/31/87 CALCULATED 04/13/88

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	9.01E-07	1.85E-06	2.27E-06	7.28E-05	2.79E-05
INTERNAL ORGAN	4.73E-06	6.91E-06	1.77E-05	1.17E-04	1.46E-04
	GI-LLI	GI-LLI	GI-LLI	GI-LLI	GI-LLI

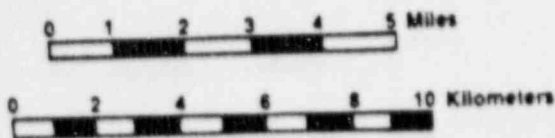
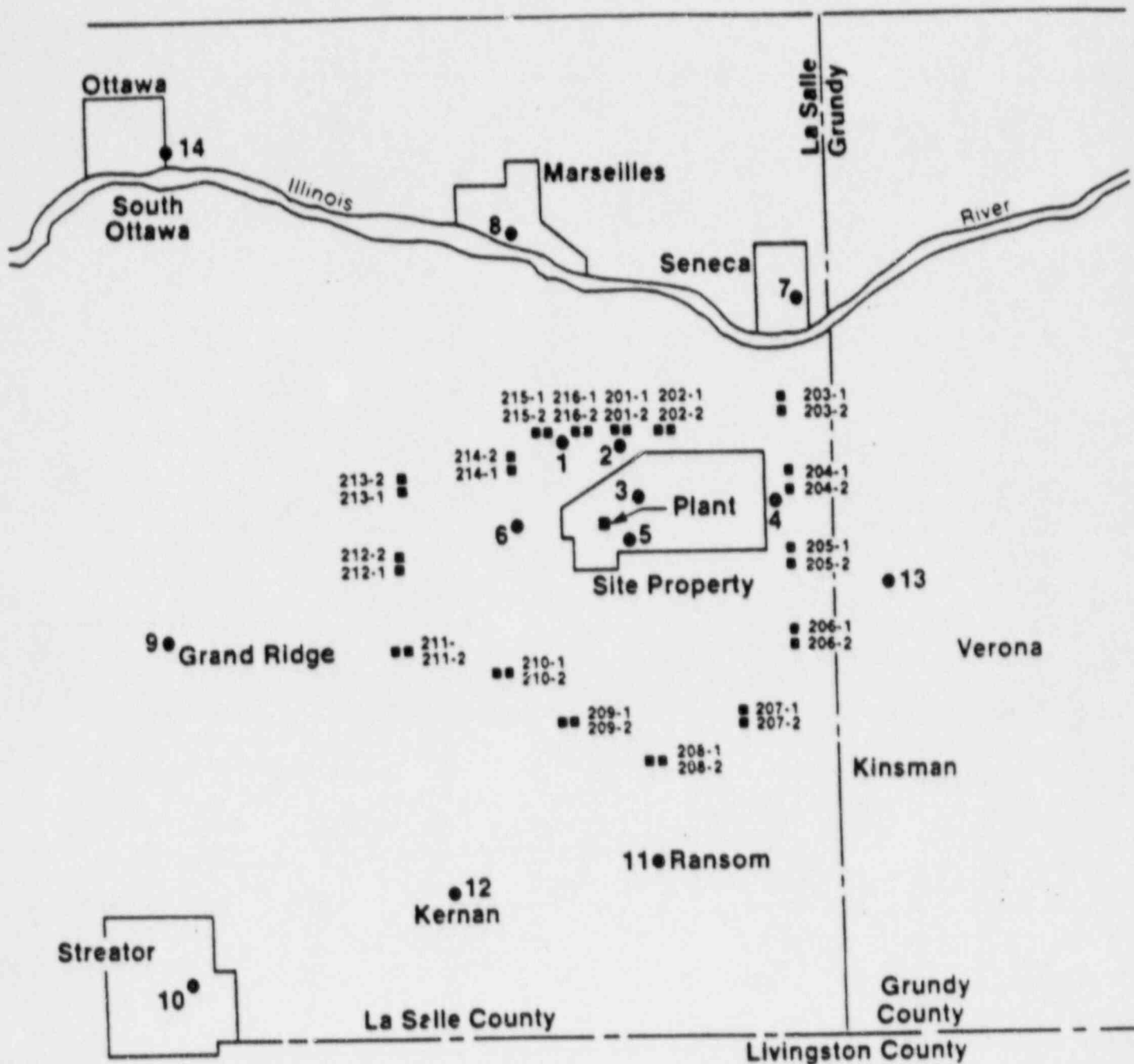
THIS IS A REPORT FOR THE CALENDAR YEAR 1987

COMPLIANCE STATUS - 10 CFR 50 APP. I

	QTRLY OBJ	----- % OF APP I. -----				YRLY OBJ	% OF APP. I
		1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-NOV		
TOTAL BODY (MREM)	1.5	0.00	0.00	0.00	0.00	3.0	0.00
CRIT. ORGAN(MREM)	5.0	0.00	0.00	0.00	0.00	10.0	0.00
		GI-LLI	GI-LLI	GI-LLI	GI-LLI		GI-LLI

