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Exelon Nuclear

10 CFR 50 Appendix I

RA11-022

May 12, 2011

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555

LaSalle County Station, Units 1 and 2
Facility Operating License Nos. NPF-11 and NPF-18
NRC Docket Nos. 50-373 and 50-374

Subject: 2010 Annual Radiological Environmental Operating Report

Enclosed is the Exelon Generation Company, LLC, LaSalle County Station 2010 Annual Radiological Environmental Operating Report, submitted in accordance with Technical Specification 5.6.2, "Annual Radiological Environmental Operating Report." This report contains the results of the Radiological Environmental and Meteorological Monitoring Programs. This report is enclosed as an attachment.

In addition, this attachment contains the results of groundwater monitoring conducted in accordance with Exelon's Radiological Groundwater Protection Program, which is a voluntary program implemented in 2006. This information is being reported in accordance with a nuclear industry initiative.

Should you have any questions concerning this letter, please contact Mr. Terrence W. Simpkin, Regulatory Assurance Manager, at (815) 415-2800.

Respectfully,

David P. Rhoades
Site Vice President
LaSalle County Station

Attachment

cc: Regional Administrator - NRC Region III
NRC Senior Resident Inspector - LaSalle County Station

Docket No: 50-373
50-374

LASALLE COUNTY STATION
UNITS 1 and 2

Annual Radiological
Environmental Operating Report

1 January Through 31 December 2010

Prepared By

Teledyne Brown Engineering
Environmental Services

Exelon SM
Nuclear

LaSalle County Station
Marseilles, IL 61341

May 2011

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Appendices

I. Summary and Conclusions

This report on the Radiological Environmental Monitoring Program conducted for the LaSalle County Station (LSCS) by Exelon covers the period 1 January 2010 through 31 December 2010. During that time period, 1,516 analyses were performed on 1,355 samples. In assessing all the data gathered for this report and comparing these results with preoperational data, it was concluded that the operation of LSCS had no adverse radiological impact on the environment.

Surface water samples were analyzed for concentrations of gross beta, tritium and gamma emitting nuclides. Ground/well water samples were analyzed for concentrations of tritium and gamma emitting nuclides. No fission or activation products were detected. Gross beta and tritium activities detected were consistent with those detected in previous years.

Fish (commercially and recreationally important species) and sediment samples were analyzed for concentrations of gamma emitting nuclides. No fission or activation products were detected in fish or sediment. Sediment samples had Cs-137 concentrations consistent with levels observed during the preoperational years. No plant produced fission or activation products were found in sediment.

Air particulate samples were analyzed for concentrations of gross beta and gamma emitting nuclides. No fission or activation products were detected.

High sensitivity I-131 analyses were performed on weekly air samples. All results were less than the minimum detectable activity.

Cow milk samples were analyzed for concentrations of I-131 and gamma emitting nuclides. All I-131 results were below the minimum detectable activity. Concentrations of naturally occurring K-40 were consistent with those detected in previous years. No fission or activation products were found.

Food product samples were analyzed for concentrations of gamma emitting nuclides. No fission or activation products were detected.

Environmental gamma radiation measurements were performed quarterly using thermoluminescent dosimeters. Levels detected were consistent with those observed in previous years.

II. Introduction

The LaSalle County Station (LSCS), consisting of two boiling water reactors, each rated for 3546 MWt, owned and operated by Exelon Corporation, is located in LaSalle County, Illinois. Unit No. 1 went critical on 16 March 1982. Unit No. 2 went critical on 02 December 1983. The site is located in northern Illinois, approximately 75 miles southwest of Chicago, Illinois.

A Radiological Environmental Monitoring Program (REMP) for LSCS was initiated in 1982. (The preoperational period for most media covers the periods 1 January 1979 through 26 December 1981 and was summarized in a separate report.) This report covers those analyses performed by Teledyne Brown Engineering (TBE), Mirion Technologies, and Environmental Inc. (Midwest Labs) on samples collected during the period 1 January 2010 through 31 December 2010.

A. Objective of the REMP

The objectives of the REMP are to:

1. Provide data on measurable levels of radiation and radioactive materials in the site environs.

2. Evaluate the relationship between quantities of radioactive material released from the plant and resultant radiation doses to individuals from principal pathways of exposure.

B. Implementation of the Objectives

The implementation of the objectives is accomplished by:

1. Identifying significant exposure pathways.

2. Establishing baseline radiological data of media within those pathways.

3. Continuously monitoring those media before and during Station operation to assess Station radiological effects (if any) on man and the environment.

III. Program Description

A. Sample Collection

Samples for the LSCS REMP were collected for Exelon Nuclear by

Environmental Inc. (Midwest Labs). This section describes the general collection methods used by Environmental Inc. (Midwest Labs) to obtain environmental samples for the LSCS REMP in 2010. Sample locations and descriptions can be found in Tables B–1 and B–2, and Figures B–1 through B–4, Appendix B.

Aquatic Environment

The aquatic environment was evaluated by performing radiological analyses on samples of surface water, ground/well water, fish, and sediment. Two gallon water samples were collected weekly from two surface water locations (L-21 and L-40) and composited for monthly and quarterly required analyses. Control location was L-21. Two ground/well water locations (L-27 and L-28) were also grab sampled quarterly. All samples were collected in new unused plastic bottles, which were rinsed with source water prior to collection. Fish samples comprising the flesh of blue catfish, channel catfish, common carp, freshwater drum, largemouth bass, and smallmouth buffalo were collected semiannually at three locations, L-34, L-35 and L-36 (Control). Sediment samples composed of recently deposited substrate were collected at three locations semiannually, L-21 (Control), L-40 and L-41.

Atmospheric Environment

The atmospheric environment was evaluated by performing radiological analyses on samples of air particulate, airborne iodine, milk and food products. Airborne iodine and particulate samples were collected and analyzed weekly at nine locations (L-01, L-03, L-04, L-05, L-06, L-07, L-08, L-10 and L-11). The control location was L-10. Airborne iodine and particulate samples were obtained at each location, using a vacuum pump with charcoal and glass fiber filters attached. The pumps were run continuously and sampled air at the rate of approximately one cubic foot per minute. The air filters and air iodine samples were replaced weekly and sent to the laboratory for analysis.

Milk samples were collected biweekly at one location (L-42) from May through October, and monthly from November through April. The control location was L-42. All samples were collected in new unused two gallon plastic bottles from the bulk tank at each location, preserved with sodium bisulfite, and shipped promptly to the laboratory.

Food products were collected annually in September at five locations (L-Quad C, L-Quad 1, L-Quad 2, L-Quad 3, and L-Quad 4). The control location was L-Quad C. Various types of samples were collected and placed in new unused plastic bags, and sent to the laboratory for analysis.

Ambient Gamma Radiation

Direct radiation measurements were made using CaF_2 thermoluminescent dosimeters (TLD). Each location consisted of 2 TLD sets. The TLD locations were placed on and around the LSCS site as follows:

An inner ring consisting of 16 locations (L-101, L-102, L-103, L-104, L-105, L-106, L-107, L-108, L-109, L-110, L-111B, L-112, L-113A, L-114, L-115 and L-116) near and within the site perimeter representing fence post doses (i.e., at locations where the doses will be potentially greater than maximum annual off–site doses) from LSCS release.

An outer ring consisting of 16 locations (L-201, L-202, L-203, L-204, L-205, L-206, L-207, L-208, L-209, L-210, L-211, L-212, L-213, L-214, L-215 and L-216) extending to approximately 5 miles from the site designed to measure possible exposures to close-in population.

An other set consisting of eight locations (L-01, L-03, L-04, L-05, L-06, L-07, L-08 and L-11).

The balance of one location (L-10) representing the control area.

The specific TLD locations were determined by the following criteria:

1. The presence of relatively dense population;

2. Site meteorological data taking into account distance and elevation for each of the sixteen–22 1/2 degree sectors around the site, where estimated annual dose from LSCS, if any, would be most significant;

3. On hills free from local obstructions and within sight of the vents (where practical);

4. And near the closest dwelling to the vents in the prevailing downwind direction.

(Two TLDs – each comprised of two CaF_2 thermoluminescent phosphors enclosed in plastic – were placed at each location approximately six feet above ground level. The TLDs were exchanged quarterly and sent to Mirion Technologies for analysis.)

B. Sample Analysis

This section describes the general analytical methodologies used by TBE and Environmental Inc (Midwest Labs) to analyze the environmental

samples for radioactivity for the LSCS REMP in 2010. The analytical procedures used by the laboratories are listed in Table B-2.

In order to achieve the stated objectives, the current program includes the following analyses:

1. Concentrations of beta emitters in surface water and air particulates.

2. Concentrations of gamma emitters in ground/well and surface water, air particulates, milk, fish, sediment and vegetation.

3. Concentrations of tritium in ground/well and surface water.

4. Concentrations of I-131 in air and milk.

5. Ambient gamma radiation levels at various site environs.

C. Data Interpretation

The radiological and direct radiation data collected prior to LaSalle County Station becoming operational were used as a baseline with which these operational data were compared. For the purpose of this report, LaSalle County Station was considered operational at initial criticality. In addition, data were compared to previous years' operational data for consistency and trending. Several factors were important in the interpretation of the data:

1. Lower Limit of Detection and Minimum Detectable Concentration

The lower limit of detection (LLD) was defined as the smallest concentration of radioactive material in a sample that would yield a net count (above background) that would be detected with only a 5% probability of falsely concluding that a blank observation represents a "real" signal. The LLD was intended as a before the fact estimate of a system (including instrumentation, procedure and sample type) and not as an after the fact criteria for the presence of activity. All analyses were designed to achieve the required LSCS detection capabilities for environmental sample analysis.

The minimum detectable concentration (MDC) is defined above with the exception that the measurement is an after the fact estimate of the presence of activity.

2. Net Activity Calculation and Reporting of Results

Net activity for a sample was calculated by subtracting background activity from the sample activity. Since the REMP measures extremely small changes in radioactivity in the environment, background variations may result in sample activity being lower than the background activity effecting a negative number. An MDC was reported in all cases where positive activity was not detected.

Gamma spectroscopy results for each type of sample were grouped as follows:

For surface water and food product 12 nuclides, Mn-54, Co-58, Fe-59, Co-60, Zn-65, Zr-95, Nb-95, I-131, Cs-134, Cs-137, Ba-140, and La-140 were reported.

For ground/well water, fish, sediment, air particulate and milk 11 nuclides, Mn-54, Co-58, Fe-59, Co-60, Zn-65, Zr-95, Nb-95, Cs-134, Cs-137, Ba-140, and La-140 were reported.

Means and standard deviations of the results were calculated. The standard deviations represent the variability of measured results for different samples rather than single analysis uncertainty.

D. Program Exceptions

For 2010 the LSCS REMP had a sample recovery rate in excess of 99%. Sample anomalies and missed samples are listed in the tables below:

Table D-1 LISTING OF SAMPLE ANOMALIES

Sample Type	Location Code	Collection Date	Reason
A/I	L-03	02/11/10	No apparent reason for low reading of 166.7 hours.
A/I	L-10	05/13/10	Low reading of 156.8 hours possibly due to power outages in the area.
A/I	L-10	06/03/10	No apparent reason for low reading of 113.9 hours.
A/I	L-10	06/10/10	Sampler hit by tornado; collector repaired damage; ComEd restored power on 06/11/10. Estimated flow 60 CFH.

Table D-1 LISTING OF SAMPLE ANOMALIES (continued)

Sample Type	Location Code	Collection Date	Reason
A/I	L-10	06/17/10	Low reading of 143.7 hours due to startup on 06/11/10 after damage repair.
A/I	L-01	07/08/10	No apparent reason for low reading of 149.9 hours.
A/I	L-07	07/29/10	No apparent reason for low reading of 159.6 hours; power outages reported in area.

Table D-2 LISTING OF MISSED SAMPLES

Sample Type	Location Code	Collection Date	Reason

There were no missed samples in 2010.

Each program exception was reviewed to understand the causes of the program exception. Occasional equipment breakdowns and power outages were unavoidable.

The overall sample recovery rate indicates that the appropriate procedures and equipment are in place to assure reliable program implementation.

E. Program Changes

There were no program changes in 2010.

IV. Results and Discussion

A. Aquatic Environment

1. Surface Water

Samples were taken weekly and composited monthly at two locations (L-21 and L-40). Of these locations only L-40 located downstream, could be affected by LaSalle's effluent releases. The following analyses were performed.

Gross Beta

Samples from all locations were analyzed for concentrations of gross beta (Table C–I.1, Appendix C). Gross beta was detected in all samples with a range of 5.3 to 10.6 pCi/l. Concentrations detected were consistent with those detected in previous years (Figure C–1, Appendix C). The required LLD was met.

Tritium

Quarterly composites of weekly collections were analyzed for tritium activity (Table C–I.2, Appendix C). Tritium was detected in two of eight samples with a range of 271 to 364 pCi/l. Concentrations detected were consistent with those detected in previous years (Figure C–2, Appendix C). The 2000 pCi/L OCDM and contractually required 200 pCi/L LLDs were met.

Gamma Spectrometry

Samples from both locations were analyzed for gamma emitting nuclides (Table C–I.3, Appendix C). No nuclides were detected, and all required LLDs were met.

2. Ground/well Water

Quarterly grab samples were collected at two locations (L-27 and L-28). Wells 4, 5, 6 are associated with L-28. L-27 and L-28 well 6 could be affected by LaSalle's effluent releases. The following analyses were performed:

Tritium

Quarterly grab samples from the locations were analyzed for tritium activity (Table C–II.1, Appendix C). No tritium was detected and the 2000 pCi/L OCDM and contractually required 200 pCi/L LLDs were met.

Gamma Spectrometry

Samples from all locations were analyzed for gamma emitting nuclides (Table C–II.2, Appendix C). No nuclides were detected, and all required LLDs were met.

3. Fish

Fish samples comprised of channel catfish, blue catfish, common

carp, freshwater drum, largemouth bass, and smallmouth buffalo were collected at three locations (L-34, L-35 and L-36) semiannually. Locations L-34 and L-35 could be affected by LaSalle's effluent releases. The following analysis was performed:

Gamma Spectrometry

The edible portion of fish samples from both locations was analyzed for gamma emitting nuclides (Table C–III.1, Appendix C). Naturally occurring K-40 was found at all stations and ranged from 1,110 to 4,390 pCi/kg wet. No fission or activation products were found.

4. Sediment

Aquatic sediment samples were collected at three locations (L-21, L-40 and L-41) semiannually. Locations L-40 and L-41, located downstream, could be affected by LaSalle's effluent releases. The following analysis was performed:

Gamma Spectrometry

Sediment samples from both locations were analyzed for gamma emitting nuclides (Table C–IV.1, Appendix C). Nuclides detected were naturally occurring K-40 and Cs-137.

Potassium-40 was found at all stations and ranged from 10,200 to 14,700 pCi/kg dry. Cs-137 was found in one sample at a concentration of 127 pCi/kg dry. The activity detected was consistent with those detected in previous years and is likely due to fallout from above-ground nuclear weapons testing. No LaSalle fission or activation products were found.

B. Atmospheric Environment

1. Airborne

a. Air Particulates

Continuous air particulate samples were collected from nine locations on a weekly basis. The nine locations were separated into four groups: Group I (onsite) represents locations within the LSCS site boundary (L-03 and L-05), Group II (near site) represents the locations near the LSCS site (L-01 and L-06), Group III (far field) represents the control location at an intermediate distance from LSCS

(L-04, L-07, L-08 and L-11) and Group IV (Control) represents the control location at a remote distance (L-10). The following analyses were performed:

Gross Beta

Weekly samples were analyzed for concentrations of beta emitters (Table C–V.1 and C–V.2, Appendix C). Detectable gross beta activity was observed at all locations. Comparison of results among the four groups aid in determining the effects, if any, resulting from the operation of LSCS. The results from the OnSite locations (Group I) ranged from 7 to 39 E–3 pCi/m^3 with a mean of 20 E–3 pCi/m^3. The results from the near site location (Group II) ranged from 7 to 39 E–3 pCi/m^3 with a mean of 19 E–3 pCi/m^3. The results from the far field locations (Group III) ranged from 6 to 43 E-3 pCi/m^3 with a mean of 20 E–3 pCi/m^3. The results from the Control location (Group IV) ranged from 8 to 43 E–3 pCi/m^3 with a mean of 20 E–3 pCi/m^3. Comparison of the 2010 air particulate data with previous years data indicate no effects from the operation of LSCS (Figures C–3 through C-7, Appendix C). In addition a comparison of the weekly mean values for 2010 indicate no notable differences among the three groups.

Gamma Spectrometry

Weekly samples were composited quarterly and analyzed for gamma emitting nuclides (Table C–V.3, Appendix C). Naturally occurring Be-7 due to cosmic ray activity was detected in all samples. These values ranged from 90 to 277 E–3 pCi/m^3. Naturally occurring K-40 was detected in one sample at a concentration of 34 E–3 pCi/m^3. All other nuclides were less than the MDC.

b. Airborne Iodine

Continuous air samples were collected from nine locations (L-01, L-03, L-04, L-05, L-06, L-07, L-08, L-10, and L-11) and analyzed weekly for I-131 (Table C–VI.1, Appendix C). No nuclides were detected, and all required LLDs were met.

2. Terrestrial

a. Milk

Samples were collected from one location (L-42) biweekly May through October and monthly November through April. The following analyses were performed:

Iodine-131

Milk samples from the location were analyzed for concentrations of I-131 (Table C–VII.1, Appendix C). No nuclides were detected, and all required LLDs were met.

Gamma Spectrometry

Each milk sample was analyzed for concentrations of gamma emitting nuclides (Table C–VII.2, Appendix C).

Naturally occurring K-40 activity was found in all samples and ranged from 1,070 to 1,480 pCi/l. No other nuclides were detected, and all required LLDs were met.

b. Food Products

Food product samples were collected at five locations (L-Quad C, L-Quad 1, L-Quad 2, L-Quad 3 and L-Quad 4) when available. Four locations, (L-Quad 1, L-Quad 2, L-Quad 3 and L-Quad 4) could be affected by LaSalle's effluent releases. The following analysis was performed:

Gamma Spectrometry

Samples from all locations were analyzed for gamma emitting nuclides (Table C–VIII.1, Appendix C). No nuclides were detected, and all required LLDs were met.

C. Ambient Gamma Radiation

Ambient gamma radiation levels were measured utilizing Panasonic 814 (CaF_2) thermoluminescent dosimeters. Forty-one TLD locations were established around the site. Results of TLD measurements are listed in Tables C–IX.1 to C–IX.3, Appendix C.

Most TLD measurements were below 30 mR/standard month, with a range of 19 to 40 mR/quarter. A comparison of the Inner Ring, Outer

Ring, and Other data to the Control Location data, indicate that the ambient gamma radiation levels from the Control Location L-10 were comparable.

D. Land Use Survey

A Land Use Survey conducted during the August 2010 growing season around the LaSalle County Station (LSCS) was performed by Environmental Inc. (Midwest Labs) for Exelon Nuclear to comply with Radiological Effluent Control 12.5.2 of the LaSalle's Offsite Dose Calculation Manual. The purpose of the survey was to document the nearest resident, milk producing animal and garden of greater than 500 ft^2 in each of the sixteen 22 ½ degree sectors around the site. The distance and direction of all locations from the LSCS reactor buildings were positioned using Global Positioning System (GPS) technology. There were no changes required to the LSCS REMP, as a result of this survey. The distance of the Milk Farm in the E sector was listed in previous reports with a distance of 12.6 miles. After resurveying, the distance was verified to be 14.2 miles, which is consistent with data listed in the LSCS Offsite Dose Calculation Manual (ODCM), and the corrected distance is now listed. The results of this survey are summarized below.

Distance in Miles from the LSCS Reactor Buildings			
Sector	Residence Miles	Livestock Miles	Milk Farm Miles
A N	3.9	4.0	-
B NNE	1.6	1.7	-
C NE	2.1	3.5	-
D ENE	3.3	3.8	-
E E	3.2	-	14.2
F ESE	1.4	-	-
G SE	1.7	4.7	-
H SSE	1.8	4.7	-
J S	1.5	4.7	-
K SSW	0.7	-	-
L SW	1.0	5.8	-
M WSW	1.5	1.5	-
N W	1.5	3.0	-
P WNW	0.9	3.0	-
Q NW	1.8	4.0	-
R NNW	1.7	4.6	-

E. Summary of Results – Inter-Laboratory Comparison Program

The primary and secondary laboratories analyzed Performance Evaluation (PE) samples of air particulate, air iodine, milk, soil, vegetation

and water matrices (Appendix D). The PE samples, supplied by Analytics Inc., Environmental Resource Associates (ERA) and DOE's Mixed Analyte Performance Evaluation Program (MAPEP), were evaluated against the following pre-set acceptance criteria:

1. Analytics Evaluation Criteria

   Analytics' evaluation report provides a ratio of laboratory results and Analytics' known value. Since flag values are not assigned by Analytics, TBE-ES evaluates the reported ratios based on internal QC requirements, which are based on the DOE MAPEP criteria.

2. ERA Evaluation Criteria

   ERA's evaluation report provides an acceptance range for control and warning limits with associated flag values. ERA's acceptance limits are established per the USEPA, NELAC, state specific PT program requirements or ERA's SOP for the Generation of Performance Acceptance Limits, as applicable. The acceptance limits are either determined by a regression equation specific to each analyte or a fixed percentage limit promulgated under the appropriate regulatory document.

3. DOE Evaluation Criteria

   MAPEP's evaluation report provides an acceptance range with associated flag values.

   The MAPEP defines three levels of performance: Acceptable (flag = "A"), Acceptable with Warning (flag = "W"), and Not Acceptable (flag = "N"). Performance is considered acceptable when a mean result for the specified analyte is ± 20% of the reference value. Performance is acceptable with warning when a mean result falls in the range from ±20% to ±30% of the reference value (i.e., 20% < bias < 30%). If the bias is greater than 30%, the results are deemed not acceptable.

For the primary laboratory, 16 out of 18 analytes met the specified acceptance criteria. Two analytes did not meet the specified acceptance criteria for the following reason:

1. Teledyne Brown Engineering's ERA November 2010 Sr-89 in water result of 77.8 pCi/L was higher than the known value of 68.5 pCi/L, resulting in a found to known ratio of 1.14. NCR 10-09 was initiated to investigate this failure. Since the ratio of 1.14 fell within

an acceptance range of 20%, Teledyne considers this an acceptable result.

2. Teledyne Brown Engineering's ERA November 2010 Zn-65 in water result of 11.0 pCi/L was lower than the known value of 102 pCi/L. NCR 10-09 was initiated to investigate this failure. The Zn-65 result of 111 was incorrectly reported as 11.0.

For the secondary laboratory, Environmental, Inc., 14 out of 14 analytes met the specified acceptance criteria.

The Inter-Laboratory Comparison Program provides evidence of "in control" counting systems and methods, and that the laboratories are producing accurate and reliable data.

APPENDIX A

RADIOLOGICAL ENVIRONMENTAL MONITORING REPORT SUMMARY

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE LASALLE COUNTY STATION, 2010

NAME OF FACILITY: LASALLE				DOCKET NUMBER: 50-373 & 50-374				
LOCATION OF FACILITY: MARSEILLES IL				REPORTING PERIOD: ANNUAL 2010				
				INDICATOR LOCATIONS	CONTROL LOCATION	LOCATION WITH HIGHEST ANNUAL MEAN (M)		
MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
SURFACE WATER (PCI/LITER)	GR-B	24	4	7.6 (12/12) (5.3/10.4)	7.3 (12/12) (5.4/10.6)	7.6 (12/12) (5.3/10.4)	L-40 INDICATOR ILLINOIS RIVER - DOWNSTREAM 5.2 MILES NNW OF SITE	0
	H-3	8	200	271 (1/4)	364 (1/4)	364 (1/4)	L-21 CONTROL ILLINOIS RIVER AT SENECA - UPSTREAM 4.0 MILES NE OF SITE	0
	GAMMA	24						
	MN-54		15	<LLD	<LLD	-		0
	CO-58		15	<LLD	<LLD	-		0
	FE-59		30	<LLD	<LLD	-		0
	CO-60		15	<LLD	<LLD	-		0
	ZN-65		30	<LLD	<LLD	-		0
	NB-95		15	<LLD	<LLD	-		0

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES
FRACTION OF DETECTABLE MEASUREMENTS AT SPECIFIED LOCATIONS IS INDICATED IN PARENTHESES (F)

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE LASALLE COUNTY STATION, 2010

NAME OF FACILITY:	LASALLE			DOCKET NUMBER:		50-373 & 50-374		
LOCATION OF FACILITY:	MARSEILLES IL			REPORTING PERIOD:		ANNUAL 2010		
				INDICATOR LOCATIONS	CONTROL LOCATION	LOCATION WITH HIGHEST ANNUAL MEAN (M)		
MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
SURFACE WATER (PCI/LITER)	ZR-95		30	<LLD	<LLD	-		0
	I-131		15	<LLD	<LLD	-		0
	CS-134		15	<LLD	<LLD	-		0
	CS-137		18	<LLD	<LLD	-		0
	BA-140		60	<LLD	<LLD	-		0
	LA-140		15	<LLD	<LLD	-		0
GROUND WATER (PCI/LITER)	H-3	12	200	<LLD	<LLD	-		0
	GAMMA	12						
	MN-54		15	<LLD	<LLD	-		0

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FRACTION OF DETECTABLE MEASUREMENTS AT SPECIFIED LOCATIONS IS INDICATED IN PARENTHESES (F)

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE LASALLE COUNTY STATION, 2010

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LOCATION OF FACILITY:	MARSEILLES IL			REPORTING PERIOD:		ANNUAL 2010		
				INDICATOR LOCATIONS	CONTROL LOCATION	LOCATION WITH HIGHEST ANNUAL MEAN (M)		
MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
GROUND WATER (PCI/LITER)	CO-58		15	<LLD	<LLD	-		0
	FE-59		30	<LLD	<LLD	-		0
	CO-60		15	<LLD	<LLD	-		0
	ZN-65		30	<LLD	<LLD	-		0
	NB-95		15	<LLD	<LLD	-		0
	ZR-95		30	<LLD	<LLD	-		0
	CS-134		15	<LLD	<LLD	-		0
	CS-137		18	<LLD	<LLD	-		0

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FRACTION OF DETECTABLE MEASUREMENTS AT SPECIFIED LOCATIONS IS INDICATED IN PARENTHESES (F)

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE LASALLE COUNTY STATION, 2010

NAME OF FACILITY: LASALLE				DOCKET NUMBER: 50-373 & 50-374				
LOCATION OF FACILITY: MARSEILLES IL				REPORTING PERIOD: ANNUAL 2010				
				INDICATOR LOCATIONS	CONTROL LOCATION	LOCATION WITH HIGHEST ANNUAL MEAN (M)		
MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
GROUND WATER (PCI/LITER)	BA-140		60	<LLD	<LLD	-		0
	LA-140		15	<LLD	<LLD	-		0
FISH (PCI/KG WET)	GAMMA	12						
	MN-54		130	<LLD	<LLD	-		0
	CO-58		130	<LLD	<LLD	-		0
	FE-59		260	<LLD	<LLD	-		0
	CO-60		130	<LLD	<LLD	-		0
	ZN-65		260	<LLD	<LLD	-		0
	NB-95		NA	<LLD	<LLD	-		0

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES
FRACTION OF DETECTABLE MEASUREMENTS AT SPECIFIED LOCATIONS IS INDICATED IN PARENTHESES (F)

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE LASALLE COUNTY STATION, 2010

NAME OF FACILITY: LASALLE				DOCKET NUMBER: 50-373 & 50-374				
LOCATION OF FACILITY: MARSEILLES IL				REPORTING PERIOD: ANNUAL 2010				
				INDICATOR LOCATIONS	CONTROL LOCATION	LOCATION WITH HIGHEST ANNUAL MEAN (M)		
MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
FISH (PCI/KG WET)	ZR-95		NA	<LLD	<LLD	-		0
	CS-134		130	<LLD	<LLD	-		0
	CS-137		150	<LLD	<LLD	-		0
	BA-140		NA	<LLD	<LLD	-		0
	LA-140		NA	<LLD	<LLD	-		0
SEDIMENT (PCI/KG DRY)	GAMMA MN-54	6	NA	<LLD	<LLD	-		0
	CO-58		NA	<LLD	<LLD	-		0
	FE-59		NA	<LLD	<LLD	-		0