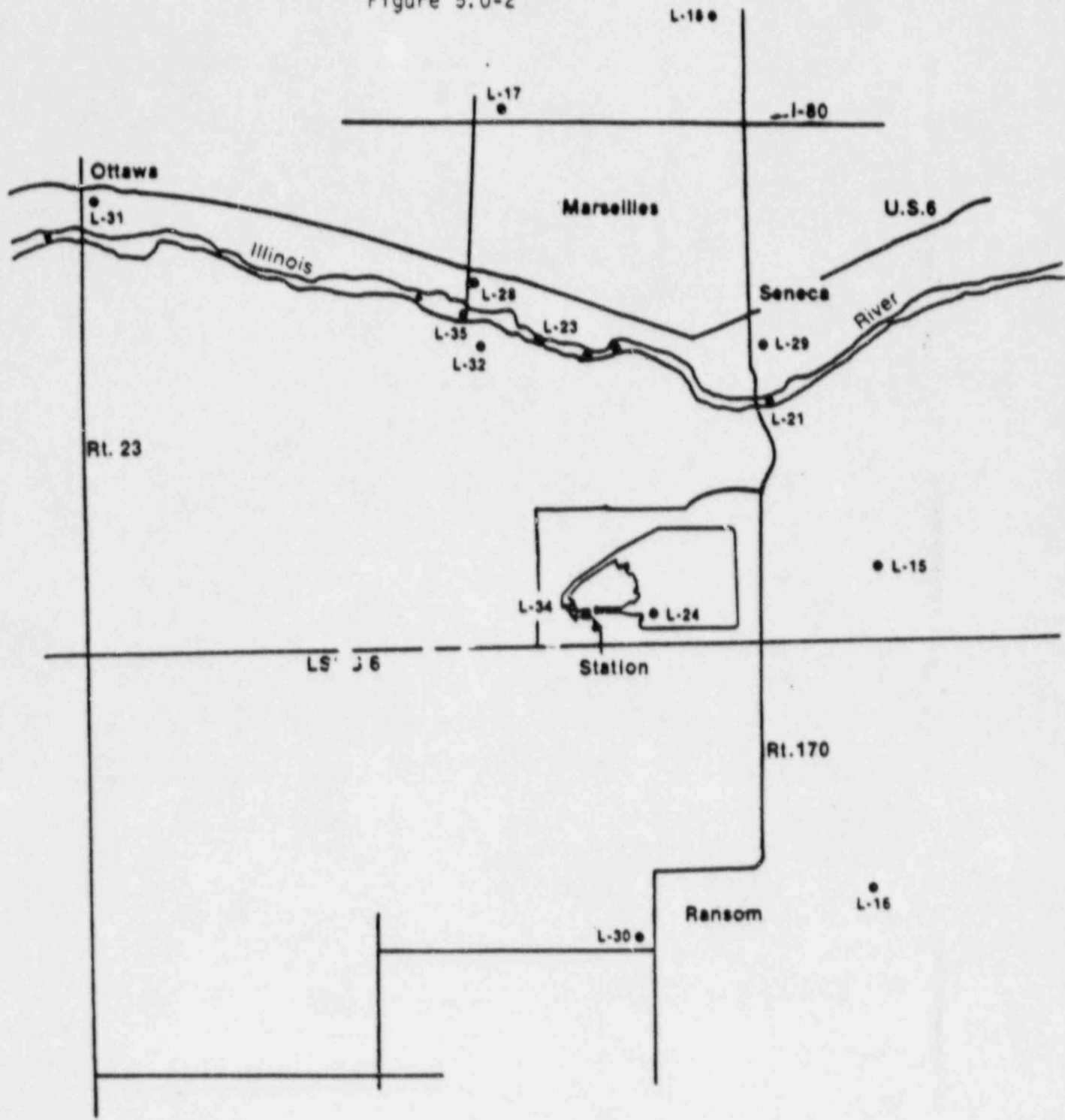
RESULTS BASED UPON
 ODCM REVISION 11
 UPDATE CS118
 FEBRUARY 1986

Figure 5.0-1



LA SALLE COUNTY STATION
FIXED AIR SAMPLING SITES AND OUTER RING TLD LOCATIONS

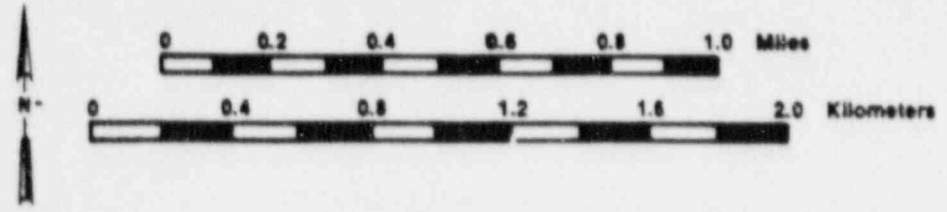
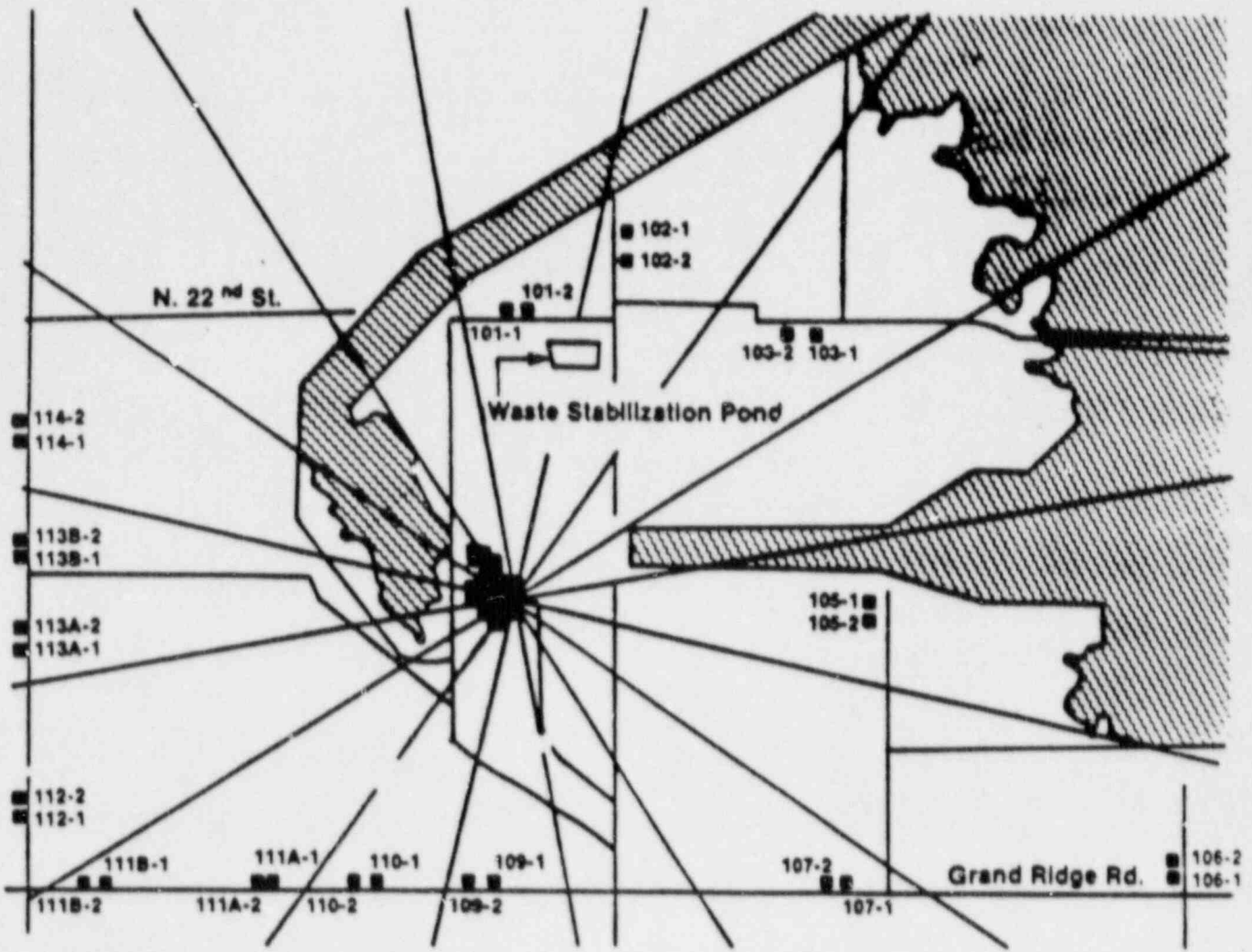
Figure 5.0-2



LA SALLE COUNTY STATION

INGESTION AND WATERBORNE EXPOSURE
PATHWAY SAMPLE LOCATIONS

Figure 5.0-3



LA SALLE COUNTY STATION
INNER RING TLD LOCATIONS

TABLE 5.0-1

LASALLE STATION

ENVIRONMENTAL RADIOLOGICAL MONITORING SAMPLING SITES

Location Code	Type ^a	Location	Air Sampler	TLD	Census	Fish	Milk	Sediment	Surface Water	Well Water
L-01		Nearsite No. 1	X	X						
L-02		Onsite No. 2	X	X						
L-03		Onsite No. 3	X	X						
L-04		Nearsite No. 4	X	X						
L-05		Onsite No. 5	X	X						
L-06		Nearsite No. 6	X	X						
L-07		Seneca	X	X						
L-08		Marseilles	X	X						
L-09	C	Grand Ridge	X	X						
L-10	C	Streator	X	X						
L-11		Ransom	X	X						
L-12	C	Kernan	X	X						
L-13		Route 6 at Gonnam Road	X	X						
L-14	C	Ottawa	X	X						
L-15		Granby Dairy			X		X			
L-16		Lowery Dairy			X		X			
L-17	C	Norsen Dairy			X		X			
L-18	C	Sunnyisle Dairy			X		X			
L-21	C	Illinois River at Seneca							X	
L-23		Illinois River at Kaiser Corp.							X	
L-24		LSCS Cooling Lake near recreation area				X			X	
L-28		Marseilles Well Water								X
L-29	C	Seneca Well Water								X
L-30		Ransom Well Water								X
L-31		Ottawa Well Water								X
L-32		Illinois State Park Well								X
L-34		Just downstream of cooling lake discharge structure						X		
L-35		Marseilles Pool of Illinois River				X				

^a Control (background) locations are indicated by a "C" in this column. All other locations are indicators.

Table 5.0-2

LA SALLE COUNTY STATION
ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM, SAMPLING LOCATIONS

1. AIR SAMPLERS

<u>Site Code</u>	<u>Location</u>	<u>Distance (miles)</u>	<u>Direction (°)</u>
L-01	a. Near-site No. 1	0.5	326
L-02	b. On-site Station No. 2	0.6	11
L-03	c. On-site Station No. 3	0.2	56
L-04	d. Near-site No. 4	1.5	90
L-05	e. On-site Station No. 5	0.3	145
L-06	f. Near-site No. 6	0.4	270
L-07	g. Seneca	5.2	18
L-08	h. Marseilles	7.0	326
L-09 (C)	i. Grand Ridge	10.4	260
L-10 (C)	j. Streator	13.5	220
L-11	k. Ransom	6.0	191
L-12 (C)	l. Kernan	5.0	214
L-13	m. Route 6 at Gonnam Road	7.0	100
L-14 (C)	n. Ottawa	12.0	315

2. TLDs

- a. Same as No. 1.
b. Special TLD Samplers

<u>Site Code</u>	<u>Distance (miles)</u>	<u>Direction (°)</u>
<u>Inner Ring</u>		
L-101 1,2	0.5	359
L-102 1,2	0.6	17
L-103 1,2	0.7	46
L-105 1,2	0.7	91
L-106 1,2	1.4	110
L-107 1,2	0.8	128
L-109 1,2	0.6	178
L-110 1,2	0.6	205
L-111a 1,2	0.7	217
L-111b 1,2	0.8	230
L-112 1,2	0.9	244

^a Control (reference) locations are denoted by a "C" after site code. All other locations are indicators.

Table 5.0-2 (continued)

LA SALLE COUNTY STATION
ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM, SAMPLING LOCATIONS

2. TLDsb. Special TLD Samplers (continued)

<u>Site Code</u>	<u>Distance (miles)</u>	<u>Direction (°)</u>
L-113a 1,2	0.8	262
L-113b 1,2	0.8	273
L-114 1,2	0.9	288
 <u>Outer Ring</u>		
L-201 1,2	2.0	15
L-202 1,2	2.3	33
L-203 1,2	4.0	56
L-204 1,2	3.5	78
L-205 1,2	3.5	102
L-206 1,2	4.3	123
L-207 1,2	4.5	146
L-208 1,2	4.5	170
L-209 1,2	4.0	192
L-210 1,2	3.3	216
L-211 1,2	4.5	240
L-212 1,2	4.0	261
L-213 1,2	3.8	283
L-214 1,2	2.0	303
L-215 1,2	2.0	330
L-216 1,2	1.5	350

3. MILK

<u>Site Code^a</u>	<u>Location</u>	<u>Distance (miles)</u>	<u>Direction (°)</u>
L-15	a. Granby Farm	7.0	85
L-16	b. Lowery Dairy	8.2	120
L-17 (C)	c. Norsen Dairy	9.0	350
L-18 (C)	d. Sunnyisle Farm	13.2	25

^a Control (reference) locations are denoted by a "C" after site code. All other locations are indicators.

Table 5.0-2 (continued)

LA SALLE COUNTY STATION

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM, SAMPLING LOCATIONS

4. GROUND/WELL WATER

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance</u> (miles)	<u>Direction</u> (°)
L-28	a. Marseilles Well	7.0	326
L-29 (C)	b. Seneca Well	5.1	18
L-30	c. Ranson Well	6.0	191
L-31	d. Ottawa Well	12.8	304
L-32	e. Illinois State Park	6.5	326

5. SURFACE WATER

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance</u> (miles)	<u>Direction</u> (°)
L-21 (C)	a. Illinois River at Seneca	4.0	22
L-23	b. Kaiser Corporation	5.3	337
L-24	c. LSCS Cooling Lake near Recreation Area	0.3	112

6. FISH

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance</u> (miles)	<u>Direction</u> (°)
L-24	a. LSCS Cooling Lake	0.3	112
L-35	b. Marseilles Pool of Illinois River	6.5	326

7. BOTTOM SEDIMENTS

<u>Site Code</u> ^a	<u>Location</u>	<u>Distance</u> (miles)	<u>Direction</u> (°)
L-24	a. LSCS Cooling Lake	At Station	112

^a Control (reference) locations are denoted by a "C" after site code. All other locations are indicators.

Table 5.0-2 (continued)

LA SALLE COUNTY STATION

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES

Sample Media	Location		Collection Frequency	Type of Analysis	Frequency of Analysis	Remarks
	Code ^a	Site				
1. Airborne Particulates	a. Onsite and Near Field		Continuous operation for a week	Gross beta Gamma Isot	Weekly Quarterly	On all samples. On quarterly composites from each location. <u>Non-routine Reporting Levels^b</u> Cs-134 10, Cs-137 20 pCi/m ³ .
	L-1	Nearsite No. 1				
	L-2	Onsite No. 2				
	L-3	Onsite No. 3				
	L-4	Nearsite No. 4				
	L-5	Onsite No. 5				
	L-6	Nearsite No. 6				
	b. Far Field	Same as 1a.	Same as 1a.	Same as 1a.	Same as 1a.	Same as 1a.
	L-7	Seneca				
	L-8	Marseille				
	L-9 (C)	Grand Ridge				
	L-10 (C)	Streator				
	L-11	Ransom				
	L-12 (C)	Kernan				
	L-13	Route 6 at Gonnam Rd.				
	L-14 (C)	Ottawa				
2. Airborne Iodine	Same as 1.		Weekly	I-131	Weekly	On all samples. <u>Non-routine Reporting Level</u> 0.9 pCi/m ³
3. TLD	Same as 1.		Quarterly	Gamma	Quarterly	Two sets at all AP locations. One set read quarterly. Second set read if required by Commonwealth Edison. At other locations, all sets read quarterly. Minimum of two TLDs per set.
	L-101-1,2 through	Inner Ring				
	103-1,2					
	105-1,2 through					
	110-1,2,					
	111a-1,2,					
	111b-1,2					
	112,					
	113a-1,2,					
	113b-1,2					
	114					
	L-201-1,2 through	Outer Ring				
	216-1,2					

^a Control (reference) locations are denoted by a "C" in this column. All other locations are indicators.

^b Average concentration over calendar quarter.

Table 5.0-2 (continued)

LA SALLE COUNTY STATION

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES

Sample Media	Location		Collection Frequency	Type of Analysis	Frequency of Analysis	Remarks
	Code ^a	Site				
4. Milk	L-15 L-16 L-17 (C) L-18 (C)	Granby Farm Lowery Dairy Norsen Dairy Sunnyside Farm	Weekly: May through October	I-131 Gamma Isot.	Weekly Monthly	On all samples. LLD: 0.5 pCi/l. On monthly composites.
	Monthly: November through April		I-131 Gamma Isot.	Monthly Monthly	On all samples. LLD: 0.5 pCi/l. On all samples.	
						<u>Non-routine Reporting Levels^b</u> I-131 3; Cs-134 60; Cs-137 70; Ba-La-140 300 pCi/l
5. Well Water, Offsite	L-28 L-29 (C) L-30 L-31 L-32	Marseilles Well Seneca Well Ransom Well Ottawa Well Illinois State Park Well	Quarterly	Gamma Isot Tritium	Quarterly Quarterly	On all samples.
6. Surface Water	L-21 (C) L-23 L-24	Ill. River at Ottawa Ill. River at Intake to Kaiser Corporation LSCS Cooling Lake near recreation area	Weekly	Gamma Isot Tritium	Monthly Quarterly	On monthly composites from each location. On quarterly composites from each location. <u>Non-routine Reporting Levels^b</u> (See footnote "c").
7. Fish	L-24 L-35	LSCS Cooling Lake Marweilles Pool	Two times a year	Gamma Isot	Two times a year.	On edible portions only. Two species. <u>Non-routine Reporting Levels^b</u> Mn-54 3×10^4 ; Fe-59 1×10^4 ; Co-58 3×10^4 ; Co-60 1×10^4 ; Zn-65 2×10^4 ; Cs-134 1×10^3 ; Cs-137 2×10^3 pCi/kg wet weight.
8. Bottom Sediments	L-34	Downstream of cooling lake	Two times a year	Gamma Isot	Two times a year	

^a Control (reference) locations are denoted by a "C" in this column. All other locations are indicators.

^b Average concentration over calendar quarter.

^c K-3 2×10^4 , Mn-54 1×10^3 , Fe-59 4×10^2 , Co-58 1×10^2 , Co-60 3×10^2 , Zn-65 3×10^2 , Zr-Nb-95 4×10^2 , I-131 2, Cs-134 30, Cs-137 50, Ba-La-140 2×10^2 pCi/l.