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				INDICATOR LOCATIONS	CONTROL LOCATION	LOCATION WITH HIGHEST ANNUAL MEAN (M)		
MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
SEDIMENT (PCI/KG DRY)	CO-60		NA	<LLD	<LLD	-		0
	ZN-65		NA	<LLD	<LLD	-		0
	NB-95		NA	<LLD	<LLD	-		0
	ZR-95		NA	<LLD	<LLD	-		0
	CS-134		150	<LLD	<LLD	-		0
	CS-137		180	<LLD	127 (1/2)	127 (1/2)	L-21 CONTROL ILLINOIS RIVER AT SENECA - UPSTREAM 4.0 MILES NE OF SITE	0
	BA-140		NA	<LLD	<LLD	-		0
	LA-140		NA	<LLD	<LLD	-		0

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				INDICATOR LOCATIONS	CONTROL LOCATION	LOCATION WITH HIGHEST ANNUAL MEAN (M)		
MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
AIR PARTICULATE (E-3 PCI/CU.METER)	GR-B	468	10	20 (414/416) (6/43)	20 (50/52) (8/43)	20 (50/52) (8/43)	L-10 CONTROL STREATOR 13.5 MILES SW OF SITE	0
	GAMMA	36						
	MN-54		NA	<LLD	<LLD	-		0
	CO-58		NA	<LLD	<LLD	-		0
	FE-59		NA	<LLD	<LLD	-		0
	CO-60		NA	<LLD	<LLD	-		0
	ZN-65		NA	<LLD	<LLD	-		0
	NB-95		NA	<LLD	<LLD	-		0
	ZR-95		NA	<LLD	<LLD	-		0

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				INDICATOR LOCATIONS	CONTROL LOCATION	LOCATION WITH HIGHEST ANNUAL MEAN (M)		
MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
AIR PARTICULATE (E-3 PCI/CU.METER)	CS-134		50	<LLD	<LLD	-		0
	CS-137		60	<LLD	<LLD	-		0
	BA-140		NA	<LLD	<LLD	-		0
	LA-140		NA	<LLD	<LLD	-		0
AIR IODINE (E-3 PCI/CU.METER)	GAMMA I-131	468	70	<LLD	<LLD	-		0
MILK (PCI/LITER)	I-131	19	1	NA	<LLD	-		0
	GAMMA MN-54	19	NA	NA	<LLD	-		0
	CO-58		NA	NA	<LLD	-		0

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FRACTION OF DETECTABLE MEASUREMENTS AT SPECIFIED LOCATIONS IS INDICATED IN PARENTHESES (F)

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LOCATION OF FACILITY: MARSEILLES IL				REPORTING PERIOD: ANNUAL 2010				
				INDICATOR LOCATIONS	CONTROL LOCATION	LOCATION WITH HIGHEST ANNUAL MEAN (M)		
MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
MILK (PCI/LITER)	FE-59		NA	NA	<LLD	-		0
	CO-60		NA	NA	<LLD	-		0
	ZN-65		NA	NA	<LLD	-		0
	NB-95		NA	NA	<LLD	-		0
	ZR-95		NA	NA	<LLD	-		0
	CS-134		15	NA	<LLD	-		0
	CS-137		18	NA	<LLD	-		0
	BA-140		60	NA	<LLD	-		0

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TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE LASALLE COUNTY STATION, 2010

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				INDICATOR LOCATIONS	CONTROL LOCATION	LOCATION WITH HIGHEST ANNUAL MEAN (M)		
MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
MILK (PCI/LITER)	LA-140		15	NA	<LLD	-		0
VEGETATION (PCI/KG WET)	GAMMA	10						
	MN-54		NA	<LLD	<LLD	-		0
	CO-58		NA	<LLD	<LLD	-		0
	FE-59		NA	<LLD	<LLD	-		0
	CO-60		NA	<LLD	<LLD	-		0
	ZN-65		NA	<LLD	<LLD	-		0
	NB-95		NA	<LLD	<LLD	-		0
	ZR-95		NA	<LLD	<LLD	-		0

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FRACTION OF DETECTABLE MEASUREMENTS AT SPECIFIED LOCATIONS IS INDICATED IN PARENTHESES (F)

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE LASALLE COUNTY STATION, 2010

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				INDICATOR LOCATIONS	CONTROL LOCATION	LOCATION WITH HIGHEST ANNUAL MEAN (M)		
MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	MEAN (M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
VEGETATION (PCI/KG WET)	I-131		60	<LLD	<LLD	-		0
	CS-134		60	<LLD	<LLD	-		0
	CS-137		80	<LLD	<LLD	-		0
	BA-140		NA	<LLD	<LLD	-		0
	LA-140		NA	<LLD	<LLD	-		0
DIRECT RADIATION (MILLI-ROENTGEN/QTR.)	TLD-QUARTERLY	336	NA	28.5 (328/328) (18/40)	24.8 (8/8) (19/32)	31.5 (4/4) (26/40)	L-105-I INDICATOR 0.7 MILES E	0

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FRACTION OF DETECTABLE MEASUREMENTS AT SPECIFIED LOCATIONS IS INDICATED IN PARENTHESES (F)

APPENDIX B

LOCATION DESIGNATION, DISTANCE & DIRECTION, AND SAMPLE COLLECTION & ANALYTICAL METHODS

TABLE B-1: Radiological Environmental Monitoring Program - Sampling Locations, Distance and Direction, LaSalle County Station, 2010

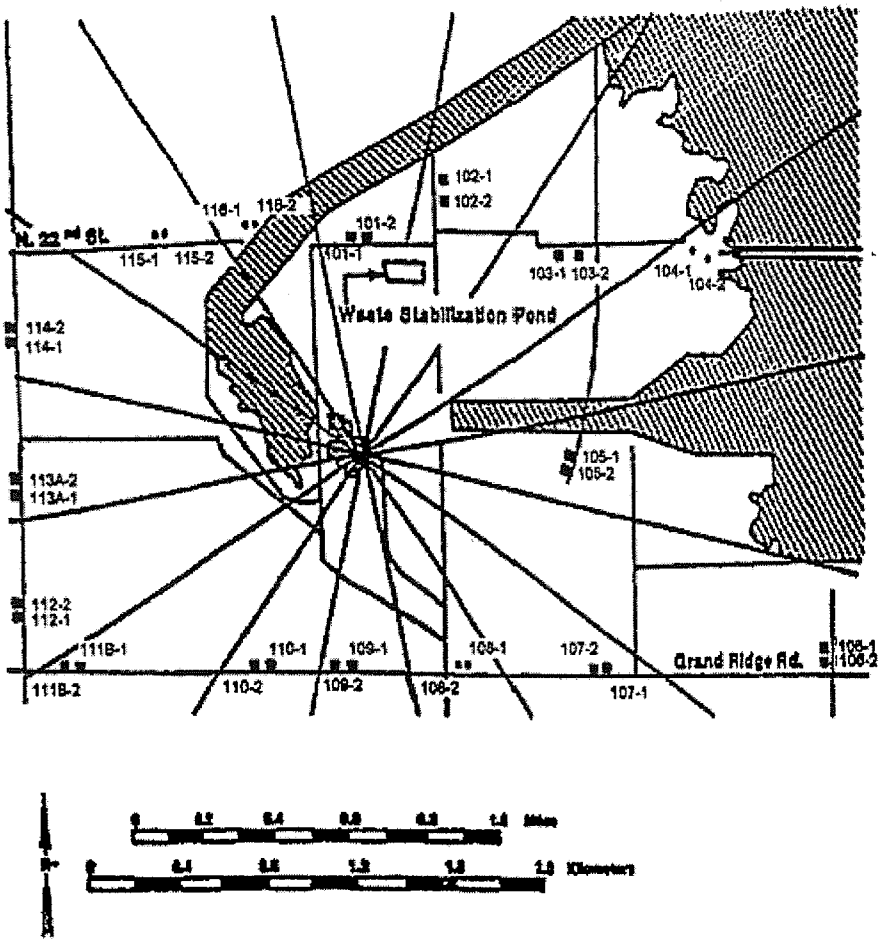
Location	Location Description	Distance & Direction From Site
A. Surface Water		
L-21	Illinois River at Seneca, Upstream (control)	4.0 miles NE
L-40	Illinois River, Downstream (indicator)	5.2 miles NNW
B. Ground/Well Water		
L-27	LSCS Onsite Well (indicator)	0 miles at station
L-28-W4	Marseilles Well (control)	7.0 miles NW
L-28-W5	Marseilles Well (control)	6.7 miles NW
L-28-W6	Marseilles Well (indicator)	4.1 miles NNE
C. Milk - bi-weekly / monthly		
L-42	Biros Farm (control)	14.2 miles E
D. Air Particulates / Air Iodine		
L-01	Nearsite 1 (indicator)	1.5 miles NNW
L-03	Onsite 3 (indicator)	1.0 miles ENE
L-04	Rte. 170 (indicator)	3.2 miles E
L-05	Onsite 5 (indicator)	0.3 miles ESE
L-06	Nearsite 6 (indicator)	0.4 miles WSW
L-07	Seneca (indicator)	5.2 miles NNE
L-08	Marseilles (indicator)	6.0 miles NNW
L-10	Streator (control)	13.5 miles SW
L-11	Ransom (indicator)	6.0 miles S
E. Fish		
L-34	LaSalle Cooling Lake (indicator)	2.0 miles E
L-35	Marseilles Pool of Illinois River, Downstream (indicator)	6.5 miles NW
L-36	Illinois River, Upstream of Discharge (control)	4.3 miles NNE
F. Sediment		
L-21	Illinois River at Seneca, Upstream (control)	4.0 miles NE
L-40	Illinois River, Downstream (indicator)	5.2 miles NNW
L-41	Illinois River, Downstream (indicator)	4.6 miles NNW
G. Food Products		
Quadrant 1	Diane Partridge	4.5 miles NE
Quadrant 2	Mike and Gina Welbourne	3.8 miles ESE
Quadrant 3	Michael Olson	1.5 miles WSW
Quadrant 4	Robert Eisers	4.5 miles NW
Control	Eugene Clements	10.0 miles NW

TABLE B-1: Radiological Environmental Monitoring Program - Sampling Locations, Distance and Direction, LaSalle County Station, 2010

Location	Location Description	Distance & Direction From Site
H. Environmental Dosimetry - TLD		
Inner Ring		
L-101-1 and -2		0.5 miles N
L-102-1 and -2		0.6 miles NNE
L-103-1 and -2		0.7 miles NE
L-104-1 and -2		0.8 miles ENE
L-105-1 and -2		0.7 miles E
L-106-1 and -2		1.4 miles ESE
L-107-1 and -2		0.8 miles SE
L-108-1 and -2		0.5 miles SSE
L-109-1 and -2		0.6 miles S
L-110-1 and -2		0.6 miles SSW
L-111b-1 and -2		0.8 miles SW
L-112-1 and -2		0.9 miles WSW
L-113a-1 and -2		0.8 miles W
L-114-1 and -2		0.9 miles WNW
L-115-1 and -2		0.7 miles NW
L-116-1 and -2		0.6 miles NNW
Outer Ring		
L-201-3 and -4		4.0 miles N
L-202-3 and -4		3.6 miles NNE
L-203-1 and -2		4.0 miles NE
L-204-1 and -2		3.2 miles ENE
L-205-1 and -2		3.2 miles ESE
L-205-3 and -4		5.1 miles E
L-206-1 and -2		4.3 miles SE
L-207-1 and -2		4.5 miles SSE
L-208-1 and -2		4.5 miles S
L-209-1 and -2		4.0 miles SSW
L-210-1 and -2		3.3 miles SW
L-211-1 and -2		4.5 miles WSW
L-212-1 and -2		4.0 miles WSW
L-213-3 and -4		4.9 miles W
L-214-3 and -4		5.1 miles WNW
L-215-3 and -4		5.0 miles NW
L-216-3 and -4		5.0 miles NNW
Other		
L-01-1 and -2	Nearsite 1 (indicator)	1.5 miles NNW
L-03-1 and -2	Onsite 3 (indicator)	1.0 miles ENE
L-04-1 and -2	Rte. 170 (indicator)	3.2 miles E
L-05-1 and -2	Onsite 5 (indicator)	0.3 miles ESE
L-06-1 and -2	Nearsite 6 (indicator)	0.4 miles WSW
L-07-1 and -2	Seneca (indicator)	5.2 miles NNE
L-08-1 and -2	Marseilles (indicator)	6.0 miles NNW
L-11-1 and -2	Ransom (indicator)	6.0 miles S
Control and Special Interest		
L-10-1 and -2	Streator	13.5 miles SW

TABLE B-2: Radiological Environmental Monitoring Program – Summary of Sample Collection and Analytical Methods, LaSalle County Station, 2010

Sample Medium	Analysis	Sampling Method	Analytical Procedure Number
Surface Water	Gamma Spectroscopy	Monthly composite from weekly grab samples.	TBE, TBE-2007 Gamma emitting radioisotope analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Surface Water	Gross Beta	Monthly composite from weekly grab samples.	TBE, TBE-2008 Gross Alpha and/or gross beta activity in various matrices Env. Inc., W(DS)-01 Determination of gross alpha and/or gross beta in water (dissolved solids or total residue)
Surface Water	Tritium	Quarterly composite from weekly grab samples.	TBE, TBE-2011 Tritium analysis in drinking water by liquid scintillation Env. Inc., T-02 Determination of tritium in water (direct method)
Ground/Well Water	Gamma Spectroscopy	Quarterly grab samples.	TBE, TBE-2007 Gamma emitting radioisotope analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Ground/Well Water	Tritium	Quarterly grab samples.	TBE, TBE-2011 Tritium analysis in drinking water by liquid scintillation Env. Inc., T-02 Determination of tritium in water (direct method)
Fish	Gamma Spectroscopy	Semi-annual samples collected via electroshocking or other techniques	TBE-2007 Gamma emitting radioisotope analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Sediment	Gamma Spectroscopy	Semi-annual grab samples	TBE, TBE-2007 Gamma emitting radioisotope analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Air Particulates	Gross Beta	One-week composite of continuous air sampling through glass fiber filter paper	TBE, TBE-2008 Gross Alpha and/or gross beta activity in various matrices Env. Inc., AP-02 Determination of gross alpha and/or gross beta in air particulate filters
Air Particulates	Gamma Spectroscopy	Quarterly composite of each station	TBE, TBE-2007 Gamma emitting radioisotope analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Air Iodine	Gamma Spectroscopy	Bi-weekly composite of continuous air sampling through charcoal filter	TBE, TBE-2007 Gamma emitting radioisotope analysis Env. Inc., I-131-02 Determination of I-131 in charcoal canisters by gamma spectroscopy (batch method)
Milk	I-131	Bi-weekly grab sample when cows are on pasture. Monthly all other times	TBE, TBE-2012 Radioiodine in various matrices Env. Inc., I-131-01 Determination of I-131 in milk by anion exchange
Milk	Gamma Spectroscopy	Bi-weekly grab sample when cows are on pasture. Monthly all other times	TBE, TBE-2007 Gamma emitting radioisotope analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Food Products	Gamma Spectroscopy	Annual grab samples.	TBE, TBE-2007 Gamma emitting radioisotope analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
TLD	Thermoluminescence Dosimetry	Quarterly TLDs comprised of two Mirioin Technologies CaF_2 elements.	Mirion Technologies



■ TLD Location

Figure B-1
Inner Ring TLD Locations
of the LaSalle County Station, 2010

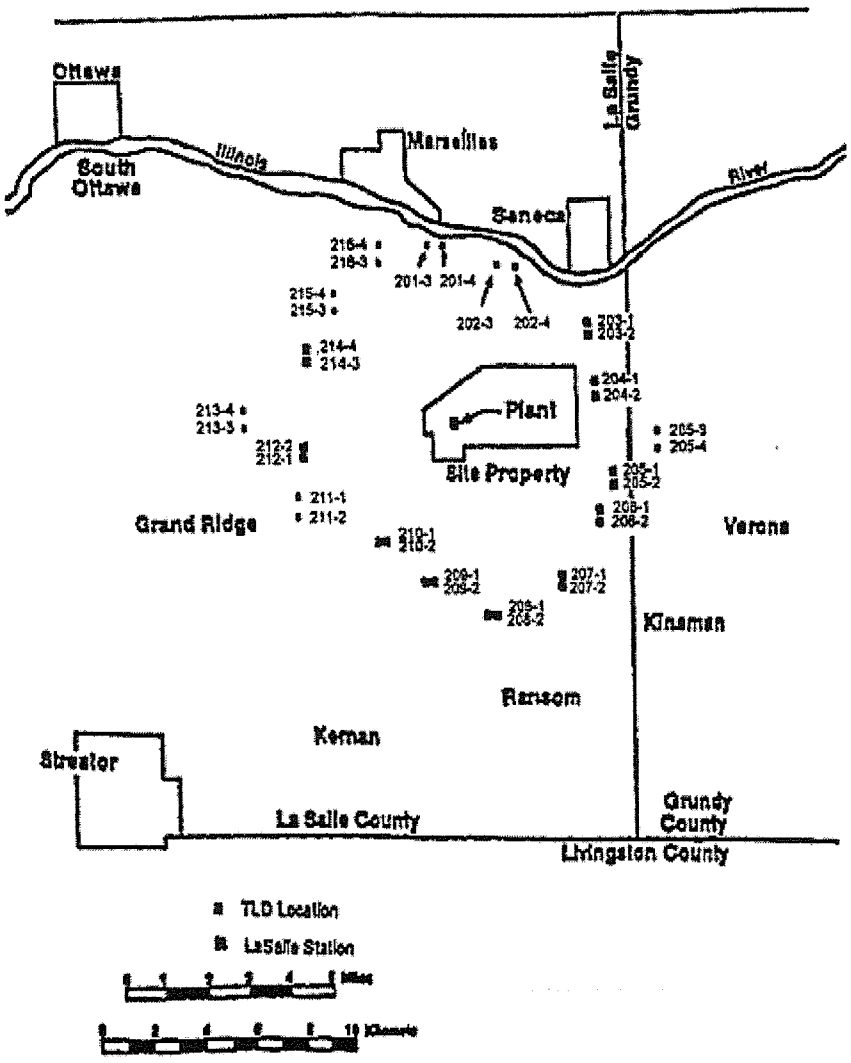


Figure B-2
Outer Ring TLD Locations
of the LaSalle County Station, 2010

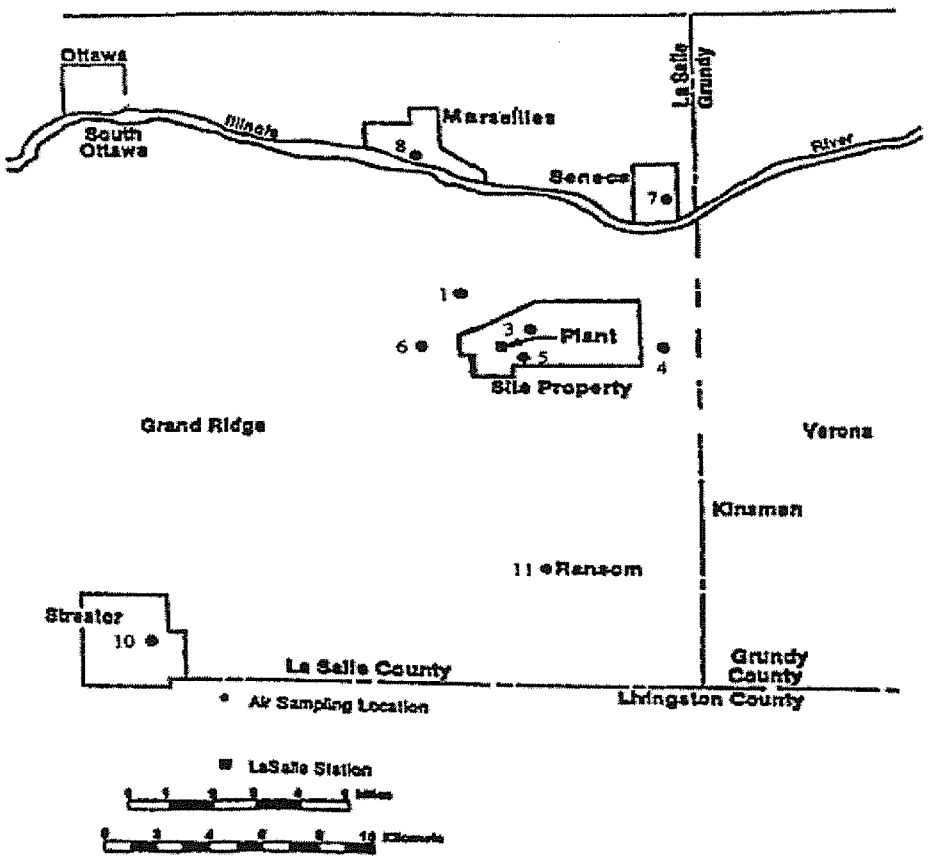


Figure B-3
Fixed Air Sampling Locations
of the LaSalle County Station, 2010

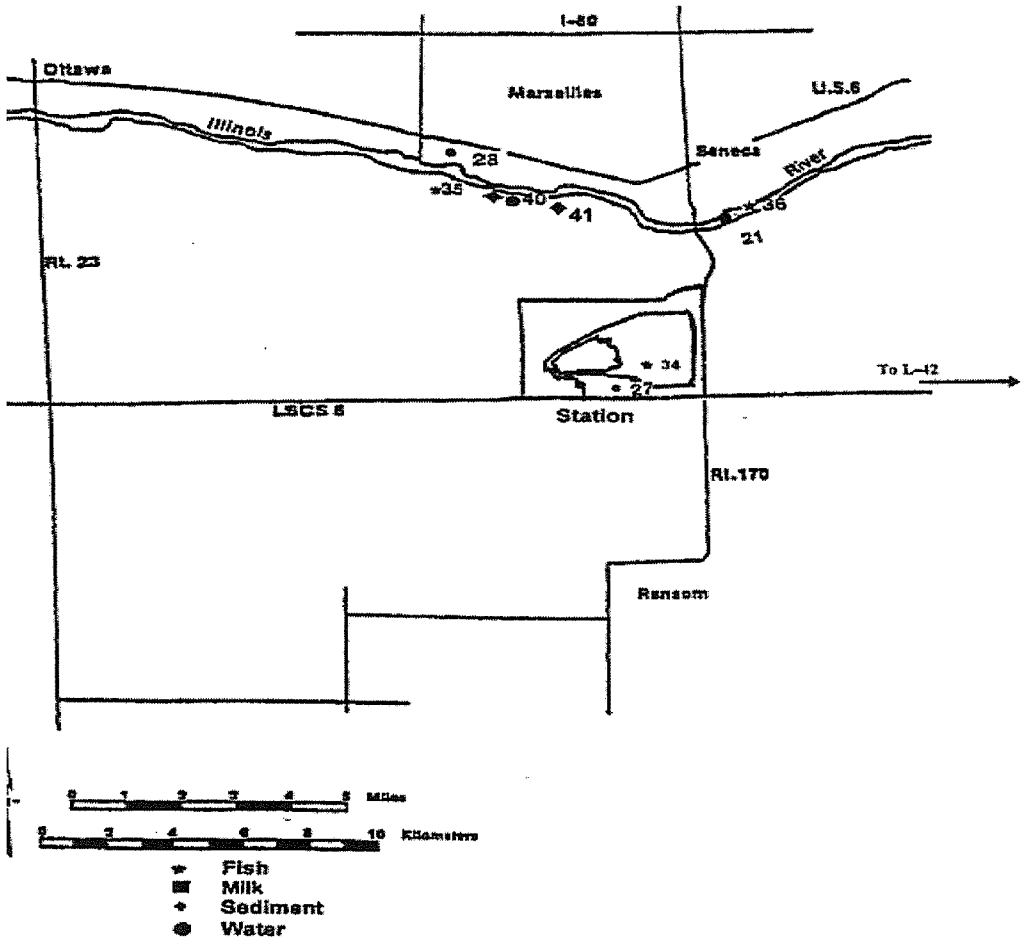


Figure B-4
Ingestion and Waterborne Exposure Pathway Sample Locations
of the LaSalle County Station, 2010

APPENDIX C

DATA TABLES AND FIGURES
PRIMARY LABORATORY

TABLE C-I.1 **CONCENTRATIONS OF GROSS BETA IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	L-21	L-40
01/07/10 - 01/28/10	7.0 ± 2.5	7.4 ± 2.6
02/04/10 - 02/25/10	5.5 ± 3.3	7.8 ± 3.7
03/04/10 - 03/25/10	5.7 ± 2.2	6.3 ± 2.4
04/08/10 - 04/28/10	7.9 ± 2.7	7.3 ± 2.7
05/06/10 - 05/27/10	5.4 ± 2.4	5.3 ± 2.4
06/03/10 - 06/24/10	5.4 ± 2.2	5.7 ± 2.3
07/01/10 - 07/29/10	10.6 ± 2.3	7.7 ± 2.1
08/05/10 - 08/26/10	7.2 ± 2.4	6.6 ± 2.4
09/02/10 - 09/29/10	6.4 ± 2.2	7.6 ± 2.3
10/07/10 - 10/28/10	7.9 ± 2.4	8.9 ± 2.6
11/04/10 - 11/24/10	9.7 ± 2.4	10.4 ± 2.4
12/02/10 - 12/29/10	9.0 ± 3.2	10.3 ± 3.3
MEAN	7.3 ± 3.5	7.6 ± 3.2

TABLE C-I.2 **CONCENTRATIONS OF TRITIUM IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	L-21	L-40
01/07/10 - 03/25/10	< 178	< 182
04/01/10 - 06/24/10	< 162	< 156
07/01/10 - 09/29/10	< 193	< 190
10/07/10 - 12/29/10	364 ± 123	271 ± 118
MEAN	-	-

* THE MEAN AND 2 STANDARD DEVIATION ARE CALCULATED USING THE POSITIVE VALUES

TABLE C-I.3 **CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
L-21	01/07/10 - 01/28/10	< 3	< 3	< 8	< 3	< 6	< 3	< 6	< 14	< 3	< 3	< 27	< 9
	02/04/10 - 02/25/10	< 3	< 3	< 8	< 3	< 8	< 4	< 7	< 15	< 3	< 4	< 32	< 7
	03/04/10 - 03/25/10	< 2	< 2	< 5	< 2	< 4	< 3	< 4	< 15	< 2	< 2	< 22	< 7
	04/08/10 - 04/28/10	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 14	< 2	< 2	< 25	< 7
	05/06/10 - 05/27/10	< 2	< 2	< 6	< 2	< 3	< 2	< 4	< 10	< 2	< 2	< 15	< 4
	06/03/10 - 06/24/10	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 14	< 2	< 2	< 23	< 7
	07/01/10 - 07/29/10	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 14	< 2	< 1	< 22	< 6
	08/05/10 - 08/26/10	< 1	< 1	< 3	< 1	< 3	< 2	< 3	< 13	< 1	< 1	< 18	< 6
	09/02/10 - 09/29/10	< 1	< 1	< 3	< 1	< 2	< 2	< 3	< 13	< 1	< 1	< 19	< 6
	10/07/10 - 10/28/10	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 11	< 1	< 2	< 19	< 6
	11/04/10 - 11/24/10	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 13	< 2	< 2	< 21	< 7
	12/02/10 - 12/29/10	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 9	< 1	< 1	< 13	< 4
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
L-40	01/07/10 - 01/28/10	< 3	< 3	< 7	< 3	< 6	< 4	< 6	< 14	< 3	< 3	< 26	< 6
	02/04/10 - 02/25/10	< 3	< 3	< 7	< 3	< 5	< 3	< 5	< 13	< 3	< 3	< 26	< 7
	03/04/10 - 03/25/10	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 15	< 2	< 2	< 22	< 7
	04/08/10 - 04/28/10	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 13	< 2	< 2	< 23	< 8
	05/06/10 - 05/27/10	< 1	< 2	< 4	< 2	< 3	< 2	< 3	< 13	< 1	< 2	< 18	< 7
	06/03/10 - 06/24/10	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 12	< 2	< 2	< 19	< 7
	07/01/10 - 07/29/10	< 1	< 1	< 3	< 1	< 2	< 2	< 3	< 11	< 1	< 1	< 17	< 5
	08/05/10 - 08/26/10	< 1	< 2	< 3	< 1	< 3	< 2	< 3	< 13	< 1	< 1	< 18	< 6
	09/02/10 - 09/29/10	< 1	< 1	< 3	< 1	< 2	< 1	< 3	< 15	< 1	< 1	< 19	< 6
	10/07/10 - 10/28/10	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 13	< 1	< 2	< 19	< 6
	11/04/10 - 11/24/10	< 2	< 2	< 5	< 2	< 3	< 2	< 4	< 12	< 2	< 2	< 20	< 6
	12/02/10 - 12/29/10	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 9	< 1	< 1	< 14	< 4
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

TABLE C-II.1 **CONCENTRATIONS OF TRITIUM IN GROUND/WELL WATER SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	L-27	L-28-W4	L-28-W5	L-28-W6
01/14/10 - 01/14/10	< 177		< 195	< 190
04/08/10 - 04/08/10	< 163	< 163		< 162
07/08/10 - 07/08/10	< 161		< 155	< 162
10/14/10 - 10/14/10	< 198	< 200		< 195
MEAN	-	-	-	-