Table 5.0-2 (continued)

LA SALLE COUNTY STATION

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM, SAMPLE COLLECTION AND ANALYSES

Sample Media	Location		Collection Frequency	Type of Analysis	Frequency of Analysis	Remarks
	Code	Site				
9. Dairy Census	a.	Site boundary to 2 miles	--	a. Enumeration by a door-to-door or equivalent counting technique.	Annually	During grazing season.
	b.	2 miles to 5 miles	--	b. Enumeration by using referenced information from county agricultural agents or other reliable sources.	Annually	During grazing season.
	c.	At dairies listed in Item 4.	--	c. Inquire as to feeding practices: (1) Pasture only. (2) Feed and chop only. (3) Pasture and feed; if both, ask farmer to estimate fraction of food from pasture: <25%, 25-50%, 50-75%, or >75%.	Annually	During grazing season.
10. Nearest Residence Census	In all 16 sectors				Annually	

TABLE 5.0-3

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility LaSalle Nuclear Power Station Docket No. 50-254, 50-265
 Location of Facility Marseilles, Illinois Reporting Period 1st Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^a Range	Number of Non-routine Results
				Location	Mean Range		
Air Particulates (pCi/m ³)	Gross Beta 72	0.01	0.027 (72/72) (0.011-0.042)	L-02, On-Site Station No.2, 0.6 ml @ 11"	0.029 (12/12) (0.017-0.042)	None	0
	Gamma Spec. 6	0.01	<LLD			None	0
Airborne Iodine (pCi/m ³)	I-131 72	0.10	<LLD	-	-	<LLD	0
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose 14	3.0	16.6 (10/10) (14.3-17.9)	L-01, Near Site No. 1, 0.5 ml @ 326"	17.9 (1/1) -	15.4 (4/4) (14.3-16.9)	0
Milk (pCi/l)	I-131 12	0.5	<LLD	-	-	<LLD	0
	Gamma Spec. 12						
	Cs-134 5		<LLD	-	-	<LLD	0
	Cs-137 5		<LLD	-	-	<LLD	0
	Other Gammas 10		<LLD	-	-	<LLD	0
Surface Water (pCi/l)	Gamma Spec. 9						
	Cs-134 10		<LLD	-	-	<LLD	0
	Cs-137 10		<LLD	-	-	<LLD	0
	Other Gammas 20		<LLD	-	-	<LLD	0
	Tritium 3	200	<LLD	-	-	<LLD	0

TABLE 5.0-3 (continued)

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility LaSalle Nuclear Power Station Docket No. 50-254, 50-265
 Location of Facility Marseilles, Illinois Reporting Period 1st Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^a Range	Number of Non-routine Results
				Location	Mean Range		
Well Water (pCi/l)	Gamma Spec. 5						
	Cs-134	10	<LLD	-	-	<LLD	0
	Cs-137	10	<LLD	-	-	<LLD	0
	Other Gammas	20	<LLD	-	-	<LLD	0
	Tritium 5	200	<LLD	-	-	<LLD	0

^a Mean and range based on detectable measurements only. Fraction indicated in parenthesis.

TABLE 5.0-4

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility LaSalle Nuclear Power Station Docket No. 50-254, 50-265
 Location of Facility Marseilles, Illinois Reporting Period 2nd Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^a Range	Number of Non-routine Results
				Location	Mean Range		
Air Particulates (pCi/m ³)	Gross Beta 78	0.01	0.027 (78/78) (0.010-0.067)	L-02, On-Site No. 2 0.6 ml @ 11"	0.030 (13/13) (0.014-0.061)	None	-
	Gamma Spec. 6	0.01	<LLD	-	-	None	0
Airborne Iodine (pCi/m ³)	I-131 78	0.10	<LLD	-	-	None	0
Gamma Background (TLDs) (mR/Qtr.)	Gamma Dose 14	3.0	16.1 (10/10) (13.6-17.6)	L-06, Near-Site No. 6 0.4 ml @ 270"	17.6 (1/1) -	14.9 (4/4) (14.0-17.2)	0
Milk (pCi/l)	I-131 40	0.5	<LLD	-	-	<LLD	0
	Gamma Spec. 40						
	Cs-134 5		<LLD	-	-	<LLD	0
	Cs-137 5		<LLD	-	-	<LLD	0
	Other Gammas 70		<LLD	-	-	<LLD	0
Surface Water (pCi/l)	Gamma Spec. 9						
	Cs-134 10		<LLD	-	-	<LLD	0
	Cs-137 10		<LLD	-	-	<LLD	0

TABLE 5.0-4 (continued)

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility LaSalle Nuclear Power Station Docket No. 50-254, 50-265
 Location of Facility Marseilles, Illinois Reporting Period 2nd Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^a Range	Number of Non-routine Results
				Location	Mean Range		
Surface Water (pCi/l) (continued)	Other Gammas	20	<LLD	-	-	<LLD	0
	Tritium 3	200	<LLD	-	-	<LLD	0
Well Water (pCi/l)	Gamma Spec. 5						
	Cs-134	10	<LLD	-	-	<LLD	0
	Cs-137	10	<LLD	-	-	<LLD	0
	Other Gammas	20	<LLD	-	-	<LLD	0
	Tritium 5	200	<LLD	-	-	<LLD	0
Bottom Sediment (pCi/g dry)	Gamma Spec. 1						
	Cs-134	0.1	<LLD	-	-	None	0
	Cs-137	0.1	<LLD	-	-	None	0
	Other Gammas	0.2	<LLD	-	-	None	0
Fish (pCi/g wet)	Gamma Spec. 7						
	Cs-134	0.1	<LLD	-	-	None	0
	Cs-137	0.1	<LLD	-	-	None	0
	Other Gammas	0.2	<LLD	-	-	None	0

^a Mean and range based on detectable measurements only. Fraction indicated in parenthesis.

TABLE 5.0-5

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility LaSalle Nuclear Power Station Docket No. 50-254, 50-265
 Location of Facility Marseilles, Illinois Reporting Period 3rd Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLS	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^a Range	Number of Non-routine Results
				Location	Mean Range		
Air Particulates (pCi/m ³)	Gross Beta 84	0.01	0.025 (84/84) (0.004-0.052)	L-04, Near-Site #4 1.5 m1 @ 90°	0.027 (14/14) (0.006-0.052)	None	0
	Gamma Spec. 6	0.01	<LLD	L-01, Near-Site #1 0.3 m1 @ 326°	0.027 (14/14) (0.017-0.043)	None	0
Airborne Iodine (pCi/m ³)	I-131 84	0.10	<LLD	-	-	<LLD	0
Gamma Background	Gamma Dose 14	3.0	19.9 (10/10) (17.5-21.9)	L-05, OnSite No. 5 0.3 m1 @ 145°	21.9 (1/1)	18.3 (4/4) (17.5-19.6)	0
Milk (pCi/l)	I-131 52	0.5	<LLD	-	-	<LLD	0
	Gamma Spec. 52			-	-	<LLD	0
	Cs-134 5			-	-	<LLD	0
	Cs-137 5			-	-	<LLD	0
	Other Gammas 10			-	-	<LLD	0
Surface Water (pCi/l)	Gamma Spec. 9	-	-	-	-	-	-
	Cs-134 10	<LLD	-	-	<LLD	0	
	Cs-137 10	<LLD	-	-	<LLD	0	
	Other Gammas 20	<LLD	-	-	<LLD	0	
	Tritium 3	200	<LLD	-	-	<LLD	0

TABLE 5.0-5 (continued)

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility LaSalle Nuclear Power Station Docket No. 50-254, 50-265
 Location of Facility Marseilles, Illinois Reporting Period 3rd Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^a Range	Number of Non-routine Results
				Location	Mean Range		
Well Water (pCi/l)	Gamma Spec. 5						
	Cs-134 10	10	<LLD	-	-	<LLD	0
	Cs-137 10	10	<LLD	-	-	<LLD	0
	Other Gammas 20	20	<LLD	-	-	<LLD	0
	Tritium 5	200	<LLD	-	-	<LLD	0

^a Mean and range based on detectable measurements only. Fractions indicated in parentheses.

TABLE 5.0-6

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility LaSalle Nuclear Power Station Docket No. 50-254, 50-265
 Location of Facility Marseilles, Illinois Reporting Period 4th Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest Quarterly Mean		Control Locations Mean ^a Range	Number of Non-routine Results
				Location	Mean Range		
Air Particulates (pCi/m ³)	Gross Beta 78	0.01	0.031 (78/78) (0.015-0.054)	L-05, On Site No. 5 0.3 mi @ 145°	0.032 (13/13) (0.016-0.051)	None	0
	Gamma Spec. 6	0.01	<LLD	-	-	None	0
Airborne Iodine (pCi/m ³)	I-131 78	0.10	<LLD	-	-	None	0
Gamma Background	Gamma Dose 14	3.0	20.5 (10/10) (17.6-23.5)	L-05, On Site No. 5 0.3 mi @ 145°	23.5 (1/1)	18.6 (4/4) (17.5-21.4)	0
Milk (pCi/l)	I-131 28	0.5	<LLD	-	-	<LLD	0
	Gamma Spec. 28						
	Cs-134 5		<LLD	-	-	<LLD	0
	Cs-137 5		<LLD	-	-	<LLD	0
	Other Gammas 10		<LLD	-	-	<LLD	0
Surface Water (pCi/l)	Gamma Spec. 9			-	-		
	Cs-134 10		<LLD	-	-	<LLD	0
	Cs-137 10		<LLD	-	-	<LLD	0
	Other Gammas 20		<LLD	-	-	<LLD	0
	Tritium 3	200	<LLD	-	-	<LLD	0

TABLE 5.0-6 (continued)

ENVIRONMENTAL RADIOLOGICAL MONITORING PROGRAM QUARTERLY SUMMARY

Name of Facility LaSalle Nuclear Power Station Docket No. 50-254, 50-265
 Location of Facility Marseilles, Illinois Reporting Period 4th Quarter 1987
 (County, State)

Sample Type (Units)	Type and Number of Analyses	LLD	Indicator Locations Mean ^a Range	Location with Highest		Control Locations Mean ^a Range	Number of Non-routine Results
				Quarterly Mean	Mean Range		
Well Water (pCi/l)	Gamma Spec.						
	Cs-134	10	<LLD	-	-	<LLD	0
	Cs-137	10	<LLD	-	-	<LLD	0
	Other Gammas	20	<LLD	-	-	<LLD	0
	Tritium	5 200	<LLD	-	-	<LLD	0
Fish (pCi/g wet)	Gamma Spec.						
	Cs-134	0.1	<LLD	-	-	None	0
	Cs-137	0.1	<LLD	-	-	None	0
	Other Gammas	0.2	<LLD	-	-	None	0
Bottom Sediments (pCi/g dry)	Gamma Spec.						
	Cs-134	0.1	<LLD	-	-	None	0
	Cs-137	0.1	<LLD	-	-	None	0
	Other Gammas	0.2	<LLD	-	-	None	0

^a Mean and range based on detectable measurements only. Fractions indicated in parentheses.

Table 5.1-1

GAMMA RADIATION, AS MEASURED BY THERMOLUMINESCENT DOSIMETERS (TLDs)

STANDARD RADIOLOGICAL MONITORING PROGRAM					
	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	
Date Placed:	01-02-87	03-27-87	06-27-87	10-03-87	
Date Removed:	03-27-87	06-27-87	10-03-87	01-01-88	
Days in the Field:	84	92	98	90	
Location	Average mR/Quarter				
<u>On-Site and Near-Site Indicator Locations</u>					
L-01	Near Site No. 1	17.9±1.1	16.9±0.8	20.3±1.1	21.3±0.9
L-02	On-Site No. 2	16.4±0.8	15.5±0.9	20.7±1.1	20.0±1.1
L-03	On-Site No. 3	15.2±0.8	14.3±0.7	17.9±0.8	18.7±0.8
L-04	Near-Site No. 4	17.6±1.3	16.7±1.2	19.7±1.3	20.8±1.7
L-05	On-Site No. 5	17.4±0.8	17.5±0.7	21.9±0.8	23.5±1.6
L-06	Near-Site No. 6	17.4±0.7	17.6±0.8	20.4±1.0	21.6±1.3
	Mean ± s.d.	17.0±1.0	16.4±1.3	20.2±1.3	21.0±1.6
<u>Off-Site Indicator Locations</u>					
L-07	Seneca	17.7±0.8	16.4±0.8	20.4±1.3	21.0±0.8
L-08	Marseilles	16.9±1.0	16.8±0.8	20.6±1.2	20.8±1.0
L-11	Ransom	14.3±1.0	13.6±0.7	17.5±1.4	17.6±0.7
L-13	Rt. 6/Gonnam Road	15.6±1.0	15.6±0.8	19.3±1.0	19.3±0.8
	Mean ± s.d.	16.1±1.5	15.6±1.4	19.4±1.4	19.7±1.6
<u>Background Locations</u>					
L-09	Grand Ridge	15.2±1.2	14.0±0.8	18.4±1.0	17.8±0.7
L-10	Streator	15.2±1.2	14.1±0.7	17.5±0.9	17.5±0.8
L-12	Kernan	14.3±1.0	14.2±0.8	17.7±1.3	17.9±0.7
L-14	Ottawa	16.9±1.0	17.2±1.0	19.6±1.0	21.4±1.5
	Mean ± s.d.	15.4±1.1	14.9±1.6	18.3±0.9	18.6±1.8

Table 5.1-1 (continued)

GAMMA RADIATION, AS MEASURED BY TLDs

SPECIAL PROGRAM				
Inner Ring, Near Site Boundary, Indicator Locations				
	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
Date Placed:	01-02-87	03-27-87	06-27-87	10-03-87
Date Removed:	03-27-87	06-27-87	10-03-87	01-01-88
Days in the Field:	84	92	98	90
Location Code	Average mR/Quarter			
L 101-1	16.3±1.0	17.5±0.9	21.0±1.0	21.9±0.9
L-101-2	16.4±1.0	16.9±1.2	14.0±1.1	20.7±0.8
L-102-1	18.8±1.1	19.4±0.8	23.9±1.1	24.0±1.5
L-102-2	18.9±1.1	19.4±1.1	23.5±0.9	23.5±0.8
L-103-1	17.6±0.8	18.3±1.0	21.2±0.7	23.6±1.6
L-103-2	17.0±1.0	18.9±1.0	21.8±0.9	22.4±0.7
L-105-1	18.8±1.1	18.6±0.7	24.5±0.7	23.1±0.9
L-105-2	17.8±1.1	18.2±1.1	22.9±1.2	23.2±1.0
L-106-1	16.3±0.7	16.4±0.8	20.4±1.1	20.0±0.3
L-106-2	16.6±1.3	15.9±0.8	13.2±1.0	21.5±1.7
L-107-1	17.2±1.0	18.0±1.1	21.4±1.7	23.5±1.3
L-107-2	16.2±0.8	17.8±1.3	13.8±0.7	21.2±0.9
L-109-1	17.1±1.3	17.8±1.0	20.8±1.1	21.9±1.2
L-109-2	16.5±0.9	17.8±1.2	14.2±1.3	21.8±0.8
L-110-1	16.2±1.3	16.8±1.2	20.1±1.0	21.4±1.3
L-110-2	16.2±1.0	17.9±1.0	20.7±0.9	20.8±0.7
L-111a-1	16.9±1.4	17.1±0.9	20.0±0.7	21.1±1.0
L-111a-2	16.3±1.0	17.8±1.1	20.1±1.0	22.1±1.1
L-111b-1	19.8±1.3	16.4±0.8	20.4±1.5	21.0±0.8
L-111b-2	16.2±1.1	18.3±1.0	20.0±1.7	21.6±1.2
L-112-1	16.4±0.8	17.4±1.1	19.1±1.3	20.4±0.9
L-112-2	16.4±1.0	17.0±1.2	20.1±1.3	20.6±1.0
L-113a-1	16.2±1.2	18.1±1.1	19.0±0.9	22.0±1.1
L-113a-2	16.5±1.1	17.8±1.1	19.4±0.9	21.3±1.2
L-113b-1	16.1±1.3	17.9±1.2	18.5±1.3	21.9±0.8
L-113b-2	17.0±1.1	17.3±1.0	20.5±0.7	21.0±1.2
L-114-1	16.5±0.8	18.1±1.1	20.2±0.8	22.3±0.9
L-114-2	16.4±1.0	17.3±1.0	19.5±0.9	20.8±0.9
Mean ± s.d.	17.0±1.0	17.7±0.8	19.8±2.9	21.8±1.1

Table 5.1-1 (continued)