TABLE C-II.2 **CONCENTRATIONS OF GAMMA EMITTERS IN GROUND/WELL WATER SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
L-27	01/14/10 - 01/14/10	< 4	< 4	< 10	< 5	< 9	< 5	< 8	< 4	< 5	< 33	< 12
	04/08/10 - 04/08/10	< 4	< 5	< 11	< 4	< 9	< 6	< 8	< 4	< 4	< 23	< 9
	07/08/10 - 07/08/10	< 5	< 4	< 9	< 4	< 10	< 5	< 9	< 4	< 5	< 21	< 7
	10/14/10 - 10/14/10	< 3	< 3	< 8	< 3	< 6	< 3	< 6	< 3	< 3	< 24	< 6
	MEAN	-	-	-	-	-	-	-	-	-	-	-
L-28-W4	04/08/10 - 04/08/10	< 5	< 5	< 10	< 4	< 9	< 5	< 9	< 5	< 4	< 29	< 10
	10/14/10 - 10/14/10	< 3	< 3	< 7	< 4	< 6	< 3	< 6	< 3	< 3	< 25	< 7
	MEAN	-	-	-	-	-	-	-	-	-	-	-
L-28-W5	01/14/10 - 01/14/10	< 4	< 4	< 9	< 4	< 8	< 5	< 7	< 3	< 4	< 27	< 8
	07/08/10 - 07/08/10	< 8	< 7	< 14	< 7	< 17	< 8	< 12	< 7	< 8	< 37	< 15
	MEAN	-	-	-	-	-	-	-	-	-	-	-
L-28-W6	01/14/10 - 01/14/10	< 4	< 4	< 8	< 3	< 8	< 4	< 7	< 3	< 4	< 25	< 7
	04/08/10 - 04/08/10	< 4	< 4	< 8	< 3	< 7	< 4	< 7	< 3	< 4	< 25	< 9
	07/08/10 - 07/08/10	< 5	< 5	< 8	< 6	< 12	< 6	< 9	< 5	< 4	< 30	< 9
	10/14/10 - 10/14/10	< 3	< 4	< 9	< 4	< 8	< 5	< 7	< 3	< 4	< 30	< 8
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE C-III.1 **CONCENTRATIONS OF GAMMA EMITTERS IN FISH SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY STATION, 2010**

RESULTS IN UNITS OF PC/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
L-34												
Common Carp	05/17/10	< 58	< 72	< 143	< 47	< 87	< 69	< 117	< 44	< 48	< 1390	< 305
Largemouth Bass	05/17/10	< 48	< 52	< 159	< 35	< 91	< 63	< 103	< 43	< 43	< 1130	< 292
Blue catfish	10/11/10	< 47	< 51	< 89	< 46	< 91	< 48	< 83	< 45	< 48	< 235	< 82
Largemouth Bass	10/11/10	< 44	< 34	< 84	< 49	< 109	< 50	< 84	< 39	< 47	< 254	< 80
	MEAN	-	-	-	-	-	-	-	-	-	-	-
L-35												
Channel Catfish	05/17/10	< 25	< 39	< 84	< 37	< 55	< 40	< 51	< 21	< 27	< 539	< 141
Freshwater Drum	05/17/10	< 55	< 64	< 157	< 49	< 125	< 75	< 121	< 65	< 54	< 1410	< 420
Channel Catfish	10/11/10	< 11	< 12	< 24	< 15	< 29	< 12	< 18	< 10	< 11	< 54	< 20
Smallmouth buffalo	10/11/10	< 40	< 46	< 92	< 44	< 94	< 51	< 83	< 44	< 48	< 251	< 81
	MEAN	-	-	-	-	-	-	-	-	-	-	-
L-36												
Channel Catfish	05/17/10	< 39	< 51	< 120	< 32	< 81	< 50	< 83	< 32	< 34	< 794	< 135
Freshwater Drum	05/17/10	< 50	< 54	< 148	< 55	< 95	< 59	< 100	< 41	< 56	< 1160	< 302
Channel Catfish	10/11/10	< 20	< 17	< 37	< 19	< 49	< 27	< 32	< 21	< 22	< 119	< 18
Freshwater Drum	10/11/10	< 62	< 48	< 124	< 71	< 130	< 57	< 112	< 57	< 61	< 253	< 101
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE C-IV.1 CONCENTRATIONS OF GAMMA EMITTERS IN SEDIMENT SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY STATION, 2010

RESULTS IN UNITS OF PC/KG DRY ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
L-21	05/20/10	< 39	< 44	< 114	< 50	< 91	< 57	< 98	< 40	< 53	< 607	< 151
	10/07/10	< 46	< 43	< 109	< 52	< 105	< 60	< 87	< 39	127 ± 51	< 387	< 81
	MEAN	-	-	-	-	-	-	-	-	-	-	-
L-40	05/20/10	< 55	< 69	< 191	< 66	< 126	< 86	< 147	< 50	< 72	< 732	< 227
	10/07/10	< 39	< 52	< 110	< 52	< 122	< 58	< 97	< 46	< 58	< 402	< 92
	MEAN	-	-	-	-	-	-	-	-	-	-	-
L-41	05/20/10	< 50	< 56	< 133	< 49	< 140	< 66	< 105	< 69	< 52	< 645	< 181
	10/07/10	< 45	< 50	< 124	< 55	< 113	< 60	< 88	< 44	< 48	< 365	< 119
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE C-V.1 CONCENTRATIONS OF GROSS BETA IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY STATION, 2010

RESULTS IN UNITS OF E-3 PCI/CU METER ± 2 SIGMA

COLLECTION	GROUP I		GROUP II		GROUP III				GROUP IV	
PERIOD	L-03	L-05	L-01	L-06	L-04	L-07	L-08	L-11	L-10	
12/30/09 - 01/07/10	32 ± 5	28 ± 5	31 ± 5	25 ± 4	28 ± 4	30 ± 5	30 ± 5	30 ± 5	22 ± 4	
01/07/10 - 01/14/10	39 ± 6	27 ± 5	30 ± 5	31 ± 5	27 ± 5	30 ± 5	26 ± 5	32 ± 5	32 ± 5	
01/14/10 - 01/21/10	28 ± 5	24 ± 5	36 ± 6	32 ± 5	24 ± 5	37 ± 6	37 ± 6	35 ± 5	32 ± 5	
01/21/10 - 01/28/10	20 ± 4	20 ± 4	20 ± 4	22 ± 4	18 ± 4	24 ± 5	24 ± 5	23 ± 5	18 ± 4	
01/28/10 - 02/04/10	23 ± 4	21 ± 4	21 ± 4	20 ± 4	16 ± 4	21 ± 4	24 ± 5	21 ± 4	20 ± 4	
02/04/10 - 02/11/10	20 ± 4	(1) 17 ± 4	18 ± 4	16 ± 4	21 ± 4	18 ± 4	16 ± 4	19 ± 4	19 ± 4	
02/11/10 - 02/18/10	20 ± 5	18 ± 4	14 ± 4	17 ± 4	13 ± 4	13 ± 4	14 ± 4	17 ± 4	14 ± 4	
02/18/10 - 02/25/10	25 ± 5	26 ± 5	25 ± 5	22 ± 5	24 ± 5	23 ± 5	22 ± 5	27 ± 5	27 ± 5	
02/25/10 - 03/04/10	14 ± 4	14 ± 4	13 ± 4	13 ± 4	11 ± 4	11 ± 4	13 ± 4	8 ± 4	16 ± 4	
03/04/10 - 03/11/10	21 ± 4	21 ± 4	18 ± 4	24 ± 5	17 ± 4	19 ± 4	20 ± 4	22 ± 5	17 ± 4	
03/11/10 - 03/18/10	7 ± 4	< 6	7 ± 4	11 ± 4	< 6	6 ± 4	6 ± 4	8 ± 4	< 6	
03/18/10 - 03/25/10	12 ± 6	14 ± 6	13 ± 6	17 ± 6	13 ± 6	11 ± 6	12 ± 6	16 ± 6	16 ± 6	
03/25/10 - 03/31/10	12 ± 4	15 ± 5	17 ± 5	13 ± 5	13 ± 5	15 ± 5	16 ± 5	18 ± 5	15 ± 5	
03/31/10 - 04/08/10	12 ± 4	13 ± 4	19 ± 4	15 ± 4	15 ± 4	15 ± 4	15 ± 4	17 ± 4	18 ± 4	
04/08/10 - 04/15/10	18 ± 4	18 ± 4	22 ± 4	18 ± 4	17 ± 4	17 ± 4	23 ± 4	18 ± 4	17 ± 4	
04/15/10 - 04/22/10	15 ± 4	14 ± 4	11 ± 4	13 ± 4	16 ± 4	15 ± 4	13 ± 4	15 ± 4	13 ± 4	
04/22/10 - 04/28/10	20 ± 5	21 ± 5	18 ± 5	18 ± 5	18 ± 5	18 ± 4	19 ± 5	16 ± 4	19 ± 5	
04/28/10 - 05/06/10	15 ± 5	15 ± 5	19 ± 5	14 ± 5	18 ± 5	19 ± 5	20 ± 5	19 ± 5	18 ± 5	
05/06/10 - 05/13/10	9 ± 4	9 ± 4	9 ± 4	10 ± 4	8 ± 3	9 ± 4	8 ± 3	11 ± 4	8 ± 4	(1)
05/13/10 - 05/20/10	13 ± 4	10 ± 4	11 ± 4	8 ± 4	9 ± 4	7 ± 4	9 ± 4	10 ± 4	8 ± 4	
05/20/10 - 05/27/10	12 ± 4	10 ± 4	20 ± 4	13 ± 4	9 ± 4	14 ± 4	12 ± 4	15 ± 4	11 ± 4	
05/27/10 - 06/03/10	16 ± 4	19 ± 4	15 ± 4	19 ± 4	13 ± 4	17 ± 4	15 ± 4	16 ± 4	15 ± 6	(1)
06/03/10 - 06/10/10	15 ± 4	13 ± 4	11 ± 4	12 ± 4	15 ± 4	14 ± 4	15 ± 4	15 ± 4	17 ± 11	(1)
06/10/10 - 06/17/10	10 ± 4	8 ± 4	8 ± 4	10 ± 4	9 ± 4	6 ± 4	7 ± 4	7 ± 4	< 7	(1)
06/17/10 - 06/24/10	13 ± 4	12 ± 4	18 ± 4	15 ± 4	16 ± 4	10 ± 4	15 ± 4	15 ± 4	17 ± 4	
06/24/10 - 06/30/10	17 ± 5	15 ± 4	14 ± 4	17 ± 5	12 ± 4	17 ± 5	14 ± 4	13 ± 4	12 ± 4	
06/30/10 - 07/08/10	16 ± 3	17 ± 3	21 ± 4	(1) 16 ± 3	20 ± 4	15 ± 3	17 ± 3	13 ± 3	15 ± 3	
07/08/10 - 07/15/10	21 ± 5	19 ± 5	20 ± 5	20 ± 5	15 ± 4	22 ± 5	22 ± 5	20 ± 5	18 ± 5	
07/15/10 - 07/22/10	17 ± 4	20 ± 5	18 ± 4	22 ± 5	17 ± 4	20 ± 5	17 ± 4	16 ± 4	24 ± 5	
07/22/10 - 07/29/10	16 ± 4	19 ± 4	17 ± 4	18 ± 4	14 ± 4	15 ± 4	(1) 18 ± 4	15 ± 4	18 ± 4	
07/29/10 - 08/05/10	24 ± 5	18 ± 4	15 ± 4	17 ± 4	23 ± 5	24 ± 5	20 ± 5	13 ± 4	25 ± 5	
08/05/10 - 08/11/10	22 ± 5	22 ± 5	25 ± 5	22 ± 5	17 ± 5	24 ± 5	24 ± 5	21 ± 5	18 ± 5	
08/11/10 - 08/18/10	24 ± 5	26 ± 5	21 ± 4	22 ± 4	23 ± 5	19 ± 4	21 ± 4	20 ± 4	20 ± 4	
08/18/10 - 08/26/10	31 ± 5	23 ± 4	20 ± 4	20 ± 4	29 ± 5	28 ± 5	25 ± 4	21 ± 4	24 ± 4	
08/26/10 - 09/02/10	21 ± 5	16 ± 4	15 ± 4	16 ± 4	21 ± 5	19 ± 5	19 ± 5	15 ± 4	19 ± 5	
09/02/10 - 09/08/10	20 ± 4	21 ± 4	22 ± 4	22 ± 4	18 ± 4	19 ± 4	21 ± 4	20 ± 4	21 ± 4	
09/08/10 - 09/16/10	18 ± 4	20 ± 4	22 ± 4	20 ± 4	19 ± 4	20 ± 4	18 ± 4	20 ± 4	21 ± 4	
09/16/10 - 09/23/10	23 ± 5	16 ± 4	19 ± 4	18 ± 4	17 ± 4	23 ± 5	14 ± 4	18 ± 4	16 ± 4	
09/23/10 - 09/29/10	24 ± 5	23 ± 5	19 ± 5	16 ± 5	19 ± 5	20 ± 5	19 ± 5	16 ± 5	15 ± 5	
09/29/10 - 10/07/10	19 ± 3	17 ± 3	17 ± 3	19 ± 3	17 ± 3	21 ± 3	19 ± 3	17 ± 3	21 ± 3	
10/07/10 - 10/14/10	34 ± 5	31 ± 5	31 ± 5	39 ± 6	40 ± 6	36 ± 5	43 ± 6	36 ± 6	43 ± 6	
10/14/10 - 10/21/10	19 ± 4	24 ± 4	27 ± 4	24 ± 4	27 ± 4	31 ± 4	29 ± 4	27 ± 4	26 ± 4	
10/21/10 - 10/28/10	25 ± 4	20 ± 4	22 ± 4	23 ± 4	19 ± 4	20 ± 4	21 ± 4	19 ± 4	21 ± 4	
10/28/10 - 11/04/10	14 ± 3	14 ± 3	15 ± 3	12 ± 3	15 ± 3	15 ± 3	15 ± 3	15 ± 3	15 ± 3	
11/04/10 - 11/11/10	17 ± 4	16 ± 4	16 ± 4	18 ± 4	19 ± 4	19 ± 4	17 ± 4	23 ± 5	17 ± 4	
11/11/10 - 11/18/10	37 ± 4	32 ± 4	36 ± 4	33 ± 4	35 ± 4	39 ± 4	34 ± 4	34 ± 4	37 ± 4	
11/18/10 - 11/24/10	26 ± 5	29 ± 5	27 ± 5	27 ± 5	30 ± 5	29 ± 5	29 ± 5	22 ± 5	23 ± 5	
11/24/10 - 12/02/10	26 ± 4	24 ± 4	31 ± 4	24 ± 4	26 ± 4	28 ± 4	33 ± 4	27 ± 4	26 ± 4	
12/02/10 - 12/09/10	27 ± 5	22 ± 4	25 ± 5	23 ± 5	26 ± 5	24 ± 5	25 ± 5	24 ± 5	29 ± 5	
12/09/10 - 12/16/10	23 ± 5	28 ± 5	24 ± 5	25 ± 5	22 ± 5	30 ± 5	30 ± 5	25 ± 5	28 ± 5	
12/16/10 - 12/23/10	35 ± 4	32 ± 4	31 ± 4	37 ± 4	38 ± 4	38 ± 4	38 ± 4	40 ± 4	38 ± 4	
12/23/10 - 12/29/10	13 ± 4	12 ± 4	10 ± 4	11 ± 4	14 ± 4	11 ± 4	15 ± 4	9 ± 4	14 ± 4	
MEAN	20 ± 14	19 ± 12	20 ± 14	19 ± 13	19 ± 14	20 ± 16	20 ± 16	19 ± 15	20 ± 14	

* THE MEAN AND 2 STANDARD DEVIATION ARE CALCULATED USING THE POSITIVE VALUES

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-V.2 MONTHLY AND YEARLY MEAN VALUES OF GROSS BETA CONCENTRATIONS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY STATION, 2010

RESULTS IN UNITS OF E-3 PCI/CU METER ± 2 SIGMA

GROUP I - NEAR-SITE LOCATIONS				GROUP II - FAR-FIELD LOCATIONS				GROUP III - FAR-FIELD LOCATIONS				GROUP IV - CONTROL LOCATION			
COLLECTION PERIOD	MIN	MAX	MEAN ± 2SD	COLLECTION PERIOD	MIN	MAX	MEAN ± 2SD	COLLECTION PERIOD	MIN	MAX	MEAN ± 2SD	COLLECTION PERIOD	MIN	MAX	MEAN ± 2SD
12/30/09 - 01/28/10	20	39	27 ± 12	12/30/09 - 01/28/10	20	36	28 ± 11	12/30/09 - 01/28/10	18	37	28 ± 11	12/30/09 - 01/28/10	18	32	26 ± 14
01/28/10 - 02/25/10	17	26	21 ± 7	01/28/10 - 02/25/10	14	25	19 ± 7	01/28/10 - 02/25/10	13	27	19 ± 9	01/28/10 - 02/25/10	14	27	20 ± 10
02/25/10 - 03/31/10	7	21	14 ± 9	02/25/10 - 03/31/10	7	24	15 ± 9	02/25/10 - 03/31/10	6	22	13 ± 9	02/25/10 - 03/31/10	15	17	16 ± 2
03/31/10 - 04/28/10	12	21	16 ± 6	03/31/10 - 04/28/10	11	22	17 ± 7	03/31/10 - 04/28/10	13	23	17 ± 4	03/31/10 - 04/28/10	13	19	17 ± 6
04/28/10 - 06/03/10	9	19	13 ± 6	04/28/10 - 06/03/10	8	20	14 ± 8	04/28/10 - 06/03/10	7	20	13 ± 9	04/28/10 - 06/03/10	8	18	12 ± 8
06/03/10 - 06/30/10	8	17	13 ± 6	06/03/10 - 06/30/10	8	18	13 ± 7	06/03/10 - 06/30/10	6	17	12 ± 7	06/03/10 - 06/30/10	12	17	16 ± 6
06/30/10 - 07/29/10	16	21	18 ± 4	06/30/10 - 07/29/10	16	22	19 ± 4	06/30/10 - 07/29/10	13	22	17 ± 6	06/30/10 - 07/29/10	15	24	19 ± 8
07/29/10 - 09/02/10	16	31	23 ± 8	07/29/10 - 09/02/10	15	25	19 ± 7	07/29/10 - 09/02/10	13	29	21 ± 8	07/29/10 - 09/02/10	18	25	21 ± 6
09/02/10 - 09/29/10	16	24	21 ± 6	09/02/10 - 09/29/10	16	22	20 ± 4	09/02/10 - 09/29/10	14	23	19 ± 4	09/02/10 - 09/29/10	15	21	18 ± 7
09/29/10 - 10/28/10	17	34	24 ± 12	09/29/10 - 10/28/10	17	39	25 ± 14	09/29/10 - 10/28/10	17	43	26 ± 17	09/29/10 - 10/28/10	21	43	28 ± 21
10/28/10 - 12/02/10	14	37	23 ± 16	10/28/10 - 12/02/10	12	36	24 ± 16	10/28/10 - 12/02/10	15	39	25 ± 16	10/28/10 - 12/02/10	15	37	24 ± 18
12/02/10 - 12/29/10	12	35	24 ± 16	12/02/10 - 12/29/10	10	37	23 ± 18	12/02/10 - 12/29/10	9	40	26 ± 20	12/02/10 - 12/29/10	14	38	27 ± 20
12/30/09 - 12/29/10	7	39	20 ± 13	12/30/09 - 12/29/10	7	39	19 ± 13	12/30/09 - 12/29/10	6	43	20 ± 15	12/30/09 - 12/29/10	8	43	20 ± 14

TABLE C-V.3 **CONCENTRATIONS OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY STATION, 2010**

RESULTS IN UNITS OF E-3 PCI/CU METER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
L-01	12/30/09 - 03/31/10	< 4	< 5	< 19	< 2	< 7	< 6	< 9	< 3	< 3	< 1790	< 746
	03/31/10 - 06/30/10	< 4	< 6	< 14	< 3	< 6	< 6	< 12	< 3	< 3	< 649	< 295
	06/30/10 - 09/29/10	< 4	< 6	< 22	< 3	< 10	< 6	< 12	< 4	< 3	< 951	< 469
	09/29/10 - 12/29/10	< 3	< 4	< 11	< 2	< 8	< 5	< 7	< 3	< 2	< 317	< 165
	MEAN	-	-	-	-	-	-	-	-	-	-	-
L-03	12/30/09 - 03/31/10	< 4	< 7	< 29	< 3	< 11	< 7	< 14	< 3	< 2	< 1910	< 979
	03/31/10 - 06/30/10	< 3	< 6	< 23	< 2	< 7	< 6	< 11	< 3	< 3	< 599	< 334
	06/30/10 - 09/29/10	< 2	< 5	< 11	< 2	< 4	< 5	< 8	< 2	< 2	< 467	< 229
	09/29/10 - 12/29/10	< 4	< 4	< 18	< 2	< 10	< 5	< 10	< 3	< 3	< 481	< 184
	MEAN	-	-	-	-	-	-	-	-	-	-	-
L-04	12/30/09 - 03/31/10	< 4	< 5	< 30	< 3	< 9	< 5	< 12	< 4	< 3	< 2350	< 1050
	03/31/10 - 06/30/10	< 5	< 8	< 23	< 5	< 12	< 11	< 17	< 4	< 3	< 1170	< 328
	06/30/10 - 09/29/10	< 3	< 5	< 19	< 3	< 7	< 6	< 11	< 3	< 3	< 866	< 309
	09/29/10 - 12/29/10	< 3	< 6	< 21	< 4	< 8	< 6	< 13	< 4	< 3	< 535	< 162
	MEAN	-	-	-	-	-	-	-	-	-	-	-
L-05	12/30/09 - 03/31/10	< 3	< 7	< 19	< 3	< 5	< 4	< 9	< 3	< 3	< 1470	< 419
	03/31/10 - 06/30/10	< 4	< 8	< 14	< 3	< 12	< 6	< 9	< 5	< 3	< 894	< 271
	06/30/10 - 09/29/10	< 3	< 4	< 14	< 3	< 6	< 6	< 9	< 2	< 2	< 804	< 269
	09/29/10 - 12/29/10	< 3	< 6	< 17	< 3	< 9	< 7	< 9	< 4	< 3	< 482	< 210
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE C-V.3 **CONCENTRATIONS OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY STATION, 2010**

RESULTS IN UNITS OF E-3 PCI/CU METER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
L-06	12/30/09 - 03/31/10	< 4	< 7	< 22	< 2	< 5	< 8	< 15	< 3	< 3	< 2120	< 896
	03/31/10 - 06/30/10	< 2	< 7	< 14	< 4	< 9	< 6	< 12	< 3	< 3	< 893	< 237
	06/30/10 - 09/29/10	< 4	< 6	< 19	< 3	< 8	< 8	< 13	< 3	< 3	< 1090	< 339
	09/29/10 - 12/29/10	< 3	< 3	< 9	< 2	< 6	< 5	< 8	< 2	< 2	< 353	< 134
	MEAN	-	-	-	-	-	-	-	-	-	-	-
L-07	12/30/09 - 03/31/10	< 3	< 7	< 21	< 2	< 10	< 9	< 15	< 4	< 3	< 2350	< 997
	03/31/10 - 06/30/10	< 4	< 7	< 25	< 3	< 12	< 11	< 19	< 4	< 4	< 1160	< 568
	06/30/10 - 09/29/10	< 3	< 6	< 17	< 3	< 8	< 5	< 10	< 2	< 2	< 659	< 195
	09/29/10 - 12/29/10	< 3	< 4	< 10	< 2	< 7	< 5	< 5	< 3	< 2	< 330	< 131
	MEAN	-	-	-	-	-	-	-	-	-	-	-
L-08	12/30/09 - 03/31/10	< 3	< 5	< 22	< 3	< 8	< 7	< 11	< 3	< 3	< 1740	< 521
	03/31/10 - 06/30/10	< 4	< 8	< 20	< 4	< 12	< 8	< 15	< 4	< 3	< 946	< 355
	06/30/10 - 09/29/10	< 2	< 3	< 16	< 3	< 6	< 5	< 6	< 2	< 2	< 624	< 238
	09/29/10 - 12/29/10	< 3	< 5	< 17	< 4	< 8	< 6	< 11	< 4	< 3	< 477	< 163
	MEAN	-	-	-	-	-	-	-	-	-	-	-
L-10	12/30/09 - 03/31/10	< 3	< 8	< 27	< 2	< 8	< 11	< 11	< 4	< 3	< 2310	< 702
	03/31/10 - 06/30/10	< 3	< 5	< 10	< 2	< 9	< 6	< 11	< 3	< 2	< 1020	< 166
	06/30/10 - 09/29/10	< 4	< 6	< 20	< 3	< 7	< 7	< 15	< 3	< 3	< 741	< 362
	09/29/10 - 12/29/10	< 3	< 5	< 16	< 4	< 8	< 5	< 12	< 3	< 3	< 395	< 220
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE C-V.3 **CONCENTRATIONS OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY STATION, 2010**

RESULTS IN UNITS OF E-3 PCI/CU METER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
L-11	12/30/09 - 03/31/10	< 5	< 7	< 24	< 2	< 7	< 10	< 18	< 3	< 3	< 1280	< 761
	03/31/10 - 06/30/10	< 5	< 7	< 29	< 3	< 13	< 10	< 16	< 4	< 4	< 1140	< 342
	06/30/10 - 09/29/10	< 3	< 5	< 16	< 4	< 8	< 6	< 9	< 3	< 2	< 748	< 180
	09/29/10 - 12/29/10	< 2	< 5	< 13	< 3	< 6	< 6	< 8	< 3	< 2	< 375	< 95
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE C-VI.1 CONCENTRATIONS OF I-131 IN AIR IODINE SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY STATION, 2010