GAMMA RADIATION, AS MEASURED BY TLDs

SPECIAL PROGRAM				
Outer Ring, Near 5 Miles Radius, Indicator Locations				
	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>
Date Placed:	01-02-87	03-27-87	06-27-87	10-03-87
Date Removed:	03-27-87	06-27-87	10-03-87	01-01-88
Days in the Field:	84	92	98	90
Location	Average mR/Qtr.			
L-201-1	16.2±0.8	18.8±0.8	19.8±1.0	23.0±0.7
L-201-2	17.0±1.1	17.9±1.2	20.2±1.2	21.0±0.7
L-202-1	16.1±1.0	18.6±0.7	19.3±0.8	22.6±0.9
L-202-2	16.4±0.7	18.1±0.9	19.7±0.7	22.0±1.2
L-203-1	15.5±0.7	15.3±1.2	17.7±1.0	20.6±1.0
L-203-2	18.0±1.0	18.8±1.0	21.3±0.7	22.8±1.0
L-204-1	15.0±1.0	17.1±0.7	19.1±0.7	21.0±0.7
L-204-2	16.3±1.3	19.0±1.4	20.3±0.7	21.2±1.0
L-205-1	16.5±1.2	19.4±1.3	18.7±0.7	23.3±1.1
L-205-2	15.4±0.7	17.1±1.1	13.4±1.2	21.0±0.8
L-206-1	15.0±1.2	16.9±0.8	18.2±1.2	20.6±1.1
L-206-2	16.6±1.3	17.6±1.0	20.1±0.9	21.5±0.8
L-207-1	18.1±1.5	17.7±0.9	19.6±0.9	22.0±1.7
L-207-2	16.3±1.1	16.4±0.8	19.6±1.3	21.0±0.8
L-208-1	18.2±1.4	17.4±0.7	21.0±0.7	21.9±0.8
L-208-2	17.0±0.9	18.7±1.5	19.7±0.6	22.3±0.7
L-209-1	16.3±1.1	17.0±1.2	19.8±0.9	21.1±0.9
L-209-2	16.1±0.9	17.6±1.1	18.9±0.8	21.1±0.8
L-210-1	17.6±1.4	18.4±0.7	20.8±0.3	22.8±1.9
L-210-2	17.6±1.0	18.1±0.8	21.4±0.8	21.8±0.7
L-211-1	17.2±0.7	19.4±0.6	21.0±1.2	24.3±1.7
L-211-2	17.4±1.2	17.7±0.9	21.1±0.8	21.0±1.0
L-212-1	15.6±1.0	15.8±0.8	18.9±1.5	20.8±1.7
L-212-2	17.4±1.0	17.1±0.9	20.8±1.6	20.8±1.0
L-213-1	16.0±1.0	15.6±0.8	19.6±1.0	19.0±1.0
L-213-2	17.1±0.8	17.3±1.2	20.0±0.6	21.2±0.9
L-214-1	17.6±1.4	17.6±0.7	20.1±0.8	21.8±1.9
L-214-2	18.6±1.0	18.5±0.7	22.5±0.8	22.1±1.2
L-215-1	17.7±1.5	17.8±0.8	19.8±0.9	22.7±1.8
L-215-2	18.6±0.7	19.0±0.7	21.5±0.7	23.5±1.2
L-216-1	16.3±0.8	17.5±0.8	19.4±0.8	20.7±1.8
L-216-2	17.4±1.2	17.2±1.0	19.3±0.8	20.8±0.9
Mean ± s.d.	16.8±1.0	17.7±1.0	19.8±1.5	21.7±1.1

APPENDIX II
METEOROLOGICAL DATA

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - JANUARY-MARCH 1987
 STABILITY CLASS - EXTREMELY UNSTABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4-7	8-12	13-18	19-24	GT 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	1	0	0	0	0	1
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	1	0	0	0	0	1

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 52

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - JANUARY-MARCH 1987
 STABILITY CLASS - MODERATELY UNSTABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4- 7	8-12	13-18	19-24	GT 24	
N	0	2	1	0	0	0	3
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	4	0	4
ENE	0	0	0	3	0	3	6
E	0	0	0	0	0	1	1
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	1	1	0	0	0	2
SW	0	0	2	0	0	0	2
WSW	0	1	0	0	0	0	1
W	1	2	0	0	3	0	6
WNW	0	0	0	0	2	0	2
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	1	6	4	3	9	4	27

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 52

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - JANUARY-MARCH 1987
 STABILITY CLASS - SLIGHTLY UNSTABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4- 7	8-12	13-18	19-24	GT 24	
N	0	1	2	2	5	0	10
NNE	0	0	2	1	0	0	3
NE	0	0	0	2	1	1	4
ENE	0	0	0	4	4	2	10
E	0	0	0	0	0	2	2
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	1	0	0	0	0	1
S	0	0	0	0	0	0	0
SSW	0	0	1	0	0	0	1
SW	0	0	0	1	0	0	1
WSW	0	1	0	0	0	0	1
W	0	0	1	0	1	0	2
WNW	0	0	0	1	0	0	1
NW	0	0	0	0	1	2	3
NNW	0	0	1	2	4	1	8
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	3	7	13	16	8	47

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 52

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - JANUARY-MARCH 1987
 STABILITY CLASS - NEUTRAL (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4-7	8-12	13-18	19-24	GT 24	
N	0	8	6	12	16	10	52
NNE	3	8	4	10	10	6	41
NE	0	8	12	29	29	9	87
ENE	1	4	14	19	29	43	110
E	0	3	20	21	37	60	141
ESE	0	4	12	20	16	33	85
SE	0	7	8	7	8	16	46
SSE	2	5	1	4	1	2	15
S	0	12	2	15	7	10	46
SSW	1	5	2	12	3	4	27
SW	1	5	9	6	3	7	31
WSW	1	3	8	6	7	5	30
W	0	4	7	17	27	8	63
WNW	0	8	10	16	17	27	78
NW	0	7	15	23	14	30	89
NNW	1	1	10	33	20	32	97
VARIABLE	0	0	0	0	0	0	0
TOTAL	10	92	140	250	244	302	1038

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 12
 Hours of missing stability measurements in all stability classes: 52

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - JANUARY-MARCH 1987
 STABILITY CLASS - SLIGHTLY STABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4- 7	8-12	13-18	19-24	GT 24	
N	0	0	8	1	4	0	13
NNE	1	5	1	3	2	0	12
NE	1	7	3	5	5	0	21
ENE	1	6	3	7	15	0	32
E	0	3	4	6	26	12	51
ESE	0	3	9	10	11	17	50
SE	0	5	4	10	7	12	38
SSE	0	2	5	2	4	9	22
S	1	5	0	3	8	23	40
SSW	0	4	5	3	3	34	49
SW	0	1	0	4	6	33	44
WSW	2	1	6	4	7	19	39
W	0	3	4	9	7	16	39
WNW	0	0	5	7	7	13	32
NW	0	2	7	16	12	16	53
NNW	1	2	5	12	10	0	30
VARIABLE	0	0	0	0	0	0	0
TOTAL	7	49	69	102	134	204	565

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 19
 Hours of missing stability measurements in all stability classes: 52

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - JANUARY-MARCH 1987
 STABILITY CLASS - MODERATELY STABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4-7	8-12	13-18	19-24	GT 24	
N	0	0	0	1	3	1	5
NNE	0	0	1	2	1	0	4
NE	0	0	0	0	0	0	0
ENE	0	0	0	1	0	0	1
E	0	1	1	4	6	0	12
ESE	1	1	0	7	9	13	31
SE	0	2	0	10	3	13	28
SSE	0	0	5	7	5	1	18
S	0	0	3	5	2	2	12
SSW	0	2	0	4	2	12	20
SW	1	2	1	4	4	33	45
WSW	0	1	2	7	1	18	29
W	0	2	3	6	2	11	24
WNW	1	0	9	7	2	14	33
NW	0	4	2	6	6	3	21
NNW	0	1	2	2	4	0	9
VARIABLE	0	0	0	0	0	0	0
TOTAL	3	16	29	73	50	121	292

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 11
 Hours of missing stability measurements in all stability classes: 52

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - JANUARY-MARCH 1987
 STABILITY CLASS - EXTREMELY STABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4- 7	8-12	13-18	19-24	GT 24	
N	0	0	1	1	0	0	2
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	2	0	0	2
SSE	0	0	1	3	0	0	4
S	0	0	2	3	0	1	6
SSW	0	0	0	0	1	2	3
SW	0	0	0	0	0	12	12
WSW	0	0	0	2	1	10	13
W	0	0	0	4	7	3	14
WNW	0	0	0	1	6	4	11
NW	0	1	0	0	9	2	12
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	1	4	16	24	34	79

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 17
 Hours of missing stability measurements in all stability classes: 52

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - APRIL-JUNE 1987
 STABILITY CLASS - EXTREMELY UNSTABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4- 7	8-12	13-18	19-24	GT 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	5	5	0	10
ENE	0	0	0	6	3	2	11
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	0	11	8	2	21

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 2

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - APRIL-JUNE 1987
 STABILITY CLASS - MODERATELY UNSTABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4-7	8-12	13-18	19-24	GT 24	
N	0	0	1	1	0	1	3
NNE	0	0	0	1	0	0	1
NE	0	0	4	6	3	0	13
ENE	0	0	1	7	2	0	10
E	0	0	1	2	0	1	4
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	4	2	1	2	9
SW	0	0	1	8	7	0	16
WSW	0	0	0	0	5	0	5
W	0	0	0	0	1	1	2
WNW	0	0	0	0	2	1	3
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	12	27	21	6	66

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 2

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - APRIL-JUNE 1987
 STABILITY CLASS - SLIGHTLY UNSTABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4- 7	8-12	13-18	19-24	GT 24	
N	0	0	4	6	0	3	13
NNE	0	0	1	6	2	1	10
NE	0	0	8	9	5	0	22
ENE	0	0	5	1	2	2	10
E	0	0	1	2	0	0	3
ESE	0	0	0	0	0	0	0
SE	0	0	2	4	0	0	6
SSE	0	0	1	0	0	0	1
S	0	1	6	0	0	1	8
SSW	1	2	8	10	4	7	32
SW	0	1	1	7	6	2	17
WSW	0	0	0	4	8	3	15
W	0	0	0	4	4	1	9
WNW	0	0	4	6	11	1	22
NW	0	0	1	0	0	3	4
NNW	0	0	0	1	0	0	1
VARIABLE	0	0	0	0	0	0	0
TOTAL	1	4	42	60	42	24	173

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 2

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - APRIL-JUNE 1987
 STABILITY CLASS - NEUTRAL (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4-7	8-12	13-18	19-24	GT 24	
N	1	5	22	9	4	11	52
NNE	1	5	16	20	8	4	54
NE	0	10	23	36	18	2	89
ENE	0	11	19	18	29	17	94
E	0	13	7	15	9	7	51
ESE	1	2	11	21	6	6	47
SE	2	9	13	25	5	5	59
SSE	2	6	16	20	2	0	46
S	1	5	7	16	1	0	30
SSW	2	6	4	17	10	2	41
SW	0	3	13	15	19	4	54
WSW	0	7	12	11	14	16	60
W	1	9	4	18	8	4	44
WNW	0	8	15	38	23	7	91
NW	0	6	17	18	20	16	77
NNW	0	3	18	17	6	7	51
VARIABLE	0	0	0	0	0	0	0
TOTAL	11	108	217	314	182	108	940

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 2

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - APRIL-JUNE 1987
 STABILITY CLASS - SLIGHTLY STABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4- 7	8-12	13-18	19-24	GT 24	
N	0	1	3	4	10	9	27
NNE	0	3	3	7	12	1	26
NE	0	2	12	19	7	0	40
ENE	1	8	17	20	8	3	57
E	0	10	4	18	19	9	60
ESE	0	3	3	4	15	8	33
SE	0	0	6	9	10	1	26
SSE	0	3	11	5	9	0	28
S	1	2	3	7	6	1	20
SSW	0	0	3	3	5	10	21
SW	1	2	5	7	12	11	38
WSW	0	1	6	13	15	7	42
W	0	2	3	6	3	2	16
WNW	1	1	3	8	7	0	20
NW	0	0	5	9	6	6	26
NNW	0	1	3	6	4	2	16
VARIABLE	0	0	0	0	0	0	0
TOTAL	4	39	90	145	148	70	496

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 6
 Hours of missing stability measurements in all stability classes: 2

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - APRIL-JUNE 1987
 STABILITY CLASS - MODERATELY STABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4-7	8-12	13-18	19-24	GT 24	
N	0	0	3	4	7	1	15
NNE	0	0	1	5	1	0	7
NE	0	0	2	3	1	0	6
ENE	0	0	1	0	2	0	3
E	1	2	2	7	6	0	18
ESE	0	3	3	3	8	4	21
SE	1	1	2	5	5	8	22
SSE	1	2	4	2	4	2	15
S	1	2	7	6	6	4	26
SSW	1	0	1	9	14	22	47
SW	0	1	1	2	16	36	56
WSW	0	1	2	5	9	17	34
W	1	0	1	2	2	4	10
WNW	0	1	2	2	3	2	10
NW	0	0	2	6	11	1	20
NNW	0	1	0	4	1	0	6
VARIABLE	0	0	0	0	0	0	0
TOTAL	6	14	34	65	96	101	316

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 13
 Hours of missing stability measurements in all stability classes: 2

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - APRIL-JUNE 1987
 STABILITY CLASS - EXTREMELY STABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4- 7	8-12	13-18	19-24	GT 24	
N	0	0	0	4	0	0	4
NNE	0	0	0	0	0	0	0
NE	0	1	0	0	0	0	1
ENE	0	0	0	0	0	0	0
E	0	1	6	2	0	0	9
ESE	0	0	1	1	2	0	4
SE	0	1	1	5	4	4	15
SSE	1	0	2	1	11	3	18
S	0	0	4	0	7	9	20
SSW	0	0	1	3	3	10	17
SW	0	1	1	3	6	21	32
WSW	0	0	1	4	4	13	22
W	0	0	0	0	3	0	3
WNW	0	0	0	2	0	0	2
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	1	4	17	25	40	60	147

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 4
 Hours of missing stability measurements in all stability classes: 2

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - JULY-SEPTEMBER 1987
 STABILITY CLASS - EXTREMELY UNSTABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4-7	8-12	13-18	19-24	GT 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 6

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - JULY-SEPTEMBER 1987
 STABILITY CLASS - MODERATELY UNSTABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4-7	8-12	13-18	19-24	GT 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	1	0	0	0	1
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	3	1	0	4
SW	0	0	0	8	1	0	9
WSW	0	0	0	2	0	0	2
W	0	0	0	1	0	0	1
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	1	14	2	0	17

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 6

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - JULY-SEPTEMBER 1987
 STABILITY CLASS - SLIGHTLY UNSTABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4-7	8-12	13-18	19-24	GT 24	
N	0	0	0	4	0	0	4
NNE	0	1	1	0	0	0	2
NE	0	0	7	0	0	0	7
ENE	0	0	1	1	0	0	2
E	0	0	0	1	0	0	1
ESE	0	0	2	2	0	0	4
SE	0	0	1	0	0	0	1
SSE	0	0	0	0	0	0	0
S	0	0	2	1	0	0	3
SSW	0	2	9	6	9	2	28
SW	0	2	12	14	3	0	31
WSW	0	0	3	2	0	1	6
W	0	0	1	1	3	0	5
WNW	0	0	1	2	0	0	3
NW	0	0	1	1	0	0	2
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	5	41	35	15	3	99

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 6

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - JULY-SEPTEMBER 1987
 STABILITY CLASS - NEUTRAL (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4-7	8-12	13-18	19-24	GT 24	
N	0	15	24	21	5	0	65
NNE	2	10	17	9	1	1	40
NE	0	8	16	13	0	0	37
ENE	0	5	12	22	0	1	40
E	0	7	13	10	11	1	42
ESE	0	1	11	23	7	1	43
SE	0	6	27	12	1	0	46
SSE	0	3	15	9	1	0	28
S	0	13	18	5	6	4	46
SSW	0	7	17	31	36	11	102
SW	2	12	20	23	12	0	69
WSW	1	5	26	19	8	4	63
W	2	7	26	24	11	1	71
WNW	1	10	31	25	20	1	88
NW	0	8	18	37	14	1	78
NNW	1	9	15	32	8	4	69
VARIABLE	0	0	0	0	0	0	0
TOTAL	9	126	306	315	141	30	927

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 3
 Hours of missing stability measurements in all stability classes: 6

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - JULY-SEPTEMBER 1987
 STABILITY CLASS - SLIGHTLY STABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4-7	8-12	13-18	19-24	GT 24	
N	1	2	3	17	6	0	29
NNE	0	5	6	14	0	0	25
NE	1	11	11	11	0	0	34
ENE	1	5	12	13	2	0	33
E	1	2	11	21	6	1	42
ESE	0	3	7	19	8	2	39
SE	2	3	7	10	2	2	26
SSE	0	8	4	7	4	0	23
S	1	3	7	14	17	5	47
SSW	0	2	6	9	26	28	71
SW	0	5	4	16	43	14	82
WSW	1	4	9	11	14	6	45
W	0	0	2	6	15	1	24
WNW	0	2	6	9	17	1	35
NW	1	2	4	1	13	4	25
NNW	0	8	4	13	22	3	50
VARIABLE	0	0	0	0	0	0	0
TOTAL	9	65	103	191	195	67	630