RESULTS IN UNITS OF E-3 PCI/CU METER ± 2 SIGMA

COLLECTION PERIOD	GROUP I		GROUP II		GROUP III				GROUP IV
	L-03	L-05	L-01	L-06	L-04	L-07	L-08	L-11	L-10
12/30/09 - 01/07/10	< 58	< 58	< 57	< 50	< 57	< 51	< 51	< 22	< 51
01/07/10 - 01/14/10	< 51	< 52	< 51	< 50	< 51	< 52	< 28	< 51	< 51
01/14/10 - 01/21/10	< 19	< 19	< 8	< 19	< 19	< 17	< 17	< 17	< 17
01/21/10 - 01/28/10	< 41	< 41	< 31	< 41	< 41	< 56	< 56	< 56	< 55
01/28/10 - 02/04/10	< 38	< 51	< 51	< 51	< 51	< 46	< 46	< 46	< 46
02/04/10 - 02/11/10	< 19 (1)	< 19	< 10	< 19	< 19	< 20	< 20	< 20	< 20
02/11/10 - 02/18/10	< 49	< 46	< 49	< 49	< 21	< 43	< 42	< 40	< 42
02/18/10 - 02/25/10	< 21	< 21	< 9	< 21	< 21	< 39	< 39	< 38	< 38
02/25/10 - 03/04/10	< 39	< 21	< 39	< 39	< 39	< 42	< 42	< 42	< 42
03/04/10 - 03/11/10	< 13	< 13	< 7	< 13	< 13	< 16	< 16	< 17	< 16
03/11/10 - 03/18/10	< 41	< 40	< 40	< 30	< 40	< 53	< 53	< 53	< 53
03/18/10 - 03/25/10	< 45	< 45	< 28	< 45	< 45	< 41	< 40	< 39	< 40
03/25/10 - 03/31/10	< 59	< 59	< 59	< 42	< 59	< 24	< 44	< 44	< 44
03/31/10 - 04/08/10	< 11	< 12	< 6	< 11	< 11	< 14	< 14	< 14	< 14
04/08/10 - 04/15/10	< 12	< 12	< 12	< 17	< 12	< 17	< 7	< 17	< 17
04/15/10 - 04/22/10	< 13	< 13	< 7	< 13	< 13	< 18	< 18	< 18	< 18
04/22/10 - 04/28/10	< 36	< 36	< 36	< 28	< 36	< 29	< 29	< 29	< 29
04/28/10 - 05/06/10	< 40	< 41	< 17	< 40	< 40	< 44	< 44	< 44	< 44
05/06/10 - 05/13/10	< 12	< 12	< 12	< 18	< 12	< 17	< 17	< 8	< 19 (1)
05/13/10 - 05/20/10	< 41	< 45	< 22	< 40	< 40	< 54	< 53	< 52	< 52
05/20/10 - 05/27/10	< 24	< 23	< 14	< 24	< 24	< 31	< 31	< 30	< 30
05/27/10 - 06/03/10	< 51	< 51	< 22	< 51	< 51	< 41	< 41	< 42	< 63 (1)
06/03/10 - 06/10/10	< 35	< 63	< 63	< 63	< 63	< 56	< 56	< 55	< 163 (1)
06/10/10 - 06/17/10	< 16	< 16	< 9	< 16	< 16	< 19	< 20	< 20	< 23 (1)
06/17/10 - 06/24/10	< 68	< 68	< 68	< 68	< 37	< 59	< 61	< 61	< 61
06/24/10 - 06/30/10	< 23	< 23	< 13	< 23	< 23	< 26	< 26	< 26	< 26
06/30/10 - 07/08/10	< 43	< 18	< 55 (1)	< 43	< 43	< 42	< 41	< 41	< 41
07/08/10 - 07/15/10	< 59	< 59	< 25	< 59	< 59	< 50	< 51	< 51	< 51
07/15/10 - 07/22/10	< 25	< 14	< 24	< 25	< 24	< 32	< 31	< 31	< 31
07/22/10 - 07/29/10	< 42	< 42	< 23	< 41	< 41	< 63 (1)	< 58	< 58	< 58
07/29/10 - 08/05/10	< 24	< 24	< 24	< 35	< 24	< 15	< 36	< 36	< 36
08/05/10 - 08/11/10	< 22	< 22	< 10	< 22	< 22	< 27	< 27	< 27	< 27
08/11/10 - 08/18/10	< 20	< 21	< 21	< 14	< 20	< 15	< 8	< 14	< 14
08/18/10 - 08/26/10	< 34	< 34	< 34	< 19	< 34	< 42	< 41	< 18	< 42
08/26/10 - 09/02/10	< 34	< 34	< 34	< 28	< 34	< 28	< 28	< 28	< 16
09/02/10 - 09/08/10	< 59	< 59	< 32	< 59	< 59	< 49	< 49	< 49	< 49
09/08/10 - 09/16/10	< 62	< 62	< 62	< 66	< 62	< 66	< 66	< 36	< 66
09/16/10 - 09/23/10	< 42	< 42	< 23	< 41	< 41	< 53	< 53	< 52	< 52
09/23/10 - 09/29/10	< 66	< 64	< 36	< 65	< 65	< 70	< 70	< 70	< 70
09/29/10 - 10/07/10	< 44	< 44	< 23	< 44	< 43	< 58	< 58	< 58	< 58
10/07/10 - 10/14/10	< 25	< 46	< 46	< 46	< 46	< 64	< 66	< 65	< 65
10/14/10 - 10/21/10	< 43	< 45	< 44	< 53	< 44	< 53	< 53	< 23	< 53
10/21/10 - 10/28/10	< 55	< 55	< 55	< 55	< 30	< 60	< 60	< 60	< 60
10/28/10 - 11/04/10	< 22	< 22	< 22	< 18	< 22	< 18	< 18	< 10	< 18
11/04/10 - 11/11/10	< 46	< 29	< 46	< 46	< 46	< 47	< 47	< 47	< 47
11/11/10 - 11/18/10	< 57	< 56	< 57	< 56	< 56	< 58	< 58	< 32	< 58
11/18/10 - 11/24/10	< 46	< 46	< 46	< 25	< 45	< 53	< 53	< 53	< 53
11/24/10 - 12/02/10	< 46	< 46	< 46	< 52	< 46	< 51	< 53	< 29	< 53
12/02/10 - 12/09/10	< 66	< 68	< 68	< 67	< 67	< 42	< 68	< 67	< 68
12/09/10 - 12/16/10	< 13	< 13	< 7	< 13	< 13	< 17	< 18	< 18	< 18
12/16/10 - 12/23/10	< 60	< 60	< 60	< 65	< 60	< 66	< 36	< 66	< 66
12/23/10 - 12/29/10	< 54	< 54	< 30	< 54	< 54	< 64	< 64	< 70	< 70
MEAN	-	-	-	-	-	-	-	-	-

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-VII.1 CONCENTRATIONS OF I-131 IN MILK SAMPLES IN THE VICINITY OF LASALLE COUNTY STATION, 2010

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	CONTROL FARM L-42
01/08/10	< 0.2
02/04/10	< 0.6
03/04/10	< 0.7
04/01/10	< 0.5
05/06/10	< 0.9
05/20/10	< 0.6
06/04/10	< 0.5
06/17/10	< 0.9
07/03/10	< 0.7
07/15/10	< 0.6
07/29/10	< 0.6
08/11/10	< 0.9
08/26/10	< 0.9
09/09/10	< 0.7
09/23/10	< 0.6
10/07/10	< 0.7
10/21/10	< 1.0
11/04/10	< 0.8
12/02/10	< 0.4
MEAN	-

TABLE C-VII.2 CONCENTRATIONS OF GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY STATION, 2010

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
L-42	01/08/10	< 8	< 8	< 16	< 9	< 18	< 11	< 13	< 7	< 7	< 30	< 12
	02/04/10	< 5	< 6	< 11	< 6	< 14	< 6	< 11	< 5	< 5	< 23	< 7
	03/04/10	< 4	< 4	< 10	< 5	< 9	< 5	< 8	< 4	< 5	< 21	< 6
	04/01/10	< 7	< 7	< 16	< 6	< 13	< 8	< 12	< 7	< 7	< 36	< 9
	05/06/10	< 8	< 8	< 13	< 9	< 15	< 8	< 16	< 7	< 9	< 47	< 15
	05/20/10	< 2	< 2	< 6	< 2	< 4	< 2	< 4	< 2	< 2	< 32	< 8
	06/04/10	< 6	< 8	< 21	< 9	< 18	< 8	< 11	< 6	< 8	< 40	< 14
	06/17/10	< 5	< 5	< 11	< 4	< 10	< 6	< 11	< 5	< 6	< 38	< 10
	07/03/10	< 5	< 5	< 13	< 5	< 11	< 6	< 9	< 5	< 5	< 25	< 7
	07/15/10	< 8	< 7	< 16	< 6	< 15	< 7	< 12	< 7	< 8	< 31	< 8
	07/29/10	< 5	< 6	< 12	< 5	< 11	< 6	< 10	< 5	< 5	< 48	< 14
	08/11/10	< 6	< 6	< 15	< 6	< 14	< 6	< 9	< 6	< 6	< 39	< 7
	08/26/10	< 5	< 5	< 12	< 5	< 13	< 6	< 9	< 4	< 5	< 46	< 13
	09/09/10	< 6	< 7	< 17	< 7	< 13	< 7	< 12	< 6	< 6	< 53	< 14
	09/23/10	< 5	< 5	< 13	< 7	< 12	< 5	< 10	< 5	< 6	< 24	< 8
	10/07/10	< 6	< 6	< 12	< 7	< 14	< 7	< 10	< 5	< 6	< 30	< 10
	10/21/10	< 5	< 4	< 10	< 6	< 11	< 4	< 8	< 4	< 5	< 23	< 7
	11/04/10	< 6	< 7	< 17	< 9	< 16	< 7	< 12	< 5	< 6	< 39	< 14
	12/02/10	< 7	< 7	< 17	< 9	< 16	< 8	< 12	< 6	< 6	< 44	< 13
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE C-VIII.1 **CONCENTRATIONS OF GAMMA EMITTERS IN FOOD PRODUCT SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY STATION, 2010**

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
L-CONTROL													
Beets	09/06/10	< 7	< 7	< 19	< 7	< 15	< 8	< 14	< 40	< 6	< 7	< 63	< 18
Cabbage	09/06/10	< 9	< 10	< 24	< 10	< 20	< 11	< 19	< 58	< 8	< 9	< 98	< 22
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
L-QUAD 1													
Broccoli	09/06/10	< 9	< 10	< 26	< 12	< 24	< 10	< 19	< 56	< 7	< 9	< 102	< 23
Potatoes	09/06/10	< 24	< 33	< 74	< 26	< 54	< 35	< 48	< 59	< 19	< 25	< 502	< 121
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
L-QUAD 2													
Broccoli	09/06/10	< 9	< 10	< 26	< 10	< 22	< 10	< 20	< 56	< 9	< 10	< 92	< 30
Onions	09/06/10	< 8	< 10	< 23	< 10	< 19	< 9	< 18	< 53	< 8	< 9	< 85	< 23
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
L-QUAD 3													
Beets	09/06/10	< 6	< 6	< 16	< 7	< 12	< 7	< 13	< 38	< 5	< 7	< 63	< 17
Cabbage	09/06/10	< 8	< 9	< 25	< 10	< 17	< 10	< 18	< 60	< 8	< 10	< 91	< 19
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
L-QUAD 4													
Beets	09/06/10	< 17	< 20	< 57	< 21	< 39	< 24	< 41	< 54	< 13	< 21	< 372	< 114
Cabbage	09/06/10	< 8	< 9	< 23	< 11	< 21	< 10	< 16	< 49	< 7	< 8	< 88	< 25
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

TABLE C-IX.1 QUARTERLY TLD RESULTS FOR LASALLE COUNTY STATION, 2010

RESULTS IN UNITS OF MILLI-ROENTGEN/QUARTER ± 2 STANDARD DEVIATIONS

STATION CODE	MEAN ± 2 S.D.	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC
L-01-1	27.5 ± 10.5	31	23	23	33
L-01-2	29.3 ± 11.7	32	23	26	36
L-03-1	28.0 ± 10.5	33	24	23	32
L-03-2	26.5 ± 10.4	33	21	24	28
L-04-1	25.3 ± 11.0	30	20	21	30
L-04-2	25.5 ± 12.9	30	19	21	32
L-05-1	26.3 ± 12.5	30	20	22	33
L-05-2	27.8 ± 12.8	33	20	25	33
L-06-1	28.8 ± 10.1	33	23	26	33
L-06-2	26.5 ± 10.6	30	21	23	32
L-07-1	27.3 ± 10.8	29	22	24	34
L-07-2	27.3 ± 13.4	32	22	21	34
L-08-1	26.0 ± 13.0	31	19	22	32
L-08-2	28.3 ± 11.0	33	23	24	33
L-10-1	25.3 ± 11.7	28	19	22	32
L-10-2	24.3 ± 11.1	28	19	20	30
L-11-1	23.5 ± 11.6	28	18	19	29
L-11-2	25.0 ± 15.1	31	18	19	32
L-101-1	29.8 ± 14.0	33	23	25	38
L-101-2	27.5 ± 14.5	31	21	22	36
L-102-1	30.8 ± 11.4	34	25	27	37
L-102-2	31.0 ± 12.1	32	25	28	39
L-103-1	27.8 ± 16.2	32	20	22	37
L-103-2	28.8 ± 9.1	31	24	26	34
L-104-1	29.3 ± 14.0	36	21	26	34
L-104-2	29.3 ± 16.9	35	22	22	38
L-105-1	31.5 ± 12.9	33	26	27	40
L-105-2	28.8 ± 11.0	34	24	24	33
L-106-1	27.5 ± 13.2	31	21	23	35
L-106-2	28.5 ± 13.7	31	24	22	37
L-107-1	30.3 ± 15.0	38	26	22	35
L-107-2	27.8 ± 13.3	33	22	22	34
L-108-1	28.8 ± 15.4	32	21	24	38
L-108-2	25.3 ± 13.7	29	20	19	33
L-109-1	29.3 ± 15.9	32	21	25	39
L-109-2	29.3 ± 12.9	32	23	25	37
L-110-1	30.5 ± 13.1	38	25	25	34
L-110-2	30.5 ± 15.0	33	25	24	40
L-112-1	28.3 ± 12.9	31	24	22	36
L-112-2	30.5 ± 14.0	33	27	23	39
L-114-1	31.5 ± 15.2	37	24	26	39
L-114-2	29.0 ± 9.2	33	25	25	33
L-115-1	27.3 ± 12.2	33	22	22	32
L-115-2	26.8 ± 11.1	31	23	21	32
L-116-1	25.8 ± 11.1	30	20	22	31
L-116-2	26.0 ± 12.8	32	20	21	31
L-201-3	26.0 ± 10.7	30	20	23	31
L-201-4	28.5 ± 12.3	33	21	26	34
L-202-3	27.3 ± 14.2	30	22	21	36

TABLE C-IX.1 QUARTERLY TLD RESULTS FOR LASALLE COUNTY STATION, 2010

RESULTS IN UNITS OF MILLI-ROENTGEN/QUARTER ± 2 STANDARD DEVIATIONS

STATION CODE	MEAN ± 2 S.D.	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC
L-202-4	27.0 ± 14.2	31	21	21	35
L-203-1	28.5 ± 15.0	35	22	22	35
L-203-2	29.5 ± 10.6	33	24	26	35
L-204-1	30.5 ± 11.0	33	25	27	37
L-204-2	30.0 ± 10.7	35	24	27	34
L-205-1	30.3 ± 15.0	32	23	26	40
L-205-2	29.5 ± 12.8	34	24	24	36
L-205-3	28.0 ± 14.0	34	21	23	34
L-205-4	29.8 ± 12.5	31	24	26	38
L-206-1	29.3 ± 13.7	33	23	24	37
L-206-2	28.3 ± 12.5	32	24	22	35
L-207-1	28.8 ± 10.1	33	23	26	33
L-207-2	29.0 ± 11.2	31	24	25	36
L-208-1	29.5 ± 10.4	34	25	25	34
L-208-2	28.0 ± 6.7	29	24	27	32
L-209-1	29.0 ± 11.2	31	24	25	36
L-209-2	28.0 ± 10.7	32	22	25	33
L-210-1	31.5 ± 13.2	35	25	27	39
L-210-2	31.3 ± 12.3	33	25	28	39
L-211-1	29.0 ± 11.2	31	25	24	36
L-211-2	29.3 ± 13.2	32	22	26	37
L-212-1	29.5 ± 8.9	31	25	27	35
L-212-2	28.3 ± 10.0	32	23	25	33
L-213-3	27.0 ± 14.2	31	21	21	35
L-213-4	26.8 ± 10.0	30	23	22	32
L-214-3	29.3 ± 15.4	38	21	25	33
L-214-4	28.3 ± 9.8	32	24	24	33
L-215-3	28.3 ± 9.8	32	24	24	33
L-215-4	28.8 ± 10.0	32	24	25	34
L-216-3	30.3 ± 11.5	33	25	26	37
L-216-4	29.8 ± 13.4	35	23	25	36
L-111B-1	28.5 ± 10.5	32	24	24	34
L-111B-2	30.0 ± 9.9	33	28	24	35
L-113A-1	30.0 ± 12.4	33	27	23	37
L-113A-2	30.8 ± 12.5	31	29	24	39

TABLE C-IX.2 MEAN QUARTERLY TLD RESULTS FOR THE INNER RING, OUTER RING, OTHER AND CONTROL LOCATIONS FOR LASALLE COUNTY STATION, 2010

RESULTS IN UNITS OF MILLI-ROENTGEN/QUARTER ± 2 STANDARD DEVIATIONS OF THE STATION DATA

COLLECTION PERIOD	INNER RING ± 2 S.D.	OUTER RING	OTHER	CONTROL
JAN-MAR	32.8 ± 4.2	32.4 ± 3.7	31.2 ± 3.2	28.0 ± 0.0
APR-JUN	23.5 ± 4.9	23.2 ± 2.9	21.0 ± 3.9	19.0 ± 0.0
JUL-SEP	23.7 ± 4.1	24.7 ± 3.8	22.7 ± 4.3	21.0 ± 2.8
OCT-DEC	35.8 ± 5.4	35.1 ± 4.3	32.3 ± 3.9	31.0 ± 2.8

TABLE C-IX.3 SUMMARY OF THE AMBIENT DOSIMETRY PROGRAM FOR LASALLE COUNTY STATION, 2010

RESULTS IN UNITS OF MILLI-ROENTGEN/QUARTER

LOCATION	SAMPLES ANALYZED	PERIOD MINIMUM	PERIOD MAXIMUM	PERIOD MEAN ± 2 S.D.
INNER RING	128	19	40	28.9 ± 11.9
OUTER RING	136	20	40	28.9 ± 10.7
OTHER	64	18	36	26.8 ± 10.7
CONTROL	8	19	32	24.8 ± 10.6

INNER RING STATIONS - L-101-1, L-101-2, L-102-1, L-102-2, L-103-1, L-103-2, L-104-1, L-104-2, L-105-1, L-105-2, L-106-1, L-106-2, L-107-1, L-107-2, L-108-1, L-108-2, L-109-1, L-109-2, L-110-1, L-110-2, L-111B-1, L-111B-2, L-112-1, L-112-2, L-113A-1, L-113A-2, L-114-1, L-114-2, L-115-1, L-115-2, L-116-1, L-116-2

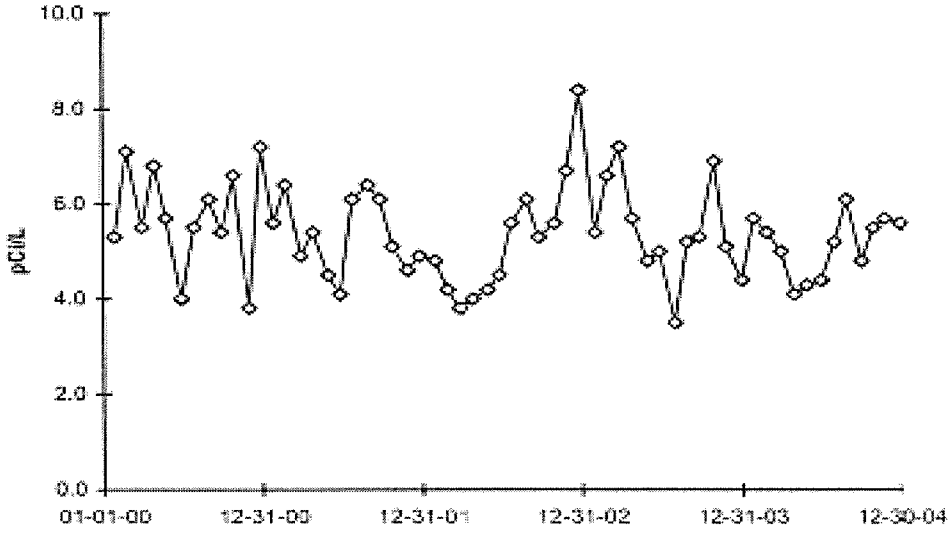
OUTER RING STATIONS - L-201-3, L-201-4, L-202-3, L-202-4, L-203-1, L-203-2, L-204-1, L-204-2, L-205-1, L-205-2, L-205-3, L-205-4, L-206-1, L-206-2, L-207-1, L-207-2, L-208-1, L-208-2, L-209-1, L-209-2, L-210-1, L-210-2, L-211-1, L-211-2, L-212-1, L-212-2, L-213-3, L-213-4, L-214-3, L-214-4, L-215-3, L-215-4, L-216-3, L-216-4

OTHER STATIONS - L-01-1, L-01-2, L-03-1, L-03-2, L-04-1, L-04-2, L-05-1, L-05-2, L-06-1, L-06-2, L-07-1, L-07-2, L-08-1, L-08-2, L-11-1, L-11-2

CONTROL STATIONS - L-10-1, L-10-2

FIGURE C-1
Surface Water - Gross Beta - Stations L-21 (C) and L-40 Collected in the Vicinity of LSCS, 2000 - 2004

L-21 (C) Illinois River at Seneca



L-40 Illinois River Downstream

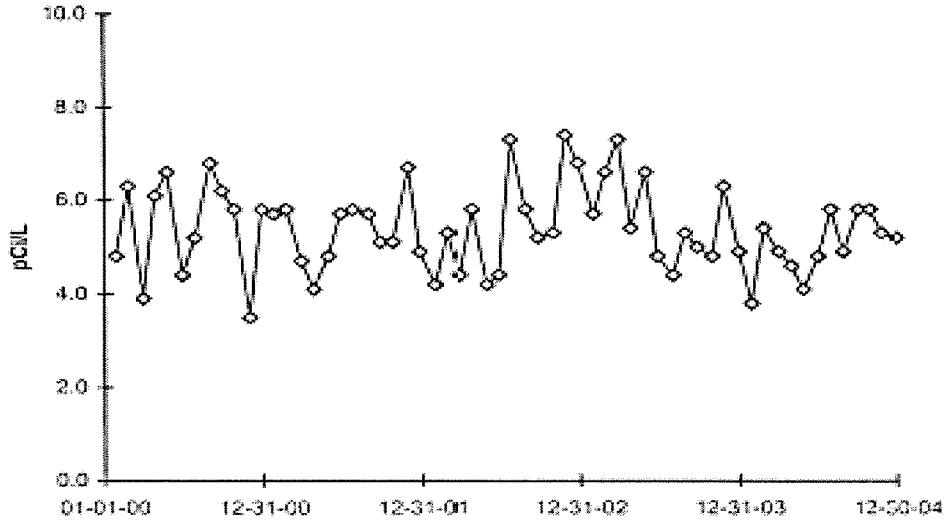
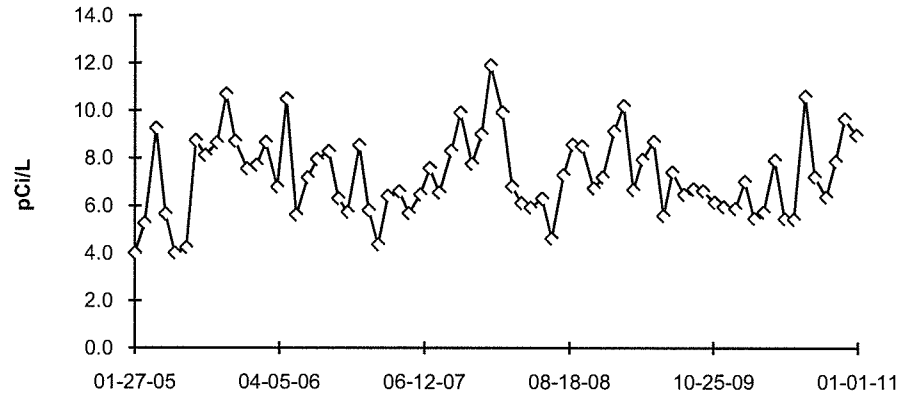
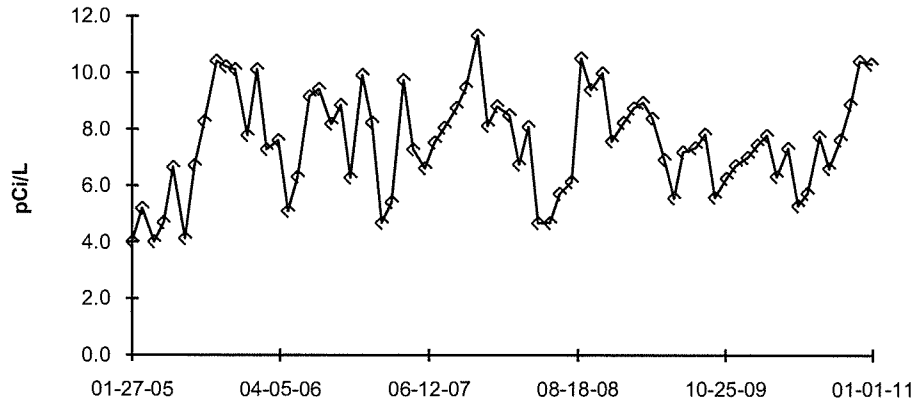


FIGURE C-1 (cont.)
Surface Water - Gross Beta - Stations L-21 (C) and L-40 Collected in the Vicinity of LSCS, 2005 - 2010

L-21 (C) Illinois River at Seneca



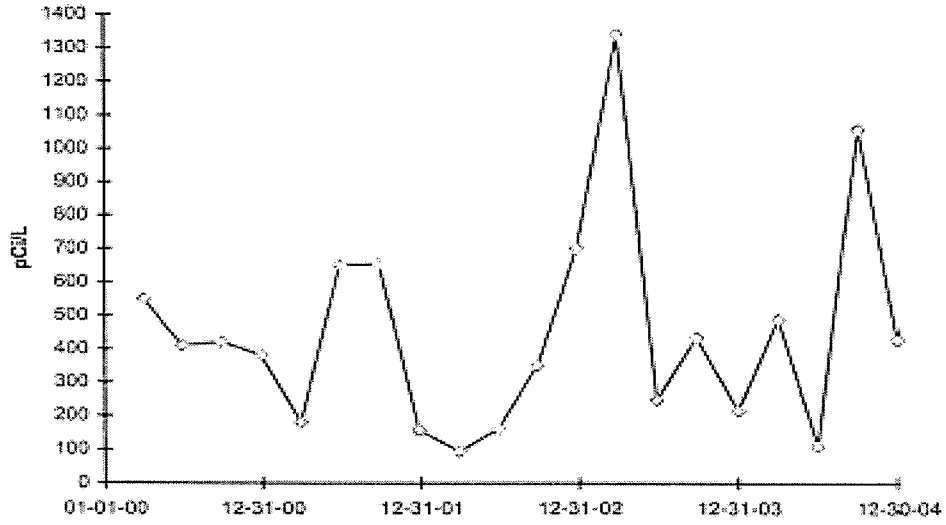
L-40 Illinois River Downstream



DUE TO VENDOR CHANGE IN 2005, < VALUES ARE LLD VALUES JANUARY THROUGH JUNE 2005 AND MDC VALUES AFTER JUNE 2005

FIGURE C-2
Surface Water - Tritium - Stations L-21 (C) and L-40 Collected in the Vicinity of LSCS, 2000 - 2004

L-21(C) Illinois River at Seneca



L-40 Illinois River Downstream

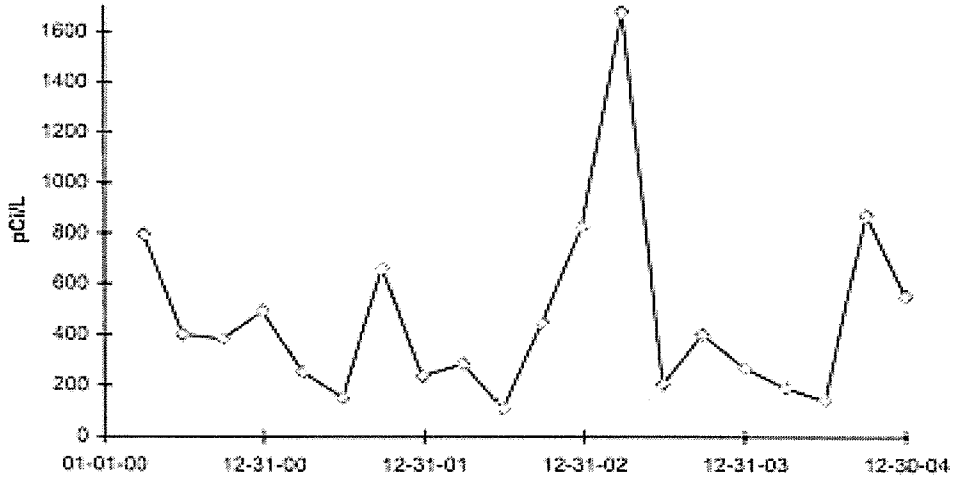
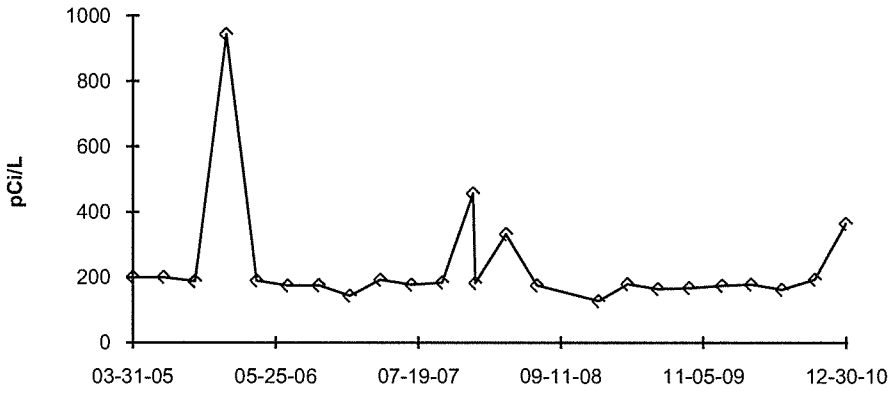
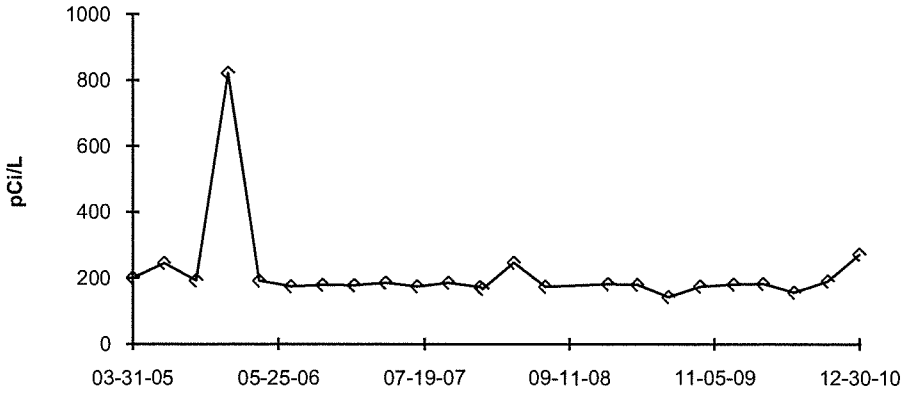


FIGURE C-2 (cont.)
Surface Water - Tritium - Stations L-21 (C) and L-40 Collected in the Vicinity of LSCS, 2005 - 2010

L-21 Illinois River at Seneca



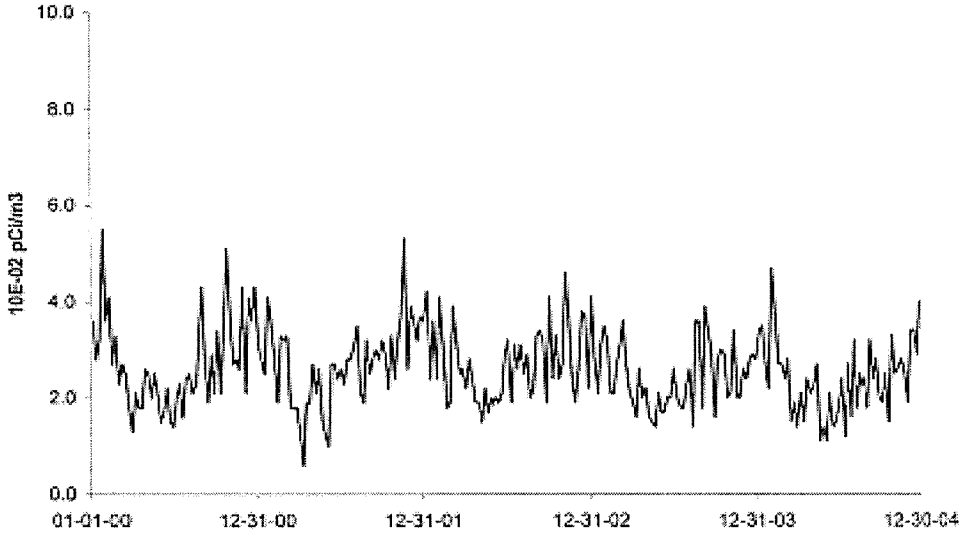
L-40 Illinois River Downstream



DUE TO VENDOR CHANGE IN 2005, < VALUES ARE LLD VALUES JANUARY THROUGH JUNE 2005 AND MDC VALUES AFTER JUNE 2005

FIGURE C-3
Air Particulate - Gross Beta - Stations L-01 and L-03 Collected in the Vicinity of LSCS, 2000 - 2004

L-01 Nearsite No. 1



L-03 Onsite No. 3

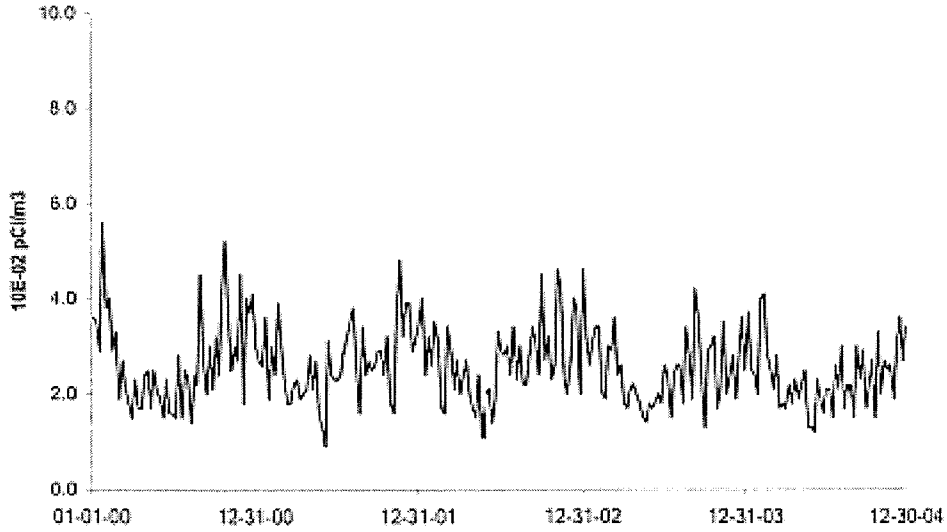
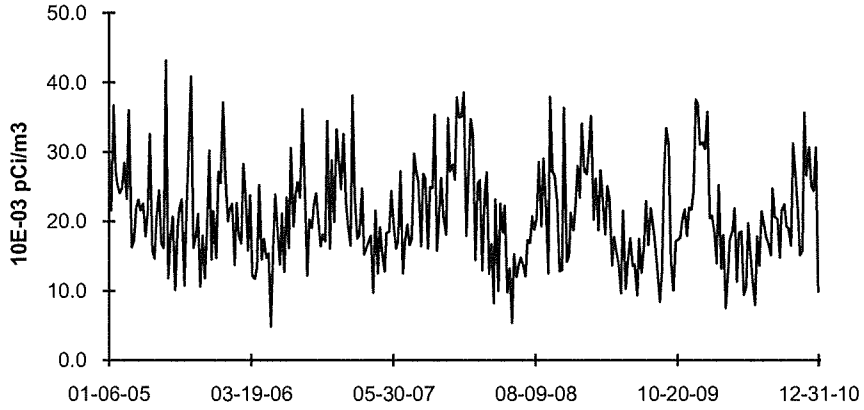
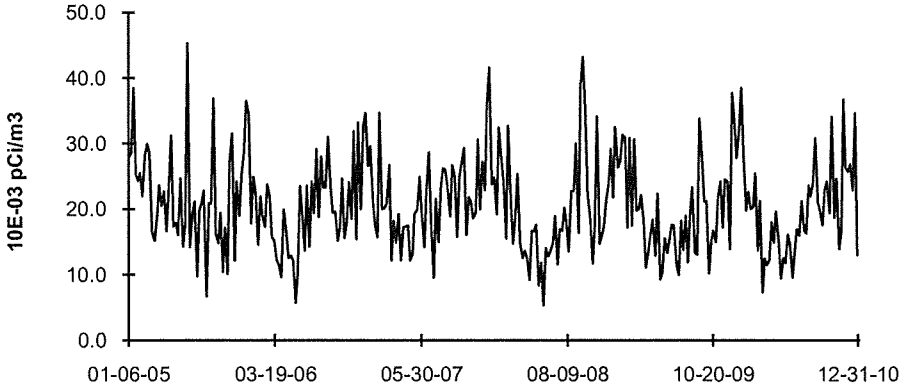


FIGURE C-3 (cont.)
Air Particulate - Gross Beta - Stations L-01 and L-03 Collected in the Vicinity of LSCS, 2005 - 2010

L-01 Nearsite No. 1



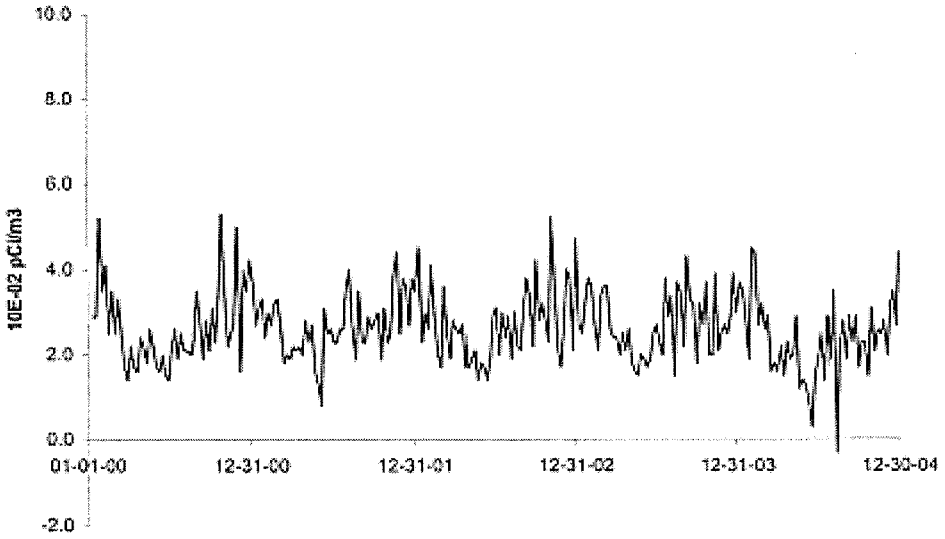
L-03 Onsite No. 3



DUE TO VENDOR CHANGE IN 2005, THE REPORTED UNITS CHANGED FROM E-02 PCI/M3 TO E-03 PCI/M3

FIGURE C-4
Air Particulate - Gross Beta - Stations L-05 and L-06 Collected in the Vicinity of LSCS, 2000 - 2004

L-05 Onsite No. 5



L-06 Nearsite No. 6

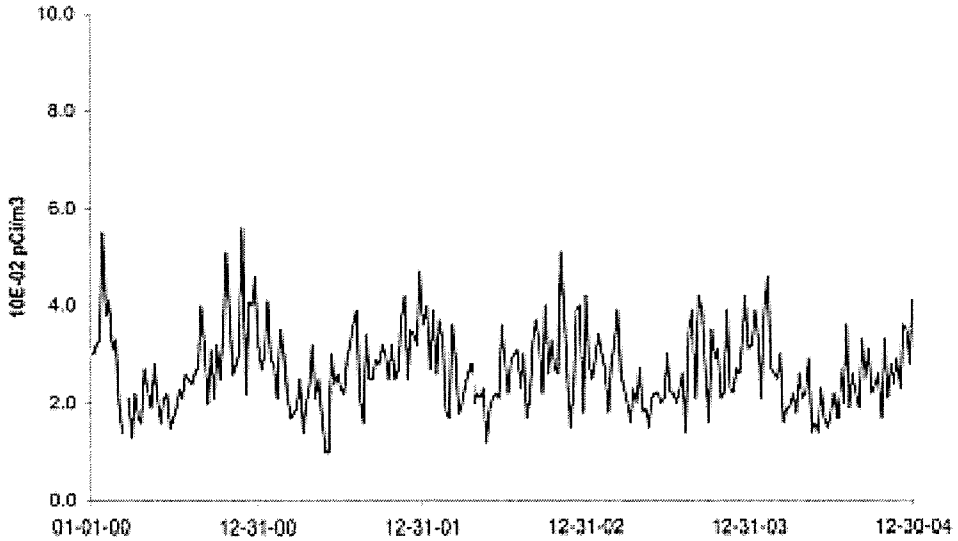
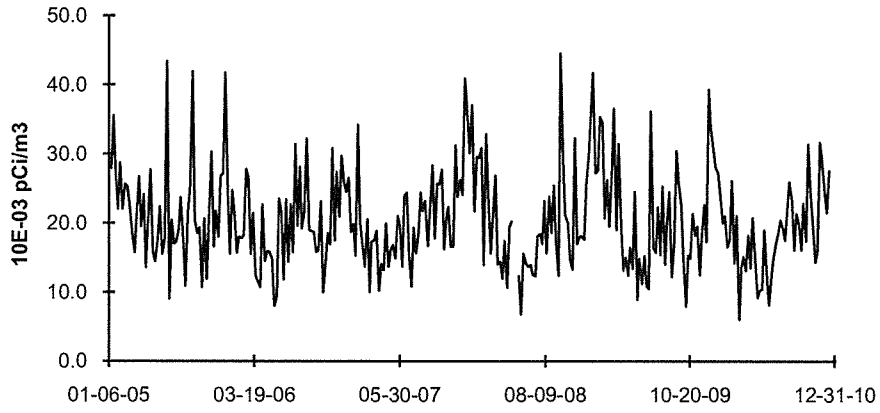
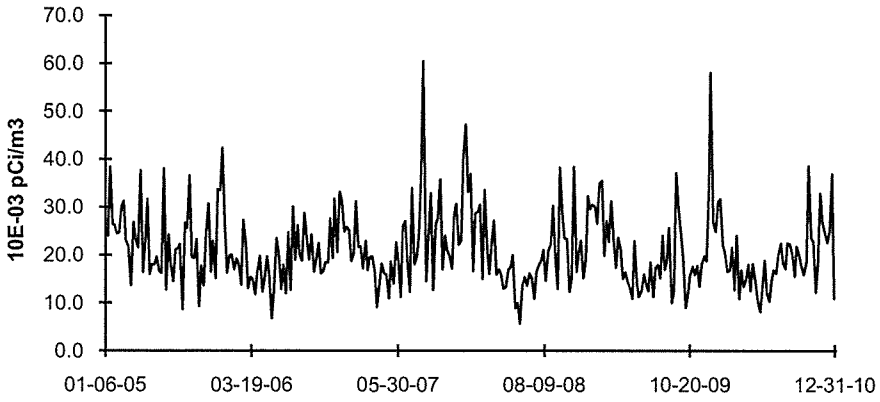


FIGURE C-4 (cont.)
Air Particulate - Gross Beta - Stations L-05 and L-06 Collected in the Vicinity of LSCS, 2005 - 2010

L-05 Onsite No. 5



L-06 Nearsite No. 6



DUE TO VENDOR CHANGE IN 2005, THE REPORTED UNITS CHANGED FROM E-02 PCI/M3 TO E-03 PCI/M3

FIGURE C-5
Air Particulate - Gross Beta - Station L-10 (C)
Collected in the Vicinity of LSCS, 2000 - 2004
L-10 (C) Streator

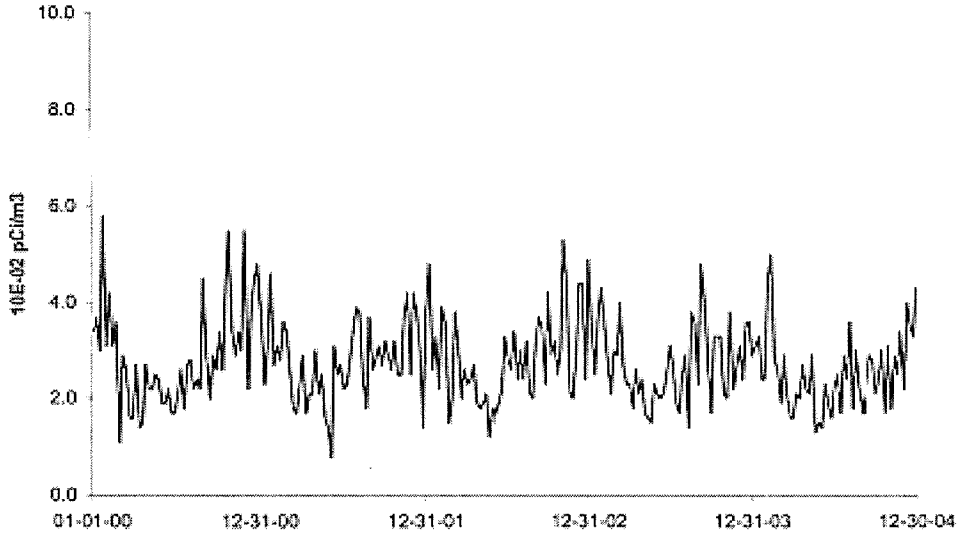
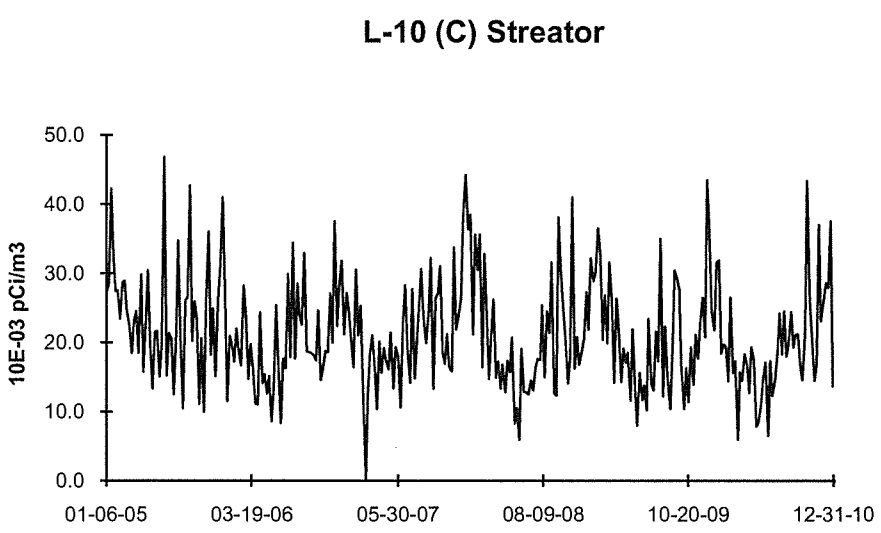


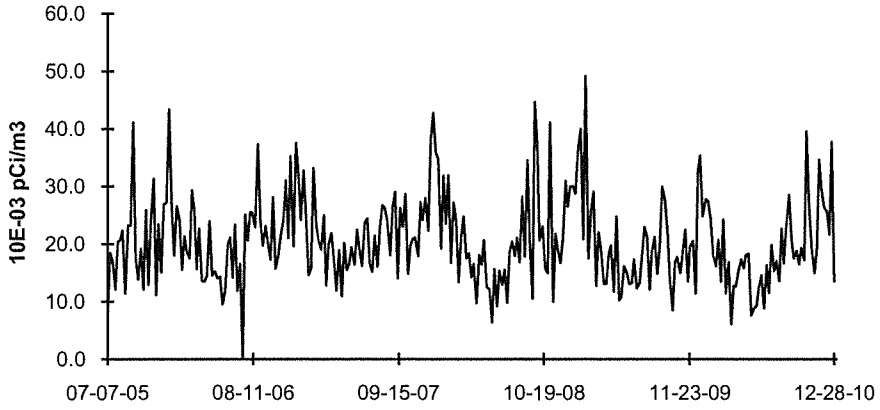
FIGURE C-5 (cont.)
Air Particulate - Gross Beta - Station L-10 (C)
Collected in the Vicinity of LSCS, 2005 - 2010



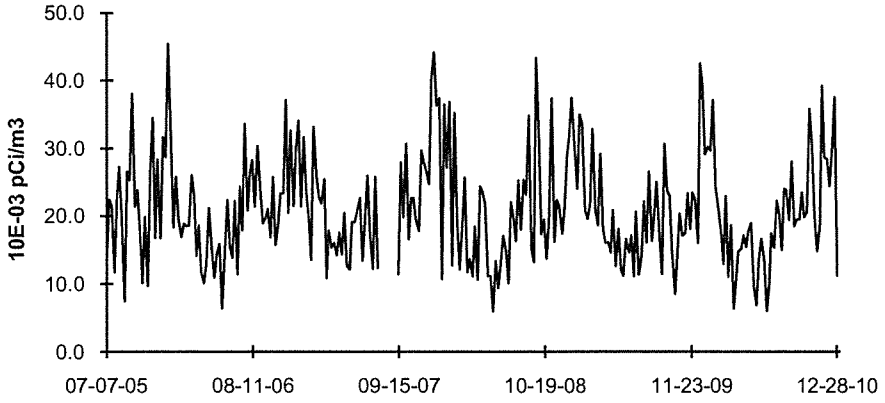
DUE TO VENDOR CHANGE IN 2005, THE REPORTED UNITS CHANGED FROM E-02 PCI/M3 TO E-03 PCI/M3

FIGURE C-6
Air Particulate - Gross Beta - Stations L-04 and L-07 Collected in the Vicinity of LSCS, 2005 - 2010

L-04 Rte. 170



L-07 Seneca

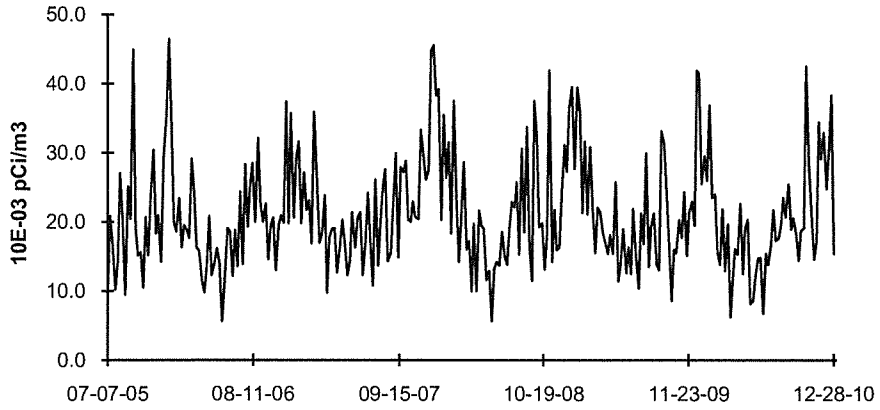


DUE TO VENDOR CHANGE IN 2005, THE REPORTED UNITS CHANGED FROM E-02 PCI/M3 TO E-03 PCI/M3

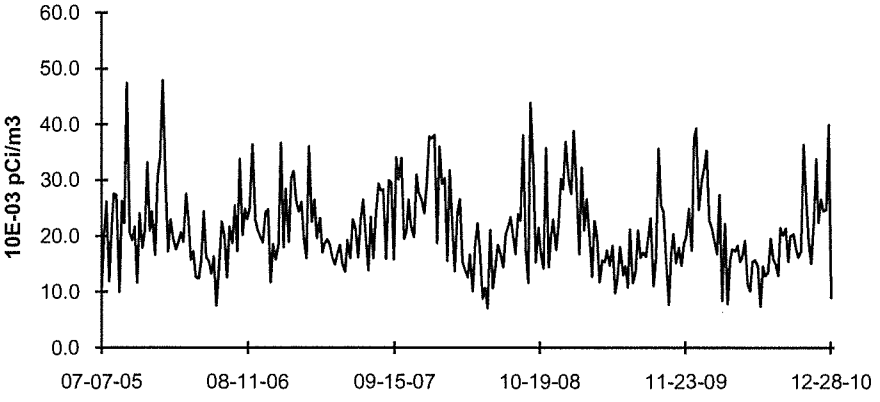
AIR PARTICULATE GROSS BETA ANALYSES OF FAR FIELD LOCATIONS STARTED IN JULY 2005

FIGURE C-7
Air Particulate - Gross Beta - Stations L-08 and L-11 Collected in the Vicinity of LSCS, 2005 - 2010

L-08 Marseilles



L-11 Ransom



DUE TO VENDOR CHANGE IN 2005, THE REPORTED UNITS CHANGED FROM E-02 PCI/M3 TO E-03 PCI/M3

AIR PARTICULATE GROSS BETA ANALYSES OF FAR FIELD LOCATIONS STARTED IN JULY 2005

APPENDIX D

INTER-LABORATORY COMPARISON PROGRAM

TABLE D-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING, 2010
(PAGE 1 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
March 2010	E6978-396	Milk	Sr-89	pCi/L	89.3	92.8	0.96	A
			Sr-90	pCi/L	13.8	12.7	1.09	A
	E6979-396	Milk	I-131	pCi/L	65.2	74.0	0.88	A
			Ce-141	pCi/L	241	261	0.92	A
			Cr-51	pCi/L	388	361	1.07	A
			Cs-134	pCi/L	157	178	0.88	A
			Cs-137	pCi/L	150	158	0.95	A
			Co-58	pCi/L	143	143	1.00	A
			Mn-54	pCi/L	202	207	0.98	A
			Fe-59	pCi/L	146	137	1.07	A
			Zn-65	pCi/L	247	254	0.97	A
			Co-60	pCi/L	177	183	0.97	A
	E6981-396	AP	Ce-141	pCi	211	185	1.14	A
			Cr-51	pCi	304	255	1.19	A
			Cs-134	pCi	142	125	1.14	A
			Cs-137	pCi	131	111	1.18	A
			Co-58	pCi	119	101	1.18	A
			Mn-54	pCi	162	146	1.11	A
			Fe-59	pCi	110	97	1.14	A
			Zn-65	pCi	217	179	1.21	W
			Co-60	pCi	145	129	1.12	A
	E6980-396	Charcoal	I-131	pCi	80.2	85.6	0.94	A
June 2010	E7132-396	Milk	Sr-89	pCi/L	82.0	93.4	0.88	A
			Sr-90	pCi/L	15.8	16.7	0.95	A
	E7133-396	Milk	I-131	pCi/L	83.5	96.9	0.86	A
			Ce-141	pCi/L	107	110	0.97	A
			Cr-51	pCi/L	325	339	0.96	A
			Cs-134	pCi/L	114	126	0.90	A
			Cs-137	pCi/L	144	150	0.96	A
			Co-58	pCi/L	92.3	101	0.91	A
			Mn-54	pCi/L	165	169	0.98	A
			Fe-59	pCi/L	121	119	1.02	A
			Zn-65	pCi/L	197	206	0.96	A
			Co-60	pCi/L	190	197	0.96	A
	E7135-396	AP	Ce-141	pCi	88.4	91.6	0.97	A
			Cr-51	pCi	292	282	1.04	A
			Cs-134	pCi	101	105	0.96	A
			Cs-137	pCi	132	125	1.06	A
			Co-58	pCi	87.3	84.0	1.04	A
			Mn-54	pCi	150	140	1.07	A
			Fe-59	pCi	105	98.6	1.06	A
			Zn-65	pCi	168	171	0.98	A
			Co-60	pCi	170	163	1.04	A
	E7134-396	Charcoal	I-131	pCi	76.4	79.9	0.96	A

TABLE D-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING, 2010
(PAGE 2 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
September 2010	E7229-396	Milk	Sr-89	pCi/L	85.0	92.8	0.92	A
			Sr-90	pCi/L	12.6	14.7	0.86	A
	E7230-396	Milk	I-131	pCi/L	80.2	94.1	0.85	A
			Ce-141	pCi/L	130	130	1.00	A
			Cr-51	pCi/L	235	234	1.00	A
			Cs-134	pCi/L	83.2	93.0	0.89	A
			Cs-137	pCi/L	95.1	94.5	1.01	A
			Co-58	pCi/L	77.3	73.7	1.05	A
			Mn-54	pCi/L	121	119	1.02	A
			Fe-59	pCi/L	96.4	91.1	1.06	A
			Zn-65	pCi/L	216	204	1.06	A
			Co-60	pCi/L	172	171	1.01	A
	E7232-396	AP	Ce-141	pCi	122	119	1.03	A
			Cr-51	pCi	228	214	1.07	A
			Cs-134	pCi	79.9	85.3	0.94	A
			Cs-137	pCi	93.8	86.7	1.08	A
			Co-58	pCi	71.5	67.6	1.06	A
			Mn-54	pCi	113	110	1.03	A
			Fe-59	pCi	73.8	83.6	0.88	A
			Zn-65	pCi	186	187	0.99	A
			Co-60	pCi	163	157	1.04	A
	E7231-396	Charcoal	I-131	pCi/L	62.3	59.9	1.04	A
December 2010	E7375-396	Milk	Sr-89	pCi/L	92.7	98.0	0.95	A
			Sr-90	pCi/L	13.5	13.5	1.00	A
	E7376-396	Milk	I-131	pCi/L	87.9	96.9	0.91	A
			Ce-141	pCi/L	not provided by Analytics for this study			
			Cr-51	pCi/L	389	456	0.85	A
			Cs-134	pCi/L	137	157	0.87	A
			Cs-137	pCi/L	172	186	0.92	A
			Co-58	pCi/L	84.3	90.2	0.93	A
			Mn-54	pCi/L	120	120	1.00	A
			Fe-59	pCi/L	134	131	1.02	A
			Zn-65	pCi/L	162	174	0.93	A
			Co-60	pCi/L	284	301	0.94	A
	E7378-396	AP	Ce-141	pCi	not provided by Analytics for this study			
			Cr-51	pCi	387	365	1.06	A
			Cs-134	pCi	135	126	1.07	A
			Cs-137	pCi	157	149	1.05	A
			Co-58	pCi	73.6	72.3	1.02	A
			Mn-54	pCi	88.7	96	0.92	A
			Fe-59	pCi	127	105	1.21	W
			Zn-65	pCi	151	139	1.09	A
			Co-60	pCi	249	241	1.03	A

TABLE D-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING, 2010
(PAGE 3 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
December 2010	E7377-396	Charcoal	I-131	pCi	79.6	84.2	0.95	A

(a) Teledyne Brown Engineering reported result.

(b) The Analytics known value is equal to 100% of the parameter present in the standard as determined by gravimetric and/or volumetric measurements made during standard preparation.