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 6

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - JULY-SEPTEMBER 1987
 STABILITY CLASS - MODERATELY STABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4-7	8-12	13-18	19-24	GT 24	
N	1	1	1	5	5	0	13
NNE	0	1	1	4	0	0	6
NE	2	0	0	0	1	0	3
ENE	0	0	1	2	0	0	3
E	0	1	3	2	1	1	8
ESE	1	0	5	18	11	2	37
SE	1	1	7	16	2	2	29
SSE	0	3	3	10	2	4	22
S	0	1	8	6	7	9	31
SSW	0	2	6	13	22	17	60
SW	0	2	2	7	15	28	54
WSW	0	2	1	6	7	11	27
W	0	0	1	1	20	2	24
WNW	0	1	1	10	10	2	24
NW	0	4	4	10	5	0	23
NNW	0	3	2	17	10	2	34
VARIABLE	0	0	0	0	0	0	0
TOTAL	5	22	46	127	118	80	398

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 6

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - JULY-SEPTEMBER 1987
 STABILITY CLASS - EXTREMELY STABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4-7	8-12	13-18	19-24	GT 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	1	0	0	1
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	1	1	0	0	2
SE	0	0	0	4	0	1	5
SSE	0	0	3	9	5	5	22
S	0	1	0	1	2	4	8
SSW	0	0	0	7	7	12	26
SW	0	1	0	5	8	19	33
WSW	1	0	0	1	0	0	2
W	0	0	0	0	0	10	10
WNW	0	0	1	1	2	0	4
NW	0	0	1	5	6	0	12
NNW	0	0	1	2	0	0	3
VARIABLE	0	0	0	0	0	0	0
TOTAL	1	2	7	37	30	51	128

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 6

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - OCTOBER-DECEMBER 1987
 STABILITY CLASS - EXTREMELY UNSTABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4-7	8-12	13-18	19-24	GT 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 62

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - OCTOBER-DECEMBER 1987
 STABILITY CLASS - MODERATELY UNSTABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4- 7	8-12	13-18	19-24	GT 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	1	1	2
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	0	0	1	1	2

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 62

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - OCTOBER-DECEMBER 1987
 STABILITY CLASS - SLIGHTLY UNSTABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4-7	8-12	13-18	19-24	GT 24	
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	1	0	1
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	1	1
NNW	0	0	0	0	1	0	1
VARIABLE	0	0	0	0	0	0	0
TOTAL	0	0	0	0	2	1	3

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 62

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - OCTOBER-DECEMBER 1987
 STABILITY CLASS - NEUTRAL (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4-7	8-12	13-18	19-24	GT 24	
N	1	0	9	51	21	4	86
NNE	1	3	10	28	5	1	48
NE	1	6	13	14	1	3	38
ENE	0	1	5	9	29	9	53
E	0	0	3	19	25	11	58
ESE	0	2	3	8	13	2	28
SE	0	2	12	5	1	0	20
SSE	1	3	0	1	8	3	16
S	0	1	8	8	5	9	31
SSW	1	1	8	20	16	19	65
SW	0	1	3	15	23	18	60
WSW	0	2	12	18	8	11	51
W	0	5	7	23	15	43	93
WNW	1	2	10	29	32	60	134
NW	0	1	10	20	27	21	79
NNW	1	3	7	34	36	31	112
VARIABLE	0	0	0	0	0	0	0
TOTAL	7	33	120	302	265	245	972

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 59
 Hours of missing stability measurements in all stability classes: 62

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - OCTOBER-DECEMBER 1987
 STABILITY CLASS - SLIGHTLY STABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4-7	8-12	13-18	19-24	GT 24	
N	1	2	5	17	5	1	31
NNE	2	4	11	11	16	0	44
NE	0	4	3	6	0	0	13
ENE	0	0	6	2	2	0	10
E	0	1	4	4	1	4	14
ESE	1	1	8	12	2	8	32
SE	0	0	2	7	14	13	36
SSE	0	0	1	17	15	28	61
S	0	0	0	12	25	40	77
SSW	1	1	1	7	13	46	69
SW	0	3	8	3	19	33	66
WSW	0	2	1	10	14	18	45
W	0	1	4	7	7	22	41
WNW	0	0	6	9	17	28	60
NW	0	0	11	3	9	25	48
NNW	0	1	3	16	5	1	26
VARIABLE	0	0	0	0	0	0	0
TOTAL	5	20	74	143	164	267	673

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 18
 Hours of missing stability measurements in all stability classes: 62

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - OCTOBER-DECEMBER 1987
 STABILITY CLASS - MODERATELY STABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4- 7	8-12	13-18	19-24	GT 24	
N	0	0	6	5	0	0	11
NNE	0	0	1	0	0	0	1
NE	1	0	1	0	0	0	2
ENE	0	1	1	0	0	0	2
E	1	1	0	0	0	0	2
ESE	1	0	0	0	2	0	3
SE	1	1	2	1	4	1	10
SSE	0	1	1	1	3	6	12
S	1	0	3	6	3	16	29
SSW	0	0	2	5	12	42	61
SW	0	1	1	7	11	32	52
WSW	0	2	1	2	2	26	33
W	0	0	3	2	10	14	29
WNW	1	0	4	5	4	7	21
NW	0	0	3	1	15	2	21
NNW	0	1	3	2	8	0	14
VARIABLE	0	0	0	0	0	0	0
TOTAL	6	8	32	37	74	146	303

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 2
 Hours of missing stability measurements in all stability classes: 62

LASALLE NUCLEAR POWER STATION
 PERIOD OF RECORD - OCTOBER-DECEMBER 1987
 STABILITY CLASS - EXTREMELY STABLE (DIFF TEMP 375-33 FT)
 WINDS MEASURED AT 375 FEET

WIND DIRECTION	WIND SPEED (IN MPH)						TOTAL
	.7-3	4- 7	8-12	13-18	19-24	GT 24	
N	0	0	0	0	0	0	0
NNE	0	2	0	1	0	0	3
NE	0	1	0	0	0	0	1
ENE	1	0	0	0	0	0	1
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	1	0	0	0	2	3
SSE	0	0	0	0	1	5	6
S	0	0	0	3	0	15	18
SSW	0	0	1	2	5	17	25
SW	0	0	0	2	10	12	24
WSW	0	0	0	3	7	13	23
W	0	0	0	1	2	2	5
WNW	0	0	0	0	0	1	1
NW	1	0	0	0	0	2	3
NNW	0	0	0	1	0	0	1
VARIABLE	0	0	0	0	0	0	0
TOTAL	2	4	1	13	25	69	114

Hours of calm in this stability class: 0
 Hours of missing wind measurements in this stability class: 0
 Hours of missing stability measurements in all stability classes: 62

APPENDIX III

LISTING OF MISSED SAMPLES

LISTING OF MISSED SAMPLES

Sample Type	Location	Expected Collection Date	Reason
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THERE WERE NO MISSED SAMPLE COLLECTIONS.



Commonwealth Edison
72 West Adams Street, Chicago, Illinois
Address Reply to: Post Office Box 767
Chicago, Illinois 60690 - 0767

JMB

April 27, 1988

Mr. A. Bert Davis
Regional Administrator
Directorate of Inspection and Enforcement
Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: LaSalle Nuclear Power Station Operating Report,
NRC Dockets 50-373 and 50-374

Dear Mr. Davis:

Enclosed is Part 3 of the LaSalle Nuclear Power Station Operating Report, reporting results of Environmental Radiological and Meteorological Monitoring. Part 1, facility operating experience was submitted under separate cover in February, and Part 2, radioactive effluents, in February and August.

Two copies of the report are provided for your use. One copy each will be forwarded to Document Control and the NRC Resident Inspector.

Sincerely yours,

N. J. Kalivianakis
General Manager
LaSalle Station

Enclosure

cc: G. J. Diederich
L. R. Aldrich

KLG/BF/mt
7216E/64

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