(c) Ratio of Teledyne Brown Engineering to Analytics results.

(d) Analytics evaluation based on TBE internal QC limits: A= Acceptable. Reported result falls within ratio limits of 0.80-1.20. W-Acceptable with warning. Reported result falls within 0.70-0.80 or 1.20-1.30. N = Not Acceptable. Reported result falls outside the ratio limits of < 0.70 and > 1.30.

TABLE D-2 **ERA ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM**
TELEDYNE BROWN ENGINEERING, 2010
(PAGE 1 OF 1)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Control Limits	Evaluation (c)
May 2010	RAD-81	Water	Sr-89	pCi/L	64.4	60.4	48.6 - 68.2	A
			Sr-90	pCi/L	37.8	41.3	30.4 - 47.4	A
			Ba-133	pCi/L	66.4	65.9	54.9 - 72.5	A
			Cs-134	pCi/L	66.43	71.6	58.4 - 78.8	A
			Cs-137	pCi/L	137.33	146	131 - 163	A
			Co-60	pCi/L	83.33	84.5	76.0 - 95.3	A
			Zn-65	pCi/L	177	186	167 - 219	A
			Gr-A	pCi/L	26.37	32.9	16.9 - 42.6	A
			Gr-B	pCi/L	28.77	37.5	24.7 - 45.0	A
			I-131	pCi/L	26.27	26.4	21.9 - 31.1	A
			H-3	pCi/L	12967	12400	10800 - 13600	A
November 2010	RAD-83	Water	Sr-89	pCi/L	77.8	68.5	55.8 - 76.7	N (1)
			Sr-90	pCi/L	39.3	43.0	31.7 - 49.3	A
			Ba-133	pCi/L	70.3	68.9	57.5 - 75.8	A
			Cs-134	pCi/L	39.9	43.2	34.5 - 47.5	A
			Cs-137	pCi/L	117	123	111 - 138	A
			Co-60	pCi/L	53.5	53.4	48.1 - 61.3	A
			Zn-65	pCi/L	11.0	102	91.8 - 122	N (2)
			Gr-A	pCi/L	35.1	42.3	21.9 - 53.7	A
			Gr-B	pCi/L	35.5	36.6	24.0 - 44.2	A
			I-131	pCi/L	27.9	27.5	22.9 - 32.3	A
			H-3	pCi/L	13233	12900	11200 - 14200	A

(1) Sr-89 TBE to known ratio of 1.14 fell within acceptable range of ± 20%. No action required. NCR 10-09

(2) Zn-65 result of 111 was incorrectly reported as 11.0. No action required. NCR 10-09

(a) Teledyne Brown Engineering reported result.

(b) The ERA known value is equal to 100% of the parameter present in the standard as determined by gravimetric and/or volumetric measurements made during standard preparation.

(c) ERA evaluation: A=acceptable. Reported result falls within the Warning Limits. NA=not acceptable. Reported result falls outside of the Control Limits. CE=check for Error. Reported result falls within the Control Limits and outside of the Warning Limit.

TABLE D-3 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)
TELEDYNE BROWN ENGINEERING, 2010
(PAGE 1 OF 2)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Acceptance Range	Evaluation (c)
March 2010	10-MaW22	Water	Cs-134	Bq/L	-0.0942		(1)	A
			Cs-137	Bq/L	58.5	60.6	42.4 - 78.8	A
			Co-57	Bq/L	27.2	28.3	19.8 - 36.8	A
			Co-60	Bq/L	0.0226		(1)	A
			H-3	Bq/L	104	90.8	63.6 - 118.0	A
			Mn-54	Bq/L	26.6	26.9	18.8 - 35.0	A
			Sr-90	Bq/L	0.1029		(1)	A
			Zn-65	Bq/L	42.0	40.7	28.5 - 52.9	A
	10-GrW22	Water	Gr-A	Bq/L	0.5173	0.676	0.00 - 1.352	A
			Gr-B	Bq/L	3.98	3.09	1.55 - 4.64	A
	10-MaS22	Soil	Cs-134	Bq/kg	665	733	513 - 953	A
			Cs-137	Bq/kg	800	779	545 - 1013	A
			Co-57	Bq/kg	508	522	365 - 679	A
			Co-60	Bq/kg	648	622	435 - 809	A
			Mn-54	Bq/kg	893	849	594 - 1104	A
			K-40	Bq/kg	597	559	391 - 727	A
			Sr-90	Bq/kg	221	288	202 - 374	W
			Zn-65	Bq/kg	-4.97		(1)	A
	10-RdF22	AP	Cs-134	Bq/sample	1.81	2.13	1.49 - 2.77	A
			Cs-137	Bq/sample	1.70	1.53	1.07 - 1.99	A
			Co-57	Bq/sample	0.0056		(1)	A
			Co-60	Bq/sample	2.65	2.473	1.731 - 3.215	A
			Mn-54	Bq/sample	3.70	3.02	2.11 - 3.93	W
			Sr-90	Bq/sample	0.0523		(1)	A
			Zn-65	Bq/sample	-0.0627		(1)	A
	10-GrF22	AP	Gr-A	Bq/sample	0.1533	0.0427	0.00 - 0.854	A
			Gr-B	Bq/sample	1.240	1.29	0.65 - 1.94	A
	10-RdV22	Vegetation	Cs-134	Bq/sample	4.48	4.39	3.07 - 5.71	A
			Cs-137	Bq/sample	3.43	3.06	2.14 - 3.98	A
			Co-57	Bq/sample	-0.0117		(1)	A
			Co-60	Bq/sample	3.55	3.27	2.29 - 4.25	A
			Mn-54	Bq/sample	0.007		(1)	A
			Sr-90	Bq/sample	-0.0002		(1)	A
			Zn-65	Bq/sample	8.12	7.10	4.97 - 9.23	A
September 2010	10-MaW23	Water	Cs-134	Bq/L	27.1	31.4	22.0 - 40.8	A
			Cs-137	Bq/L	41.8	44.2	30.9 - 57.5	A
			Co-57	Bq/L	33.2	36.0	25.2 - 46.8	A
			Co-60	Bq/L	26.5	28.3	19.8 - 36.8	A
			H-3	Bq/L	500	453.4	317.4 - 589.4	A
			Mn-54	Bq/L	0.024		(1)	A
			Sr-90	Bq/L	8.10	8.3	5.8 - 10.8	A
			Zn-65	Bq/L	30.8	31.0	21.7 - 40.3	A
	10-GrW23	Water	Gr-A	Bq/L	2.36	1.92	0.58 - 3.26	A
			Gr-B	Bq/L	6.37	4.39	2.20 - 6.59	A

TABLE D-3 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)
TELEDYNE BROWN ENGINEERING, 2010
(PAGE 2 OF 2)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Acceptance Range	Evaluation (c)
September 2010	10-MaS23	Soil	Cs-134	Bq/kg	837	940	658 - 1222	A
			Cs-137	Bq/kg	680	670	469 - 871	A
			Co-57	Bq/kg	2.78		(1)	A
			Co-60	Bq/kg	350	343	240 - 446	A
			Mn-54	Bq/kg	853	820	574 - 1066	A
			K-40	Bq/kg	721	699	489 - 909	A
			Sr-90	Bq/kg	2.24		(1)	A
			Zn-65	Bq/kg	287	265	186 - 345	A
	10-RdF23	AP	Cs-134	Bq/sample	2.31	2.98	2.09 - 3.87	W
			Cs-137	Bq/sample	-0.025		(1)	A
			Co-57	Bq/sample	3.64	4.08	2.86 - 5.380	A
			Co-60	Bq/sample	2.81	2.92	2.04 - 3.80	A
			Mn-54	Bq/sample	3.19	3.18	2.23- 4.13	A
			Sr-90	Bq/sample	1.01	1.01	0.71 - 1.31	A
			Zn-65	Bq/sample	0.0310		(1)	A
	10-GrF23	AP	Gr-A	Bq/sample	0.004		(1)	A
			Gr-B	Bq/sample	0.473	0.50	0.25 - 0.75	A
	10-RdV23	Vegetation	Cs-134	Bq/sample	4.90	4.79	3.35 - 6.23	A
			Cs-137	Bq/sample	6.78	5.88	4.12 - 7.64	A
			Co-57	Bq/sample	10.2	8.27	5.79 - 10.75	W
			Co-60	Bq/sample	0.00		(1)	A
			Mn-54	Bq/sample	7.36	6.287	4.401 - 8.173	A
			Sr-90	Bq/sample	2.53	2.63	1.84 - 3.42	A
			Zn-65	Bq/sample	6.40	5.3900	3.77 - 7.01	A

(1) False positive test.

(a) Teledyne Brown Engineering reported result.

(b) The MAPEP known value is equal to 100% of the parameter present in the standard as determined by gravimetric and/or volumetric measurements made during standard preparation.

(c) DOE/MAPEP evaluation: A=acceptable, W=acceptable with warning, N=not acceptable.

TABLE D-4 **ERA (a) STATISTICAL SUMMARY PROFICIENCY TESTING PROGRAM[a]**
ENVIRONMENTAL, INC., 2010

Lab Code	Date	Analysis	Concentration (pCi/L) Laboratory Result[b]	ERA Result[c]	Control Limits	Acceptance
STW-1205	04/05/10	Sr-89	63.0 ± 5.7	60.4	48.6 - 68.2	Pass
STW-1205	04/05/10	Sr-90	37.4 ± 2.4	41.3	30.4 - 47.4	Pass
STW-1206	04/05/10	Ba-133	63.6 ± 3.3	65.9	54.9 - 72.5	Pass
STW-1206	04/05/10	Co-60	83.3 ± 2.9	84.5	76.0 - 95.3	Pass
STW-1206	04/05/10	Cs-134	71.0 ± 3.4	71.6	58.4 - 78.8	Pass
STW-1206	04/05/10	Cs-137	145.5 ± 5.1	146.0	131.0 - 163.0	Pass
STW-1206	04/05/10	Zn-65	194.9 ± 7.8	186.0	167.0 - 219.0	Pass
STW-1207	04/05/10	Gr. Alpha	26.5 ± 1.7	32.9	16.9 - 42.6	Pass
STW-1207	04/05/10	Gr. Beta	34.5 ± 1.6	37.5	24.7 - 45.0	Pass
STW-1208	04/05/10	I-131	22.7 ± 0.8	26.4	21.9 - 31.1	Pass
STW-1210	04/05/10	H-3	12955 ± 332	12400.0	10800 - 13600	Pass
STW-1224	10/04/10	Sr-89	65.3 ± 5.7	68.5	55.8 - 76.7	Pass
STW-1224	10/04/10	Sr-90	39.9 ± 2.3	43.0	31.7 - 49.3	Pass
STW-1225	10/04/10	Ba-133	67.2 ± 4.3	68.9	57.5 - 75.8	Pass
STW-1225	10/04/10	Co-60	53.2 ± 3.3	53.4	48.1 - 61.3	Pass
STW-1225	10/04/10	Cs-134	47.3 ± 5.1	43.2	34.5 - 47.5	Pass
STW-1225	10/04/10	Cs-137	118.0 ± 5.9	123.0	111.0 - 138.0	Pass
STW-1225	10/04/10	Zn-65	107.0 ± 8.7	102.0	91.8 - 122.0	Pass
STW-1226	10/04/10	Gr. Alpha	30.7 ± 2.9	42.3	21.9 - 53.7	Pass
STW-1226	10/04/10	Gr. Beta	32.7 ± 0.8	36.6	24.0 - 44.2	Pass
STW-1227	10/04/10	I-131	28.6 ± 1.1	27.5	22.9 - 32.3	Pass
STW-1229	10/04/10	H-3	13682 ± 352	12900.0	11200 - 14200	Pass

[a] Results obtained by Environmental, Inc., Midwest Laboratory as a participant in the crosscheck program for proficiency testing in drinking water conducted by Environmental Resources Associates (ERA).

[b] Unless otherwise indicated, the laboratory result is given as the mean ± standard deviation for three determinations.

[c] Results are presented as the known values, expected laboratory precision (1 sigma, 1 determination) and control limits as provided by ERA.

TABLE D-5 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)[a] ENVIRONMENTAL, INC., 2010

			Concentration [b]			
Lab Code [c]	Date	Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STVE-1199	03/01/10	Co-57	0.01 ± 0.03	0.00	-	Pass
STVE-1199	03/01/10	Co-60	3.39 ± 0.12	3.27	2.29 - 4.25	Pass
STVE-1199	03/01/10	Cs-134	4.74 ± 0.15	4.39	3.07 - 5.71	Pass
STVE-1199	03/01/10	Cs-137	3.32 ± 0.17	3.06	2.14 - 3.98	Pass
STVE-1199	03/01/10	Mn-54	0.01 ± 0.05	0.00	-	Pass
STVE-1199	03/01/10	Zn-65	8.03 ± 0.33	7.10	4.97 - 9.23	Pass
STW-1200	03/01/10	Gr. Alpha	0.40 ± 0.05	0.68	0.00 - 1.35	Pass
STW-1200	03/01/10	Gr. Beta	3.03 ± 0.07	3.09	1.55 - 4.64	Pass
STW-1201	03/01/10	Co-57	28.90 ± 0.40	28.30	19.80 - 36.80	Pass
STW-1201	03/01/10	Co-60	0.06 ± 0.05	0.00	-	Pass
STW-1201	03/01/10	Cs-134	-0.03 ± 0.09	0.00	-	Pass
STW-1201	03/01/10	Cs-137	60.60 ± 0.60	60.60	42.40 - 78.80	Pass
STW-1201	03/01/10	H-3	93.20 ± 18.30	90.80	63.60 - 118.00	Pass
STW-1201	03/01/10	Mn-54	27.80 ± 0.40	26.90	18.80 - 35.00	Pass
STW-1201	03/01/10	Sr-90	-0.10 ± 0.60	0.00	-	Pass
STW-1201	03/01/10	Zn-65	42.70 ± 0.80	40.70	28.50 - 52.90	Pass
STSO-1202	03/01/10	Co-57	520.00 ± 10.80	522.00	365.00 - 679.00	Pass
STSO-1202	03/01/10	Co-60	599.10 ± 2.80	622.00	435.00 - 809.00	Pass
STSO-1202	03/01/10	Cs-134	666.10 ± 4.70	733.00	513.00 - 953.00	Pass
STSO-1202	03/01/10	Cs-137	774.40 ± 4.50	779.00	545.00 - 1013.00	Pass
STSO-1202	03/01/10	K-40	562.00 ± 15.30	559.00	391.00 - 727.00	Pass
STSO-1202	03/01/10	Mn-54	866.20 ± 4.60	849.00	594.00 - 1104.00	Pass
STSO-1202	03/01/10	Sr-90	225.50 ± 11.80	288.00	202.00 - 374.00	Pass
STSO-1202	03/01/10	Zn-65	-1.23 ± 1.96	0.00	-	Pass
STAP-1203	03/01/10	Co-57	0.01 ± 0.02	0.00	-	Pass
STAP-1203	03/01/10	Co-60	2.63 ± 0.19	2.47	1.73 - 3.22	Pass
STAP-1203	03/01/10	Cs-134	2.21 ± 0.34	2.13	1.49 - 2.77	Pass
STAP-1203	03/01/10	Cs-137	1.66 ± 0.22	1.53	1.07 - 1.99	Pass
STAP-1203	03/01/10	Mn-54	3.42 ± 0.26	3.02	2.11 - 3.93	Pass
STAP-1203	03/01/10	Sr-90	0.02 ± 0.06	0.00	-	Pass
STAP-1203	03/01/10	Zn-65	-0.05 ± 0.11	0.00	-	Pass
STAP-1204	03/01/10	Gr. Alpha	0.13 ± 0.03	0.43	0.00 - 0.85	Pass
STAP-1204	03/01/10	Gr. Beta	1.46 ± 0.07	1.29	0.65 - 1.94	Pass

TABLE D-5 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)[a] ENVIRONMENTAL, INC., 2010

			Concentration [b]			
Lab Code [c]	Date	Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STW-1211	08/01/10	Co-57	36.40 ± 4.80	36.00	25.20 - 46.80	Pass
STW-1211	08/01/10	Co-60	28.30 ± 1.00	28.30	19.80 - 36.80	Pass
STW-1211	08/01/10	Cs-134	29.30 ± 2.10	31.40	22.00 - 40.80	Pass
STW-1211	08/01/10	Cs-137	44.60 ± 1.80	44.20	30.90 - 57.50	Pass
STW-1211	08/01/10	H-3	503.60 ± 12.80	453.40	317.40 - 589.40	Pass
STW-1211	08/01/10	K-40	38.50 ± 2.50	38.90	27.20 - 50.60	Pass
STW-1211	08/01/10	Mn-54	0.10 ± 0.30	0.00	-	Pass
STW-1211	08/01/10	Sr-90	9.20 ± 1.30	8.30	5.80 - 10.80	Pass
STW-1211	08/01/10	Zn-65	32.80 ± 3.00	31.00	21.70 - 40.30	Pass
STW-1212	08/01/10	Gr. Alpha	1.54 ± 0.09	1.92	0.58 - 3.26	Pass
STW-1212	08/01/10	Gr. Beta	4.13 ± 0.15	4.39	2.20 - 6.59	Pass
STVE-1213	08/01/10	Co-57	9.60 ± 0.54	8.27	5.79 - 10.75	Pass
STVE-1213	08/01/10	Co-60	0.05 ± 0.08	0.00	-	Pass
STVE-1213	08/01/10	Cs-134	4.83 ± 0.26	4.79	3.35 - 6.23	Pass
STVE-1213	08/01/10	Cs-137	6.45 ± 0.66	5.88	4.12 - 7.64	Pass
STVE-1213	08/01/10	Mn-54	7.12 ± 0.66	6.29	4.40 - 8.17	Pass
STVE-1213	08/01/10	Zn-65	6.05 ± 0.74	5.39	3.77 - 7.01	Pass
STSO-1214	08/01/10	Co-57	0.10 ± 1.60	0.00	-	Pass
STSO-1214	08/01/10	Co-60	370.00 ± 6.00	343.00	240.00 - 446.00	Pass
STSO-1214	08/01/10	Cs-134	1005.00 ± 21.00	940.00	658.00 - 1222.00	Pass
STSO-1214	08/01/10	Cs-137	755.00 ± 15.00	670.00	469.00 - 871.00	Pass
STSO-1214	08/01/10	K-40	783.00 ± 54.00	699.00	489.00 - 909.00	Pass
STSO-1214	08/01/10	Mn-54	942.00 ± 15.00	820.00	574.00 - 1066.00	Pass
STSO-1214	08/01/10	Sr-90	3.50 ± 8.00	0.00	-	Pass
STSO-1214	08/01/10	Zn-65	310.00 ± 18.00	265.00	186.00 - 345.00	Pass
STAP-1215	08/01/10	Co-57	4.47 ± 0.21	4.08	2.86 - 5.30	Pass
STAP-1215	08/01/10	Co-60	3.15 ± 0.30	2.92	2.04 - 3.80	Pass
STAP-1215	08/01/10	Cs-134	3.03 ± 0.17	2.98	2.09 - 3.87	Pass
STAP-1215	08/01/10	Cs-137	0.01 ± 0.05	0.00	-	Pass
STAP-1215	08/01/10	Mn-54	3.69 ± 0.39	3.18	2.23 - 4.13	Pass
STAP-1215	08/01/10	Sr-90	1.00 ± 0.12	1.01	0.71 - 1.31	Pass
STAP-1215	08/01/10	Zn-65	0.03 ± 0.15	0.00	-	Pass

TABLE D-5 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)[a] ENVIRONMENTAL, INC., 2010

			Concentration [b]			
Lab Code [c]	Date	Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STAP-1216	08/01/10	Gr. Alpha	0.01 ± 0.01	0.00	-	Pass
STAP-1216	08/01/10	Gr. Beta	0.54 ± 0.05	0.50	0.25 - 0.75	Pass

[a] *Results obtained by Environmental, Inc., Midwest Laboratory as a participant in the Department of Energy's Mixed Analyte Performance Evaluation Program, Idaho Operations office, Idaho Falls, Idaho*

[b] *Results are reported in units of Bq/kg (soil), Bq/L (water) or Bq/total sample (filters, vegetation).*

[c] *Laboratory codes as follows: STW (water), STAP (air filter), STSO (soil), STVE (vegetation).*

[d] *MAPEP results are presented as the known values and expected laboratory precision (1 sigma, 1 determination) and control limits as defined by the MAPEP.*

[e] *Included in the testing series as a "false positive".*

APPENDIX E

EFFLUENT DATA

TABLE OF CONTENTS

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INTRODUCTION

LaSalle County Station, a two-unit BWR station, is located near Marseilles, Illinois in LaSalle county, 3.5 miles south the Illinois River. Both units are rated for 3546 MWt. Unit 1 loaded fuel in March 1982. Unit 2 loaded fuel in late December 1983. The station has been designed to keep releases to the environment at levels below those specified in the regulations.

Liquid effluents, while no longer released from LaSalle County Station, were designed to be released to the Illinois River in controlled batches after radioassay of each batch. Gaseous effluents are released to the atmosphere after delay to permit decay of short-lived (noble) gases. Releases to the atmosphere are calculated on the basis of analyses of routine grab samples of noble gases and tritium as well as continuously collected composite samples of iodine and particulate radioactivity sampled during the course of the year. 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, tritium, I-131, and particulate radioactivity in offsite areas are calculated using effluent and meteorological data.

Environmental monitoring is conducted by sampling at indicator and control (background) locations in the vicinity of LaSalle County Station to measure changes in radiation or radioactivity levels that may be attributable to station 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 internal dose from I-131 in milk are the critical pathways at this site; however, an environmental monitoring program is conducted which also includes these and many other pathways which are less significant in terms of radiation protection.

SUMMARY

Gaseous effluents for the period contributed to only a small fraction of the LaSalle County Station Radiological Effluent Controls Limits. Liquid effluents had no contribution to offsite dose, as no liquid radioactive discharges were conducted. 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 LaSalle County Station does not exceed regulatory limits. Radiation exposure from radionuclides releases to the atmosphere represented the critical pathway for the period with a maximum individual total dose estimated to be 3.74E-01 mrem for the year, where a shielding and occupancy factor of 0.7 is assumed. The assessment of radiation doses is performed in accordance with the Offsite Dose Calculation Manual (ODCM), specifically, a comparison of preoperational studies with operational controls or with previous environmental surveillance reports and an assessment of the observed impacts of the plant operation on the environment. Control locations are basis for "preoperational data." Yearly data comparisons are provided in Sections 5.1 and 5.2; five-year graphical trend data is provided in Appendix III, Section 7.0. The results of analysis confirm that the station is operating in compliance with 10CFR50 Appendix I, 10CFR20 and 40CFR190.

1.0 EFFLUENTS

1.1 Gaseous Effluents to the Atmosphere

Measured concentrations of noble gases, radioiodine, and particulate radioactivity released to the atmosphere during the year, are listed in Table 1.1-1. A total of 1.92E+03 curies of fission and activation gases were released with an average release rate of 6.06E+01 µCi/sec.

A total of 3.11E-02 curies of I-131 was released during the year with an average release rate of 9.88E-04 µCi/sec.

A total of 9.54E-03 curies of beta-gamma emitters was released as airborne particulate matter with an average release rate of 3.03E-04 µCi/sec. Alpha-emitting radionuclides were below the lower limit of detection (LLD).

A total of 4.38E+01 curies of tritium was released with an average release rate of 1.39E+00 µCi/sec.

1.2 Liquids Released to Illinois River

There were no liquid batch releases in 2010. Continuous release path activity was below applicable Lower Limits of Detection.

2.0 SOLID RADIOACTIVE WASTE

Solid radioactive wastes were shipped by truck to a disposal facility or to a waste processor. For further detail, refer the LaSalle 2010 Radioactive Effluent Release Report. The submittal date of this report was April 26, 2011.

3.0 DOSE TO MAN

3.1 Gaseous Effluent Pathways

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

3.1.1 Noble Gases

3.1.1.1 Gamma Dose Rates

Unit 1 and Unit 2 gaseous releases at LaSalle

County Station are reported as Unit 1 releases due to a single station vent stack (SVS) release point. Offsite Gamma air and whole body dose rates are shown in Table 3.1-1 and were calculated based on measured release rates, isotopic composition of the noble gases, and average meteorological data for the period. Doses based on concurrent meteorological data are shown in Table 3.4-1. Based on measured effluents and meteorological data, the maximum total body dose to an individual would be 3.03E-02 mrem (Table 3.1-1) for the year, with an occupancy or shielding factor of 0.7 included. The maximum total body dose based on measured effluents and concurrent meteorological data would be 1.17E-02 mrem. (Table 3.4-1).

The maximum gamma air dose was 4.01E-02 mrad (Table 3.1-1) and 3.66E-03 mrad based on concurrent meteorological data (Table 3.4-1).

3.1.1.2 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 due to the effect of 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 7.0 mg/cm^2 and an occupancy factor of 1.0 is used. The skin dose from beta and gamma radiation for the year was 3.19E-02 (Table 3.1-1) and 3.91E-03 mrem (Table 3.4-1) based on concurrent meteorological data. The maximum offsite beta dose for the year was 1.24E-03 mrad (Table 3.1-1) and 1.34E-03 mrad (Table 3.4-1) based on concurrent meteorological data.

3.1.2 Radioactive Iodine

The human thyroid exhibits a significant capacity to

concentrate ingested or inhaled iodine. The radioiodine, I-131, released during routing operation of the plant, may be made available to man resulting in a dose to the thyroid. The principal pathway of interest for this radionuclide in ingestion of radioiodine in milk.

3.1.2.1 Dose to Thyroid

The hypothetical thyroid dose to a maximum exposed individual living near the station 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 through October. The maximum thyroid does due to I-131 was 1.10E-01 mrem for the year (Table 3.1-1).

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 on the shoreline. Not all of these pathways are significant or applicable at a given time 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 gastro-intestinal tracts, thyroid, bone and skin; specific parameters for use in the equations are given in the Offsite Dose Calculation Manual. The maximum whole body dose was 0.00E+00 mrem and organ dose was 0.00E+00 for the year mrem (Table 3.2-1).

3.3 Assessment of Dose to Member of Public

During the period January to December, 2010, LaSalle County Station did not exceed these limits as shown in Table 3.1-1 and Table 3.2-1 (based on annual average meteorological data), and As shown in Table 3.3-1:

- The Radiological Effluent Technical Standards (RETS) limits on dose or dose commitment to an individual due to radioactive materials in liquid effluents from each reactor unit (1.5 mrem to the whole body or 5 mrem to any organ

during any calendar year; 3 mrem to the whole body or 10 mrem to any organ during the calendar year).

- The RETS limits on air dose in noble gases released in gaseous effluents to a member of the public from each reactor unit (5 mrad for gamma radiation or 10 mrad for beta radiation during any calendar quarter; 10 mrads for gamma radiation or 20 mrad for beta radiation during a calendar year).

- The RETS limits on dose to a member of the public due to iodine-131, iodine-133, tritium, and radionuclides in particulate form with half-lives greater than eight days in gaseous effluents released from each reactor unit (7.5 mrem to any organ during any calendar quarter; 15 mrem to any organ during any calendar year).

- The 10CFR20 limit on Total Effective Dose Equivalent to individual members of the public (100 mrem).

4.0 SITE METEOROLOGY

A summary of the site meteorological measurements taken during each calendar quarter of the year is given in Appendix F. The data are presented as cumulative joint frequency distributions of the wind direction for the 375' level 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 99.6% during 2010.

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

APPENDIX E-1

DATA TABLES AND FIGURES

Table 1.1-1

LASALLE COUNTY NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (2010)
UNITS ONE AND TWO
DOCKET NUMBERS 50-373 AND 50-374
GASSEOUS EFFLENTS SUMMATION OF ALL RELEASES

	Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Estimated Total Error %
A. Fission and Activation Gas						
1. Total Release Activity	Ci	6.01E+02	3.87E+02	3.88E+02	5.39E+02	2.50E+01
2. Average Release Rate	uCi/sec	7.64E+01	4.92E+01	4.88E+01	6.78E+01	
3. Percent of Technical Specification Limit	%	*	*	*	*	
B. Iodine						
1. Total I-131 Activity	Ci	1.56E-02	3.78E-03	5.43E-03	6.33E-03	1.50E+01
2. Average Release Rate	uCi/sec	1.99E-03	4.81E-04	6.84E-04	7.97E-04	
3. Percent of Technical Specification Limit	%	*	*	*	*	
C. Particulate (> 8 day half-life)						
1. Gross Activity	Ci	1.29E-02	1.46E-03	2.03E-03	1.95E-03	3.50E+01
2. Average Release Rate	uCi/sec	1.66E-03	1.86E-04	2.56E-04	2.45E-04	
3. Percent of Technical Specification Limit	%	*	*	*	*	
D. Tritium						
1. Total Release Activity	Ci	1.07E+01	1.38E+01	1.06E+01	8.65E+00	1.50E+01
2. Average Release Rate	uCi/sec	1.36E+00	1.75E+00	1.34E+00	1.09E+00	
3. Percent of Technical Specification Limit	%	*	*	*	*	
E. Gross Alpha						
1. Total Release Activity	Ci	<1.00E-11	<1.00E-11	<1.00E-11	<1.00E-11	3.50E+01
2. Average Release Rate	uCi/sec	<LLD	<LLD	<LLD	<LLD	
3. Percent of Technical Specification Limit	%	*	*	*	*	
F. Carbon-14						
1. Total Release Activity	Ci	4.59E+00	4.59E+00	4.60E+00	4.60E+00	
2. Average Release Rate	uCi/sec	5.84E-01	5.84E-01	5.79E-01	5.79E-01	
3. Percent of Technical Specification Limit	%	*	*	*	*	

"*" This information is contained in the Radiological Impact on Man section of the report.

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

Table 1.2-1

LASALLE COUNTY NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (2010)
LIQUID RELEASES
UNIT 1 AND UNIT 2
SUMMATION OF ALL LIQUID RELEASES

	Units	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	Estimated Total Error %
A. Fission and Activation Products						
1. Total Activity Released	Ci	<LLD	<LLD	<LLD	<LLD	N/A
2. Average Concentration Released	uCi/ml	<LLD	<LLD	<LLD	<LLD	
3. Percent of Applicable Limit	%	*	*	*	*	
B. Tritium						
1. Total Activity Released	Ci	<LLD	<LLD	<LLD	<LLD	N/A
2. Average Concentration Released	uCi/ml	<LLD	<LLD	<LLD	<LLD	
3. Percent of Applicable Limit	%	*	*	*	*	
C. Dissolved Noble Gases						
1. Total Activity Released	Ci	<LLD	<LLD	<LLD	<LLD	N/A
2. Average Concentration Released	uCi/ml	<LLD	<LLD	<LLD	<LLD	
3. Percent of Applicable Limit	%	*	*	*	*	
D. Gross Alpha						
1. Total Activity Released (estimate)	Ci	<LLD	<LLD	<LLD	<LLD	N/A
2. Average Concentration Released	uCi/ml	<LLD	<LLD	<LLD	<LLD	
3. Percent of Applicable Limit	%	*	*	*	*	
E. Volume of Liquid Waste to Discharge	liters	0.00E+00	0.00E+00	0.00E+00	0.00E+00	N/A
F. Volume of Dilution Water	liters	0.00E+00	0.00E+00	0.00E+00	0.00E+00	N/A

"*" This information is contained in the Radiological Impact on Man section of the report.
"<" Indicates activity of sample is less than LLD given in uCi/ml

Table 2.1-1

SOLID RADWASTE ANNUAL REPORT

LaSalle County Station

Table 2.1-1 deliberately deleted. For solid waste disposal detail, refer to the LaSalle County Station 2010 Effluent Report.

Table 3.1-1

LASALLE COUNTY NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (2010)
RADIOLOGICAL IMPACT ON MAN
MAXIMUM DOSES RESULTING FROM RELEASES AND COMPLIANCE STATUS

LASALLE STATION UNIT ONE

ACTUAL 2010
MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
PERIOD OF RELEASE - 01/01/10 TO 12/31/10 - CALCULATED 03/21/11
INFANT RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	1.26E-02	7.01E-03	7.75E-03	1.27E-02	4.01E-02
(MRAD)	(WSW)	(WSW)	(WSW)	(WSW)	(WSW)
BETA AIR	3.97E-04	2.55E-04	2.24E-04	3.62E-04	1.24E-03
(MRAD)	(ESE)	(ESE)	(ESE)	(ESE)	(ESE)
TOT. BODY	9.56E-03	5.30E-03	5.86E-03	9.63E-03	3.03E-02
(MREM)	(WSW)	(WSW)	(WSW)	(WSW)	(WSW)
SKIN	1.01E-02	5.59E-03	6.15E-03	1.01E-02	3.19E-02
(MREM)	(WSW)	(WSW)	(WSW)	(WSW)	(WSW)
ORGAN	3.85E-02	3.79E-02	3.81E-02	3.79E-02	1.52E-01
(MREM)	(ESE)	(ESE)	(ESE)	(ESE)	(ESE)
	BONE	BONE	BONE	BONE	BONE

THIS IS A REPORT FOR THE CALENDAR YEAR 2010

COMPLIANCE STATUS - 10CFR 50 APP. I
INFANT RECEPTOR

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
		---------- % OF APP I. ----------					
GAMMA AIR (MRAD)	5.0	0.25	0.14	0.16	0.25	10.0	0.40
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.01
TOT. BODY (MREM)	2.5	0.38	0.21	0.23	0.39	5.0	0.61
SKIN (MREM)	7.5	0.13	0.07	0.08	0.13	15.0	0.21
ORGAN (MREM)	7.5	0.51	0.51	0.51	0.51	15.0	1.02
		BONE	BONE	BONE	BONE		BONE

Table 3.1-1 (continued)

LASALLE COUNTY NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (2010)
RADIOLOGICAL IMPACT ON MAN
MAXIMUM DOSES RESULTING FROM RELEASES AND COMPLIANCE STATUS

LASALLE STATION UNIT ONE

ACTUAL 2010
MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
PERIOD OF RELEASE - 01/01/10 TO 12/31/10 - CALCULATED 03/21/11
CHILD RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	1.26E-02	7.01E-03	7.75E-03	1.27E-02	4.01E-02
(MRAD)	(WSW)	(WSW)	(WSW)	(WSW)	(WSW)
BETA AIR	3.97E-04	2.55E-04	2.24E-04	3.62E-04	1.24E-03
(MRAD)	(ESE)	(ESE)	(ESE)	(ESE)	(ESE)
TOT. BODY	9.56E-03	5.30E-03	5.86E-03	9.63E-03	3.03E-02
(MREM)	(WSW)	(WSW)	(WSW)	(WSW)	(WSW)
SKIN	1.01E-02	5.59E-03	6.15E-03	1.01E-02	3.19E-02
(MREM)	(WSW)	(WSW)	(WSW)	(WSW)	(WSW)
ORGAN	3.42E-02	1.13E-01	1.53E-01	7.34E-02	3.74E-01
(MREM)	(NNE)	(NNE)	(NNE)	(NNE)	(NNE)
	BONE	BONE	BONE	BONE	BONE

THIS IS A REPORT FOR THE CALENDAR YEAR 2010

COMPLIANCE STATUS - 10CFR 50 APP. I
CHILD RECEPTOR

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
		---------- % OF APP I. ----------					
GAMMA AIR (MRAD)	5.0	0.25	0.14	0.16	0.25	10.0	0.40
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.01
TOT. BODY (MREM)	2.5	0.38	0.21	0.23	0.39	5.0	0.61
SKIN (MREM)	7.5	0.13	0.07	0.08	0.13	15.0	0.21
ORGAN (MREM)	7.5	0.46	1.51	2.04	0.98	15.0	2.49
		BONE	BONE	BONE	BONE		BONE

Table 3.1-1 (continued)

LASALLE COUNTY NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (2010)
RADIOLOGICAL IMPACT ON MAN
MAXIMUM DOSES RESULTING FROM RELEASES AND COMPLIANCE STATUS

LASALLE STATION UNIT ONE

ACTUAL 2010
MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
PERIOD OF RELEASE - 01/01/10 TO 12/31/10 - CALCULATED 03/21/11
TEENAGER RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	1.26E-02	7.01E-03	7.75E-03	1.27E-02	4.01E-02
(MRAD)	(WSW)	(WSW)	(WSW)	(WSW)	(WSW)
BETA AIR	3.97E-04	2.55E-04	2.24E-04	3.62E-04	1.24E-03
(MRAD)	(ESE)	(ESE)	(ESE)	(ESE)	(ESE)
TOT. BODY	9.56E-03	5.30E-03	5.86E-03	9.63E-03	3.03E-02
(MREM)	(WSW)	(WSW)	(WSW)	(WSW)	(WSW)
SKIN	1.01E-02	5.59E-03	6.15E-03	1.01E-02	3.19E-02
(MREM)	(WSW)	(WSW)	(WSW)	(WSW)	(WSW)
ORGAN	1.66E-02	4.90E-02	6.56E-02	3.25E-02	1.64E-01
(MREM)	(NNE)	(NNE)	(NNE)	(NNE)	(NNE)
	BONE	BONE	BONE	BONE	BONE

THIS IS A REPORT FOR THE CALENDAR YEAR 2010

COMPLIANCE STATUS - 10CFR 50 APP. I
TEENAGER RECEPTOR

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
	---------- % OF APP I. ----------						
GAMMA AIR (MRAD)	5.0	0.25	0.14	0.16	0.25	10.0	0.40
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.01
TOT. BODY (MREM)	2.5	0.38	0.21	0.23	0.39	5.0	0.61
SKIN (MREM)	7.5	0.13	0.07	0.08	0.13	15.0	0.21
ORGAN (MREM)	7.5	0.22	0.65	0.88	0.43	15.0	1.09
		BONE	BONE	BONE	BONE		BONE

Table 3.1-1 (continued)

LASALLE COUNTY NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (2010)
RADIOLOGICAL IMPACT ON MAN
MAXIMUM DOSES RESULTING FROM RELEASES AND COMPLIANCE STATUS

LASALLE STATION UNIT ONE

ACTUAL 2010
MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES
PERIOD OF RELEASE - 01/01/10 TO 12/31/10 - CALCULATED 03/21/11
ADULT RECEPTOR

TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
GAMMA AIR	1.26E-02	7.01E-03	7.75E-03	1.27E-02	4.01E-02
(MRAD)	(WSW)	(WSW)	(WSW)	(WSW)	(WSW)
BETA AIR	3.97E-04	2.55E-04	2.24E-04	3.62E-04	1.24E-03
(MRAD)	(ESE)	(ESE)	(ESE)	(ESE)	(ESE)
TOT. BODY	9.56E-03	5.30E-03	5.86E-03	9.63E-03	3.03E-02
(MREM)	(WSW)	(WSW)	(WSW)	(WSW)	(WSW)
SKIN	1.01E-02	5.59E-03	6.15E-03	1.01E-02	3.19E-02
(MREM)	(WSW)	(WSW)	(WSW)	(WSW)	(WSW)
ORGAN	1.55E-02	3.53E-02	4.56E-02	2.51E-02	1.21E-01
(MREM)	(NNE)	(NNE)	(NNE)	(NNE)	(NNE)
	BONE	BONE	BONE	BONE	BONE

THIS IS A REPORT FOR THE CALENDAR YEAR 2010

COMPLIANCE STATUS - 10CFR 50 APP. I
ADULT RECEPTOR

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
	---------- % OF APP I. ----------						
GAMMA AIR (MRAD)	5.0	0.25	0.14	0.16	0.25	10.0	0.40
BETA AIR (MRAD)	10.0	0.00	0.00	0.00	0.00	20.0	0.01
TOT. BODY (MREM)	2.5	0.38	0.21	0.23	0.39	5.0	0.61
SKIN (MREM)	7.5	0.13	0.07	0.08	0.13	15.0	0.21
ORGAN (MREM)	7.5	0.21	0.47	0.61	0.33	15.0	0.81
		BONE	BONE	BONE	BONE		BONE

Table 3.2-1

LASALLE COUNTY NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (2010)
RADIOLOGICAL IMPACT ON MAN
MAXIMUM DOSES RESULTING FROM RELEASES AND COMPLIANCE STATUS

LASALLE STATION UNIT ONE

ACTUAL 2010
MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
PERIOD OF RELEASE - 01/01/10 TO 12/31/10 - CALCULATED 03/21/11
INFANT RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INTERNAL ORGAN	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

THIS IS A REPORT FOR THE CALENDAR YEAR 2010

COMPLIANCE STATUS - 10 CFR 50 APP. I

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
		---------- % OF APP I. ----------					
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

Table 3.2-1 (continued)

LASALLE COUNTY NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (2010)
RADIOLOGICAL IMPACT ON MAN
MAXIMUM DOSES RESULTING FROM RELEASES AND COMPLIANCE STATUS

LASALLE STATION UNIT ONE

2010 ANNUAL REPORT
PROJECTED DOSE AT NEAREST COMMUNITY WATER SYSTEM *
PERIOD OF RELEASE - 01/01/10 TO 12/31/10 - CALCULATED 03/21/11
INFANT RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INTERNAL ORGAN	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

THIS IS A REPORT FOR THE CALENDAR YEAR 2010

COMPLIANCE STATUS - 40 CFR 141

TYPE	ANNUAL LIMIT	% OF LIMIT
TOTAL BODY	4.0 MREM	0.000
INTERNAL ORGAN	4.0 MREM	0.000

Table 3.2-1 (continued)

LASALLE COUNTY NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (2010)
RADIOLOGICAL IMPACT ON MAN
MAXIMUM DOSES RESULTING FROM RELEASES AND COMPLIANCE STATUS

LASALLE STATION UNIT ONE

ACTUAL 2010
MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
PERIOD OF RELEASE - 01/01/10 TO 12/31/10 - CALCULATED 03/21/11
CHILD RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INTERNAL ORGAN	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

THIS IS A REPORT FOR THE CALENDAR YEAR 2010

COMPLIANCE STATUS - 10 CFR 50 APP. I

---------- % OF APP I. ----------

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
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

Table 3.2-1 (continued)

LASALLE COUNTY NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (2010)
RADIOLOGICAL IMPACT ON MAN
MAXIMUM DOSES RESULTING FROM RELEASES AND COMPLIANCE STATUS

LASALLE STATION UNIT ONE

2010 ANNUAL REPORT
PROJECTED DOSE AT NEAREST COMMUNITY WATER SYSTEM *
PERIOD OF RELEASE - 01/01/10 TO 12/31/10 CALCULATED 03/21/11
CHILD RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INTERNAL ORGAN	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

THIS IS A REPORT FOR THE CALENDAR YEAR 2010

COMPLIANCE STATUS - 40 CFR 141

TYPE	ANNUAL LIMIT	% OF LIMIT
TOTAL BODY	4.0 MREM	0.000
INTERNAL ORGAN	4.0 MREM	0.000

Table 3.2-1 (continued)

LASALLE COUNTY NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (2010)
RADIOLOGICAL IMPACT ON MAN
MAXIMUM DOSES RESULTING FROM RELEASES AND COMPLIANCE STATUS

LASALLE STATION UNIT ONE

ACTUAL 2010
MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
PERIOD OF RELEASE - 01/01/10 TO 12/31/10 CALCULATED 03/21/11
TEENAGER RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INTERNAL ORGAN	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

THIS IS A REPORT FOR THE CALENDAR YEAR 2010

COMPLIANCE STATUS - 10 CFR 50 APP. I

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
		---------- % OF APP I. ----------					
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

Table 3.2-1 (continued)

LASALLE COUNTY NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (2010)
RADIOLOGICAL IMPACT ON MAN
MAXIMUM DOSES RESULTING FROM RELEASES AND COMPLIANCE STATUS

LASALLE STATION UNIT ONE

2010 ANNUAL REPORT
PROJECTED DOSE AT NEAREST COMMUNITY WATER SYSTEM *
PERIOD OF RELEASE - 01/01/10 TO 12/31/10 CALCULATED 03/21/11
TEENAGER RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INTERNAL ORGAN	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

THIS IS A REPORT FOR THE CALENDAR YEAR 2010

COMPLIANCE STATUS - 40 CFR 141

TYPE	ANNUAL LIMIT	% OF LIMIT
TOTAL BODY	4.0 MREM	0.000
INTERNAL ORGAN	4.0 MREM	0.000

Table 3.2-1 (continued)

LASALLE COUNTY NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (2010)
RADIOLOGICAL IMPACT ON MAN
MAXIMUM DOSES RESULTING FROM RELEASES AND COMPLIANCE STATUS

LASALLE STATION UNIT ONE

ACTUAL 2010
MAXIMUM DOSES (MREM) RESULTING FROM AQUATIC EFFLUENTS
PERIOD OF RELEASE - 01/01/10 TO 12/31/10 - CALCULATED 03/21/11
ADULT RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INTERNAL ORGAN	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

THIS IS A REPORT FOR THE CALENDAR YEAR 2010

COMPLIANCE STATUS - 10 CFR 50 APP. I

	QTRLY OBJ	1ST QTR JAN-MAR	2ND QTR APR-JUN	3RD QTR JUL-SEP	4TH QTR OCT-DEC	YRLY OBJ	% OF APP. I
		---------- % OF APP I. ----------					
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

Table 3.2-1 (continued)

LASALLE COUNTY NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (2010)
RADIOLOGICAL IMPACT ON MAN
MAXIMUM DOSES RESULTING FROM RELEASES AND COMPLIANCE STATUS

LASALLE STATION UNIT ONE

2010 ANNUAL REPORT
PROJECTED DOSE AT NEAREST COMMUNITY WATER SYSTEM *
PERIOD OF RELEASE - 01/01/10 TO 12/31/10 - CALCULATED 03/21/11
ADULT RECEPTOR

DOSE TYPE	1ST QUARTER JAN-MAR	2ND QUARTER APR-JUN	3RD QUARTER JUL-SEP	4TH QUARTER OCT-DEC	ANNUAL
TOTAL BODY	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
INTERNAL ORGAN	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

THIS IS A REPORT FOR THE CALENDAR YEAR 2010

COMPLIANCE STATUS - 40 CFR 141

TYPE	ANNUAL LIMIT	% OF LIMIT
TOTAL BODY	4.0 MREM	0.000
INTERNAL ORGAN	4.0 MREM	0.000

Table 3.3-1

LASALLE COUNTY NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (2010)
RADIOLOGICAL IMPACT ON MAN
MAXIMUM DOSES RESULTING FROM RELEASES AND COMPLIANCE STATUS

LASALLE STATION UNIT ONE

10 CFR 20 COMPLIANCE ASSESSMENT

PERIOD OF ASSESSMENT 01/01/10 TO 12/31/10

CALCULATED 03/21/11

1. 10 CFR 20.1301 (a)(1) Compliance

Total Effective Dose Eqivalent,	mrem/yr	4.83E-01
10 CFR 20.1301 (a)(1) limit	mrem/yr	100.0
	% of limit	0.48

Compliance Summary - 10CFR20

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	% of Limit
TEDE	8.91E-02	1.29E-01	1.37E-01	1.28E-01	0.48

Table 3.3-1 (continued)

LASALLE COUNTY NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (2010)
RADIOLOGICAL IMPACT ON MAN
MAXIMUM DOSES RESULTING FROM RELEASES AND COMPLIANCE STATUS

LASALLE STATION UNIT ONE

10 CFR 20 COMPLIANCE ASSESSMENT

PERIOD OF ASSESSMENT 01/01/10 TO 12/31/10

CALCULATED 03/21/11

2. 10 CFR 20.1301 (d)/40 CFR 190 Compliance

		Dose (mrem)	Limit (mrem)	% of Limit
Whole Body	Plume	3.03E-02		
(DDE)	Skyshine	3.26E-01		
	ISFSI	2.94E-02		
	Ground	9.83E-04		
	Total	3.86E-01	25.0	1.54
Organ Dose	Thyroid	1.10E-01	75.0	0.15
(CDE)	Gonads	9.63E-02	25.0	0.39
	Breast	9.62E-02	25.0	0.38
	Lung	9.62E-02	25.0	0.38
	Marrow	9.63E-02	25.0	0.39
	Bone	9.63E-02	25.0	0.39
	Remainder	9.63E-02	25.0	0.39
	CEDE	9.67E-02		
	TEDE	4.83E-01	100.0	0.48

Table 3.3-1 (continued)

LASALLE COUNTY NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (2010)
RADIOLOGICAL IMPACT ON MAN
MAXIMUM DOSES RESULTING FROM RELEASES AND COMPLIANCE STATUS

LASALLE STATION UNIT TWO

10 CFR 20 COMPLIANCE ASSESSMENT

PERIOD OF ASSESSMENT 01/01/10 TO 12/31/10

CALCULATED 03/21/11

1. 10 CFR 20.1301 (a)(1) Compliance

Total Effective Dose Eqivalent,	mrem/yr	3.81E-01
10 CFR 20.1301 (a)(1) limit	mrem/yr	100.0
	% of limit	0.38

Compliance Summary - 10CFR20

	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	% of Limit
TEDE	9.56E-02	9.51E-02	9.39E-02	9.70E-02	0.38

Table 3.3-1 (continued)

LASALLE COUNTY NUCLEAR POWER STATION
EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT (2010)
RADIOLOGICAL IMPACT ON MAN
MAXIMUM DOSES RESULTING FROM RELEASES AND COMPLIANCE STATUS

LASALLE STATION UNIT TWO

10 CFR 20 COMPLIANCE ASSESSMENT

PERIOD OF ASSESSMENT 01/01/10 TO 12/31/10

CALCULATED 03/21/11

2. 10 CFR 20.1301 (d)/40 CFR 190 Compliance

		Dose (mrem)	Limit (mrem)	% of Limit
Whole Body	Plume	0.00E+00		
(DDE)	Skyshine	3.52E-01		
	ISFSI	2.94E-02		
	Ground	0.00E+00		
	Total	3.81E-01	25.0	1.52
Organ Dose	Thyroid	0.00E+00	75.0	0.00
(CDE)	Gonads	0.00E+00	25.0	0.00
	Breast	0.00E+00	25.0	0.00
	Lung	0.00E+00	25.0	0.00
	Marrow	0.00E+00	25.0	0.00
	Bone	0.00E+00	25.0	0.00
	Remainder	0.00E+00	25.0	0.00
	CEDE	0.00E+00		
	TEDE	3.81E-01	100.0	0.38

Table 3.4-1

Maximum Doses Resulting from Airborne Releases Based On Concurrent Meteorological Data

LaSalle County Generating Station:

Dose	*Maximum Value*	*Sector Affected*
gamma air [1]	3.660×10^{-3} mrad	East-Southeast
beta air [2]	1.340×10^{-3} mrad	East-Southeast
whole body [3]	1.169×10^{-2} mrem	East-Southeast
skin [4]	3.910×10^{-3} mrem	East-Southeast
organ [5] (infant-thyroid)	6.567×10^{-1} mrem	East-Southeast

Compliance Status

10 CFR 50 Appendix I	**Yearly Objective**		**% of Appendix I**
gamma air	10.0	mrad	0.04
beta air	20.0	mrad	0.01
whole body	5.0	mrem	0.23
skin	15.0	mrem	0.03
organ	15.0	mrem	4.38

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(1) Gamma Air Dose - GASPAR II, NUREG-0597
(2) Beta Air Dose - GASPAR II, NUREG-0597
(3) Whole Body Dose - GASPAR II, NUREG-0597
(4) Skin Dose - GASPAR II, NUREG-0597
(5) Inhalation and Food Pathways Dose - GASPAR II, NUREG-0597

APPENDIX F

METEOROLOGICAL DATA

LaSalle County Generating Station

Period of Record: January - March 2010
Stability Class - Extremely Unstable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	2	1	0	0	5
NNE	0	3	8	12	2	0	25
NE	0	0	3	8	0	0	11
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	2	4	0	0	0	6
SE	1	1	4	0	0	0	6
SSE	0	1	0	0	0	0	1
S	2	1	0	0	0	0	3
SSW	1	0	0	3	1	0	5
SW	0	0	0	1	0	0	1
WSW	0	0	0	5	0	0	5
W	0	0	0	3	1	0	4
WNW	0	0	1	0	0	0	1
NW	0	0	1	0	0	0	1
NNW	0	0	4	0	0	0	4
Variable	0	0	0	0	0	0	0
Total	4	10	27	33	4	0	78

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: 3

LaSalle County Generating Station

Period of Record: January - March 2010
Stability Class - Moderately Unstable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	0	0	0	0	2
NNE	0	0	23	21	0	0	44
NE	0	1	6	6	0	0	13
ENE	0	0	1	1	1	0	3
E	0	1	1	0	0	0	2
ESE	0	1	6	0	0	0	7
SE	0	4	0	0	0	0	4
SSE	0	0	1	0	0	0	1
S	0	0	1	5	0	0	6
SSW	0	0	0	0	2	0	2
SW	0	0	1	0	0	0	1
WSW	0	0	0	2	1	0	3
W	0	0	2	2	0	0	4
WNW	0	0	1	0	0	0	1
NW	0	0	2	0	0	0	2
NNW	0	1	1	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	0	10	46	37	4	0	97

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: 3

LaSalle County Generating Station

Period of Record: January - March 2010
Stability Class - Slightly Unstable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	4	3	1	0	0	8
NNE	0	0	6	5	0	0	11
NE	0	0	1	9	0	0	10
ENE	0	0	0	5	0	0	5
E	0	1	8	5	0	0	14
ESE	0	1	7	10	0	0	18
SE	0	1	1	1	0	0	3
SSE	0	0	1	0	0	0	1
S	0	1	1	4	0	0	6
SSW	1	2	0	1	0	0	4
SW	0	0	2	3	0	0	5
WSW	0	0	4	7	1	0	12
W	0	1	20	8	2	0	31
WNW	0	2	4	1	0	0	7
NW	0	0	0	1	0	0	1
NNW	1	4	1	0	0	0	6
Variable	0	0	0	0	0	0	0
Total	2	17	59	61	3	0	142

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: 3

LaSalle County Generating Station

Period of Record: January - March 2010
Stability Class - Neutral - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	55	34	2	0	0	93
NNE	0	26	45	27	2	0	100
NE	0	9	10	10	3	0	32
ENE	1	7	9	28	1	0	46
E	1	14	28	11	11	0	65
ESE	1	13	25	8	0	0	47
SE	5	14	9	6	0	0	34
SSE	0	7	2	2	0	0	11
S	4	11	3	4	1	0	23
SSW	1	6	3	2	1	0	13
SW	5	8	12	5	0	0	30
WSW	5	15	16	6	0	0	42
W	0	22	50	26	14	2	114
WNW	1	13	83	68	5	0	170
NW	1	20	35	24	0	0	80
NNW	0	31	42	39	11	0	123
Variable	0	0	0	0	0	0	0
Total	27	271	406	268	49	2	1023

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 1
Hours of missing stability measurements in all stability classes: 3

LaSalle County Generating Station

Period of Record: January - March 2010
Stability Class - Slightly Stable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	15	6	0	0	0	22
NNE	1	14	14	2	0	0	31
NE	2	2	4	1	0	0	9
ENE	0	1	12	2	0	0	15
E	1	16	16	1	1	0	35
ESE	0	8	8	3	0	0	19
SE	1	8	9	8	0	0	26
SSE	1	5	4	1	0	0	11
S	1	4	2	3	0	0	10
SSW	2	6	2	11	1	0	22
SW	2	4	3	9	2	0	20
WSW	1	3	2	1	0	0	7
W	1	12	34	1	7	1	56
WNW	0	14	57	11	1	0	83
NW	0	7	33	2	0	0	42
NNW	2	9	21	1	0	0	33
Variable	0	0	0	0	0	0	0
Total	16	128	227	57	12	1	441

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: 3

LaSalle County Generating Station

Period of Record: January - March 2010
Stability Class - Moderately Stable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	6	0	0	0	0	8
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	2	0	0	0	2
E	0	6	9	0	0	0	15
ESE	0	6	8	1	0	0	15
SE	0	7	2	0	0	0	9
SSE	2	4	1	3	0	0	10
S	0	1	1	7	0	0	9
SSW	0	1	3	15	3	0	22
SW	0	0	8	1	2	0	11
WSW	1	4	9	2	0	0	16
W	0	14	33	0	0	0	47
WNW	0	26	31	0	0	0	57
NW	0	6	11	0	0	0	17
NNW	0	4	1	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	5	85	119	29	5	0	243

Hours of calm in this stability class: 1
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 3

LaSalle County Generating Station

Period of Record: January - March 2010
Stability Class - Extremely Stable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
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	2	3	0	0	0	5
ESE	0	4	1	0	0	0	5
SE	0	8	4	0	0	0	12
SSE	0	6	0	0	0	0	6
S	0	2	1	0	0	0	3
SSW	0	0	9	1	0	0	10
SW	0	0	1	1	0	0	2
WSW	0	1	6	1	0	0	8
W	0	10	24	0	0	0	34
WNW	0	13	29	0	0	0	42
NW	1	2	0	0	0	0	3
NNW	1	0	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	2	48	78	3	0	0	131

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: 3

LaSalle County Generating Station

Period of Record: January - March 2010
Stability Class - Extremely Unstable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
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	2	2
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	2	2

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: 3

LaSalle County Generating Station

Period of Record: January - March 2010
Stability Class - Moderately Unstable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	1	0	0	1
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	1	1	2
ENE	0	0	0	0	0	0	0
E	0	0	0	0	1	1	2
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	1	2	2	5

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: 3

LaSalle County Generating Station

Period of Record: January - March 2010
Stability Class - Slightly Unstable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	3	0	0	3
NNE	0	0	0	2	2	0	4
NE	0	0	0	5	3	3	11
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	1	1
ESE	0	0	0	0	0	0	0
SE	0	1	1	1	0	0	3
SSE	0	0	0	0	0	0	0
S	1	0	0	0	3	0	4
SSW	0	0	0	0	3	2	5
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	2	1	3
W	0	0	0	0	5	0	5
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	1	1	1	11	18	7	39

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: 3

LaSalle County Generating Station

Period of Record: January - March 2010
Stability Class - Neutral - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	6	40	35	2	4	87
NNE	0	14	46	52	61	12	185
NE	0	3	5	26	33	10	77
ENE	1	7	5	17	21	3	54
E	2	10	14	15	10	2	53
ESE	1	7	15	17	11	0	51
SE	0	3	20	19	9	3	54
SSE	1	1	12	6	0	0	20
S	3	9	5	6	5	0	28
SSW	3	2	5	5	2	4	21
SW	4	6	13	2	3	4	32
WSW	2	5	8	22	10	2	49
W	0	8	14	28	25	13	88
WNW	0	6	30	74	22	8	140
NW	0	5	27	40	55	11	138
NNW	0	5	13	32	7	15	72
Variable	0	0	0	0	0	0	0
Total	17	97	272	396	276	91	1149

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 110
Hours of missing stability measurements in all stability classes: 3

LaSalle County Generating Station

Period of Record: January - March 2010
Stability Class - Slightly Stable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	2	6	18	6	0	33
NNE	0	4	14	9	1	3	31
NE	0	3	4	9	3	3	22
ENE	0	1	4	2	0	0	7
E	1	2	14	10	12	4	43
ESE	0	3	5	1	0	2	11
SE	0	1	3	8	6	18	36
SSE	1	3	9	5	1	7	26
S	0	5	2	4	2	12	25
SSW	1	3	3	0	3	11	21
SW	3	5	2	4	8	13	35
WSW	1	3	0	3	4	0	11
W	1	3	6	7	7	10	34
WNW	1	2	10	40	17	5	75
NW	1	9	11	27	31	8	87
NNW	0	2	1	22	22	4	51
Variable	0	0	0	0	0	0	0
Total	11	51	94	169	123	100	548

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: 3

LaSalle County Generating Station

Period of Record: January - March 2010
Stability Class - Moderately Stable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	5	7	2	14
NNE	0	0	1	0	0	0	1
NE	0	3	0	0	1	0	4
ENE	0	1	0	0	0	0	1
E	0	0	0	3	4	0	7
ESE	0	0	0	2	4	0	6
SE	0	1	1	6	9	5	22
SSE	0	0	0	2	0	5	7
S	0	0	1	3	1	0	5
SSW	0	0	0	0	1	6	7
SW	0	0	1	2	2	17	22
WSW	0	0	0	0	8	1	9
W	0	1	1	2	3	1	8
WNW	0	1	6	11	3	0	21
NW	1	1	9	19	14	0	44
NNW	0	2	3	8	10	0	23
Variable	0	0	0	0	0	0	0
Total	1	10	23	63	67	37	201

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: 3

LaSalle County Generating Station

Period of Record: January - March 2010
Stability Class - Extremely Stable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	7	2	7	0	17
NNE	0	1	1	0	0	0	2
NE	0	0	2	0	0	0	2
ENE	0	1	0	0	0	0	1
E	0	1	0	0	0	0	1
ESE	0	0	0	0	1	0	1
SE	0	0	0	0	1	0	1
SSE	0	0	0	2	2	2	6
S	0	0	0	4	6	0	10
SSW	0	0	0	0	1	0	1
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	2	0	2
W	0	0	0	4	3	0	7
WNW	0	0	0	2	0	0	2
NW	0	0	1	13	2	0	16
NNW	1	0	3	17	1	1	23
Variable	0	0	0	0	0	0	0
Total	1	4	14	44	26	3	92

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: 3

LaSalle County Generating Station

Period of Record: April - June 2010
Stability Class - Extremely Unstable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	1	0	0	0	1
NE	0	0	0	1	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	1	3	5	9
SSW	0	0	0	2	2	5	9
SW	0	0	1	0	4	1	6
WSW	0	0	0	0	0	0	0
W	0	0	1	0	0	0	1
WNW	0	0	1	6	0	0	7
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	4	10	9	11	34

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: 0

LaSalle County Generating Station

Period of Record: April - June 2010
Stability Class - Moderately Unstable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	2	0	0	0	2
NE	0	0	1	1	0	0	2
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	1	0	1	2	4
SSW	0	0	5	4	0	1	10
SW	0	0	8	4	2	0	14
WSW	0	0	6	1	2	0	9
W	0	0	5	7	0	0	12
WNW	0	0	4	5	0	0	9
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	32	22	5	3	62

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: 0

LaSalle County Generating Station

Period of Record: April - June 2010
Stability Class - Slightly Unstable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	7	1	0	0	8
NNE	0	0	5	0	0	0	5
NE	0	0	3	6	0	0	9
ENE	0	0	1	2	0	0	3
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	1	5	5	4	2	17
SSW	0	0	5	3	1	2	11
SW	0	1	4	4	2	0	11
WSW	0	0	5	5	2	0	12
W	0	1	7	9	0	0	17
WNW	0	0	4	5	1	0	10
NW	0	2	0	3	0	0	5
NNW	0	3	0	6	1	0	10
Variable	0	0	0	0	0	0	0
Total	0	8	46	49	11	4	118

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: 0

LaSalle County Generating Station

Period of Record: April - June 2010
Stability Class - Neutral - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	3	42	18	8	0	0	71
NNE	1	29	18	7	0	0	55
NE	1	25	34	24	1	0	85
ENE	2	19	26	32	9	0	88
E	1	25	21	16	2	0	65
ESE	1	10	14	16	19	6	66
SE	1	15	10	15	4	0	45
SSE	2	13	18	6	2	1	42
S	1	14	21	8	5	2	51
SSW	1	13	16	12	10	3	55
SW	1	12	29	14	2	0	58
WSW	2	12	13	10	2	0	39
W	0	16	24	17	7	0	64
WNW	2	14	23	24	5	0	68
NW	1	9	12	11	6	0	39
NNW	2	19	15	23	0	0	59
Variable	0	0	0	0	0	0	0
Total	22	287	312	243	74	12	950

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: 0

LaSalle County Generating Station

Period of Record: April - June 2010
Stability Class - Slightly Stable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	3	24	6	1	0	0	34
NNE	0	23	4	0	0	0	27
NE	3	4	11	1	0	0	19
ENE	0	6	17	18	0	0	41
E	3	26	44	16	3	0	92
ESE	3	7	17	4	8	0	39
SE	1	2	5	4	3	0	15
SSE	2	2	10	3	0	0	17
S	1	4	13	19	2	0	39
SSW	3	9	15	13	6	1	47
SW	0	7	24	13	1	0	45
WSW	2	10	24	3	0	0	39
W	1	7	24	7	5	2	46
WNW	0	14	16	0	8	2	40
NW	3	7	8	2	0	0	20
NNW	1	10	9	2	0	0	22
Variable	0	0	0	0	0	0	0
Total	26	162	247	106	36	5	582

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: 0

LaSalle County Generating Station

Period of Record: April - June 2010
Stability Class - Moderately Stable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	11	1	0	0	0	13
NNE	0	2	0	0	0	0	2
NE	1	0	0	0	0	0	1
ENE	1	1	1	0	0	0	3
E	4	14	19	1	0	0	38
ESE	0	18	10	0	0	0	28
SE	1	8	10	0	0	0	19
SSE	0	9	10	3	0	0	22
S	0	18	9	8	0	0	35
SSW	2	5	6	12	0	0	25
SW	2	11	17	2	0	0	32
WSW	1	10	14	0	0	0	25
W	1	14	9	0	0	0	24
WNW	1	16	6	0	0	0	23
NW	1	5	0	0	0	0	6
NNW	2	6	0	0	0	0	8
Variable	0	0	0	0	0	0	0
Total	18	148	112	26	0	0	304

Hours of calm in this stability class: 1
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

LaSalle County Generating Station

Period of Record: April - June 2010
Stability Class - Extremely Stable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	4	0	0	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	2	0	0	0	0	2
ESE	0	10	0	0	0	0	10
SE	2	10	4	0	0	0	16
SSE	0	9	6	0	0	0	15
S	0	5	8	1	0	0	14
SSW	1	4	12	0	0	0	17
SW	0	7	10	0	0	0	17
WSW	2	10	6	0	0	0	18
W	1	9	3	0	0	0	13
WNW	0	5	1	0	0	0	6
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	6	76	50	1	0	0	133

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: 0

LaSalle County Generating Station

Period of Record: April - June 2010
Stability Class - Extremely Unstable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
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	1	1
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	1	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: 0

LaSalle County Generating Station

Period of Record: April - June 2010
Stability Class - Moderately Unstable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	1	1	0	2
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	4	4
SSW	0	0	0	0	1	3	4
SW	0	0	0	0	0	1	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	0	0	1	2	8	11

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: 0

LaSalle County Generating Station

Period of Record: April - June 2010
Stability Class - Slightly Unstable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	1	0	0	1
NE	0	0	0	1	2	0	3
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	4	4
SSW	0	0	0	1	3	6	10
SW	0	0	0	1	2	5	8
WSW	0	0	0	0	0	2	2
W	0	0	0	0	0	0	0
WNW	0	0	0	1	0	0	1
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	5	7	17	29

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: 0

LaSalle County Generating Station

Period of Record: April - June 2010
Stability Class - Neutral - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	14	15	9	14	1	53
NNE	2	13	35	15	8	0	73
NE	0	15	23	35	19	6	98
ENE	0	12	21	30	28	10	101
E	0	9	20	13	19	7	68
ESE	1	17	11	10	18	25	82
SE	1	6	5	14	13	14	53
SSE	3	2	19	10	1	2	37
S	1	7	19	17	5	10	59
SSW	0	7	20	16	10	23	76
SW	0	7	30	17	20	9	83
WSW	1	10	12	21	17	4	65
W	0	9	19	23	16	7	74
WNW	0	5	22	22	30	3	82
NW	2	7	11	18	23	13	74
NNW	1	12	17	11	20	2	63
Variable	0	0	0	0	0	0	0
Total	12	152	299	281	261	136	1141

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: 0

LaSalle County Generating Station

Period of Record: April - June 2010
Stability Class - Slightly Stable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	3	2	11	1	1	19
NNE	0	4	3	18	6	0	31
NE	0	8	17	16	1	0	42
ENE	0	10	19	22	10	0	61
E	1	4	16	22	10	8	61
ESE	0	2	6	15	14	11	48
SE	0	2	3	9	8	7	29
SSE	0	0	3	5	1	6	15
S	1	3	3	13	8	22	50
SSW	1	0	4	13	10	39	67
SW	1	2	11	14	29	11	68
WSW	0	2	11	24	8	2	47
W	2	4	9	21	24	4	64
WNW	1	2	5	12	14	22	56
NW	0	3	12	12	16	0	43
NNW	2	7	1	11	3	1	25
Variable	0	0	0	0	0	0	0
Total	10	56	125	238	163	134	726

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: 0

LaSalle County Generating Station

Period of Record: April - June 2010
Stability Class - Moderately Stable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	3	7	0	0	0	10
NNE	0	1	4	2	2	0	9
NE	1	1	2	2	0	0	6
ENE	0	0	0	1	0	0	1
E	0	1	2	1	2	1	7
ESE	0	1	4	4	8	1	18
SE	0	0	3	7	8	6	24
SSE	0	2	2	7	5	4	20
S	1	2	2	15	10	0	30
SSW	2	1	1	9	7	3	23
SW	1	2	3	7	1	6	20
WSW	0	1	3	3	5	2	14
W	1	5	8	11	3	0	28
WNW	0	0	2	7	2	0	11
NW	0	0	0	4	2	0	6
NNW	3	0	1	5	0	0	9
Variable	0	0	0	0	0	0	0
Total	9	20	44	85	55	23	236

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: 0

LaSalle County Generating Station

Period of Record: April - June 2010
Stability Class - Extremely Stable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
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	3	2	0	5
S	0	0	1	3	4	1	9
SSW	0	0	1	0	3	7	11
SW	0	2	1	1	0	4	8
WSW	0	0	0	4	0	0	4
W	0	0	2	0	0	0	2
WNW	0	0	0	1	0	0	1
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	2	5	12	9	12	40

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: 0

LaSalle County Generating Station

Period of Record: July - September 2010
Stability Class - Extremely Unstable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	1	0	0	1
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	1	0	0	1
SSW	0	0	5	8	0	0	13
SW	0	0	3	0	1	0	4
WSW	0	0	5	4	1	2	12
W	0	0	3	0	0	0	3
WNW	0	0	2	10	0	0	12
NW	0	0	0	1	0	0	1
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	0	18	25	2	2	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: 0

LaSalle County Generating Station

Period of Record: July - September 2010
Stability Class - Moderately Unstable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	1	0	0	1
NNE	0	1	1	0	0	0	2
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	1	3	1	0	0	5
SSW	0	4	12	5	1	0	22
SW	0	5	8	7	2	0	22
WSW	0	2	5	3	1	1	12
W	0	1	8	1	0	0	10
WNW	0	1	12	5	0	0	18
NW	0	0	2	4	0	0	6
NNW	0	1	2	1	0	0	4
Variable	0	0	0	0	0	0	0
Total	0	16	53	28	4	1	102

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: 0

LaSalle County Generating Station

Period of Record: July - September 2010
Stability Class - Slightly Unstable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	4	5	0	0	0	9
NNE	0	11	1	0	0	0	12
NE	0	3	2	0	0	0	5
ENE	0	0	0	0	0	0	0
E	0	1	2	0	0	0	3
ESE	0	0	0	1	0	0	1
SE	0	0	0	0	0	0	0
SSE	0	2	3	0	0	0	5
S	0	6	16	6	0	0	28
SSW	0	10	10	3	1	0	24
SW	0	9	11	4	0	0	24
WSW	0	3	2	2	0	0	7
W	0	10	5	2	1	0	18
WNW	0	7	13	8	0	0	28
NW	0	2	7	2	0	0	11
NNW	0	0	9	6	0	0	15
Variable	0	0	0	0	0	0	0
Total	0	68	86	34	2	0	190

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: 0

LaSalle County Generating Station

Period of Record: July - September 2010
Stability Class - Neutral - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	35	10	0	0	0	47
NNE	3	22	10	0	0	0	35
NE	3	18	13	0	0	0	34
ENE	0	15	16	2	0	0	33
E	1	15	17	5	0	0	38
ESE	2	12	9	6	0	0	29
SE	3	15	6	0	0	0	24
SSE	5	11	20	0	0	0	36
S	4	19	33	14	1	0	71
SSW	0	21	21	11	0	0	53
SW	4	19	13	6	3	0	45
WSW	3	20	10	9	1	0	43
W	4	23	14	9	7	1	58
WNW	1	21	24	10	3	0	59
NW	0	16	19	4	0	0	39
NNW	0	18	25	8	0	0	51
Variable	0	0	0	0	0	0	0
Total	35	300	260	84	15	1	695

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: 0

LaSalle County Generating Station

Period of Record: July - September 2010
Stability Class - Slightly Stable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	33	12	0	0	0	46
NNE	1	14	2	0	0	0	17
NE	3	4	5	0	0	0	12
ENE	3	5	12	3	0	0	23
E	0	20	20	0	0	0	40
ESE	2	13	3	0	0	0	18
SE	3	14	7	0	0	0	24
SSE	5	8	12	0	0	0	25
S	5	13	48	9	1	0	76
SSW	1	23	32	13	7	1	77
SW	2	13	11	8	2	0	36
WSW	2	13	10	3	0	0	28
W	5	14	11	5	8	4	47
WNW	5	17	16	7	1	0	46
NW	2	6	8	0	0	0	16
NNW	3	9	16	0	0	0	28
Variable	0	0	0	0	0	0	0
Total	43	219	225	48	19	5	559

Hours of calm in this stability class: 1
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

LaSalle County Generating Station

Period of Record: July - September 2010
Stability Class - Moderately Stable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	3	19	0	0	0	0	22
NNE	1	3	0	0	0	0	4
NE	1	1	0	0	0	0	2
ENE	1	0	1	0	0	0	2
E	3	21	9	0	0	0	33
ESE	6	19	0	0	0	0	25
SE	5	28	2	0	0	0	35
SSE	0	20	4	0	0	0	24
S	5	31	11	0	0	0	47
SSW	2	19	21	1	1	0	44
SW	3	11	3	1	1	0	19
WSW	2	11	11	1	0	0	25
W	7	8	10	0	0	0	25
WNW	4	31	6	0	0	0	41
NW	1	5	0	0	0	0	6
NNW	1	4	2	0	0	0	7
Variable	0	0	0	0	0	0	0
Total	45	231	80	3	2	0	361

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: 0

LaSalle County Generating Station

Period of Record: July - September 2010
Stability Class - Extremely Stable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
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	4	2	0	0	0	6
ESE	0	8	0	0	0	0	8
SE	5	21	0	0	0	0	26
SSE	1	36	0	0	0	0	37
S	1	37	2	0	0	0	40
SSW	0	39	8	0	0	0	47
SW	0	21	9	0	0	0	30
WSW	1	21	7	0	0	0	29
W	2	11	5	0	0	0	18
WNW	0	10	1	0	0	0	11
NW	0	1	0	0	0	0	1
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	10	209	34	0	0	0	253

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: 0

LaSalle County Generating Station

Period of Record: July - September 2010
Stability Class - Extremely Unstable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
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: 0

LaSalle County Generating Station

Period of Record: July - September 2010
Stability Class - Moderately Unstable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
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	1	0	1	2
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	1	1	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: 0

LaSalle County Generating Station

Period of Record: July - September 2010
Stability Class - Slightly Unstable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	1	0	1
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	1	0	1
SSW	0	0	1	4	4	0	9
SW	0	0	1	2	0	1	4
WSW	0	0	1	3	0	4	8
W	0	0	4	2	0	0	6
WNW	0	0	2	4	0	0	6
NW	0	0	0	2	0	0	2
NNW	0	0	0	2	0	0	2
Variable	0	0	0	0	0	0	0
Total	0	0	9	19	6	5	39

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: 0

LaSalle County Generating Station

Period of Record: July - September 2010
Stability Class - Neutral - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	10	20	13	4	0	47
NNE	2	17	24	7	0	0	50
NE	0	4	30	14	0	0	48
ENE	0	9	11	13	2	0	35
E	1	10	16	6	1	0	34
ESE	1	12	9	12	0	0	34
SE	4	10	9	5	0	0	28
SSE	2	7	9	3	0	0	21
S	2	11	34	35	14	4	100
SSW	3	12	34	32	17	10	108
SW	0	12	41	20	18	10	101
WSW	5	10	13	12	11	2	53
W	2	15	18	10	8	4	57
WNW	0	18	33	20	15	4	90
NW	1	11	35	26	13	2	88
NNW	0	13	26	21	9	0	69
Variable	0	0	0	0	0	0	0
Total	23	181	362	249	112	36	963

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: 0

LaSalle County Generating Station

Period of Record: July - September 2010
Stability Class - Slightly Stable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	6	6	15	9	2	38
NNE	0	2	12	15	0	0	29
NE	0	3	15	19	0	0	37
ENE	0	8	14	16	4	0	42
E	1	3	13	13	8	3	41
ESE	0	7	7	2	3	0	19
SE	2	12	11	9	3	0	37
SSE	3	5	14	8	3	0	33
S	0	2	12	17	22	5	58
SSW	1	5	10	24	45	36	121
SW	1	7	14	21	18	8	69
WSW	0	4	11	14	7	6	42
W	0	5	5	5	11	13	39
WNW	2	10	10	12	21	9	64
NW	1	7	17	8	14	2	49
NNW	3	2	4	15	3	2	29
Variable	0	0	0	0	0	0	0
Total	14	88	175	213	171	86	747

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: 0

LaSalle County Generating Station

Period of Record: July - September 2010
Stability Class - Moderately Stable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	1	1	2	0	2	7
NNE	1	0	2	4	0	0	7
NE	0	0	3	8	0	0	11
ENE	1	0	0	0	0	0	1
E	0	1	2	6	4	1	14
ESE	0	1	1	15	5	0	22
SE	0	1	8	14	4	0	27
SSE	1	5	7	20	1	0	34
S	1	1	9	19	12	0	42
SSW	3	2	8	20	23	7	63
SW	1	4	9	21	4	4	43
WSW	0	1	10	13	1	1	26
W	0	2	6	5	10	1	24
WNW	0	2	2	7	2	0	13
NW	0	2	6	21	6	0	35
NNW	0	1	4	13	3	0	21
Variable	0	0	0	0	0	0	0
Total	9	24	78	188	75	16	390

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: 0

LaSalle County Generating Station

Period of Record: July - September 2010
Stability Class - Extremely Stable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
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	6	0	0	6
S	0	0	3	11	8	1	23
SSW	0	1	5	6	0	0	12
SW	0	1	5	1	0	0	7
WSW	1	0	0	3	0	0	4
W	0	1	1	0	0	0	2
WNW	0	0	0	5	0	0	5
NW	0	0	1	6	0	0	7
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	1	3	15	38	8	1	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: 0

LaSalle County Generating Station

Period of Record: October - December 2010
Stability Class - Extremely Unstable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
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	1	0	0	1
SW	0	0	0	1	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	0	0	2	0	0	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: 34

LaSalle County Generating Station

Period of Record: October - December 2010
Stability Class - Moderately Unstable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
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	2	0	0	2
SSW	0	0	1	1	2	0	4
SW	0	0	0	1	0	0	1
WSW	0	0	1	0	0	0	1
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	2	4	2	0	8

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: 34

LaSalle County Generating Station

Period of Record: October - December 2010
Stability Class - Slightly Unstable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	3	0	0	3
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	3	1	0	0	4
SSW	0	1	1	3	2	0	7
SW	0	0	2	3	1	1	7
WSW	0	0	6	3	4	1	14
W	0	0	4	8	1	0	13
WNW	0	0	6	0	0	0	6
NW	0	0	1	1	0	0	2
NNW	0	1	0	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	0	2	23	22	8	2	57

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: 34

LaSalle County Generating Station

Period of Record: October - December 2010
Stability Class - Neutral - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	21	26	12	0	1	60
NNE	1	7	14	0	0	0	22
NE	0	4	10	1	0	0	15
ENE	0	3	14	9	0	0	26
E	0	3	17	7	1	0	28
ESE	1	4	8	7	3	0	23
SE	1	2	3	1	0	0	7
SSE	0	0	5	12	1	0	18
S	0	1	10	13	2	0	26
SSW	1	1	14	3	2	0	21
SW	1	4	16	7	9	2	39
WSW	1	8	18	22	21	7	77
W	1	10	29	27	14	0	81
WNW	1	8	39	60	12	0	120
NW	0	7	13	17	0	0	37
NNW	0	11	22	53	8	12	106
Variable	0	0	0	0	0	0	0
Total	8	94	258	251	73	22	706

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: 34

LaSalle County Generating Station

Period of Record: October - December 2010
Stability Class - Slightly Stable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	30	20	0	0	0	52
NNE	4	12	6	0	0	0	22
NE	2	4	13	0	0	0	19
ENE	1	5	22	9	0	0	37
E	1	8	16	9	0	0	34
ESE	1	4	9	9	1	0	24
SE	4	3	5	13	5	4	34
SSE	3	1	6	32	9	7	58
S	1	1	6	20	3	2	33
SSW	3	3	7	12	17	1	43
SW	0	3	11	15	2	2	33
WSW	0	4	22	12	1	2	41
W	1	11	13	19	18	2	64
WNW	1	10	27	25	10	0	73
NW	0	7	24	5	0	0	36
NNW	2	11	22	9	1	0	45
Variable	0	0	0	0	0	0	0
Total	26	117	229	189	67	20	648

Hours of calm in this stability class: 1
Hours of missing wind measurements in this stability class: 1
Hours of missing stability measurements in all stability classes: 34

LaSalle County Generating Station

Period of Record: October - December 2010
Stability Class - Moderately Stable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	6	12	2	0	0	0	20
NNE	1	3	0	0	0	0	4
NE	2	2	0	0	0	0	4
ENE	1	1	3	0	0	0	5
E	0	5	13	0	0	0	18
ESE	1	2	2	0	0	0	5
SE	1	2	7	5	0	0	15
SSE	0	3	7	9	1	0	20
S	0	9	15	8	3	0	35
SSW	0	6	23	13	1	0	43
SW	1	4	14	8	0	0	27
WSW	0	6	17	7	0	0	30
W	0	5	22	1	1	0	29
WNW	0	17	22	4	0	0	43
NW	2	9	17	0	0	0	28
NNW	0	8	2	0	0	0	10
Variable	0	0	0	0	0	0	0
Total	15	94	166	55	6	0	336

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: 34

LaSalle County Generating Station

Period of Record: October - December 2010
Stability Class - Extremely Stable - 200Ft-33Ft Delta-T (F)
Winds Measured at 33 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	4	0	0	0	0	4
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	1	0	0	0	0	1
E	1	9	2	0	0	0	12
ESE	2	10	1	0	0	0	13
SE	1	23	4	0	0	0	28
SSE	1	19	21	2	0	0	43
S	1	15	40	3	0	0	59
SSW	1	9	35	1	0	0	46
SW	0	5	25	2	0	0	32
WSW	0	8	32	5	0	0	45
W	2	34	22	1	0	0	59
WNW	0	41	11	0	0	0	52
NW	0	6	5	0	0	0	11
NNW	1	3	0	0	0	0	4
Variable	0	0	0	0	0	0	0
Total	10	187	198	14	0	0	409

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: 34

LaSalle County Generating Station

Period of Record: October - December 2010
Stability Class - Extremely Unstable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
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: 34

LaSalle County Generating Station

Period of Record: October - December 2010
Stability Class - Moderately Unstable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Speed (in mph)

Wind Direction	1-3	4-7	8-12	13-18	19-24	> 24	Total
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: 34

LaSalle County Generating Station

Period of Record: October - December 2010
Stability Class - Slightly Unstable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
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	2	0	2
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	3	0	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: 34

LaSalle County Generating Station

Period of Record: October - December 2010
Stability Class - Neutral - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	11	7	27	27	5	77
NNE	0	12	10	17	1	0	40
NE	0	0	5	14	0	0	19
ENE	1	3	8	11	6	0	29
E	0	1	7	13	6	1	28
ESE	1	3	7	9	4	5	29
SE	0	2	3	1	5	4	15
SSE	0	1	1	5	7	1	15
S	0	1	3	13	12	9	38
SSW	1	0	5	13	4	16	39
SW	1	2	15	11	12	11	52
WSW	0	4	5	22	19	35	85
W	1	5	21	23	26	24	100
WNW	0	3	20	38	36	14	111
NW	1	5	29	21	32	6	94
NNW	0	6	7	13	40	16	82
Variable	0	0	0	0	0	0	0
Total	6	59	153	251	237	147	853

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 5
Hours of missing stability measurements in all stability classes: 34

LaSalle County Generating Station

Period of Record: October - December 2010
Stability Class - Slightly Stable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	7	3	7	14	1	32
NNE	0	9	10	13	9	0	41
NE	1	5	5	18	1	0	30
ENE	1	1	11	11	9	0	33
E	0	4	8	17	4	0	33
ESE	0	0	5	10	5	4	24
SE	1	4	2	5	4	9	25
SSE	0	4	1	3	11	36	55
S	0	2	5	1	12	35	55
SSW	0	1	2	9	6	23	41
SW	1	1	6	12	11	21	52
WSW	1	1	11	11	7	5	36
W	0	1	8	14	24	24	71
WNW	0	3	7	21	16	31	78
NW	0	2	5	15	17	11	50
NNW	0	1	11	10	15	13	50
Variable	0	0	0	0	0	0	0
Total	5	46	100	177	165	213	706

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: 34

LaSalle County Generating Station

Period of Record: October - December 2010
Stability Class - Moderately Stable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	3	3	2	12	2	22
NNE	4	3	1	5	1	0	14
NE	0	2	1	3	0	0	6
ENE	0	4	2	0	0	0	6
E	0	4	2	2	2	1	11
ESE	0	2	2	6	3	0	13
SE	0	2	4	4	4	3	17
SSE	0	1	7	6	5	2	21
S	0	1	5	15	13	25	59
SSW	0	1	3	9	20	33	66
SW	0	2	3	12	6	9	32
WSW	0	2	6	10	12	11	41
W	1	1	3	9	23	7	44
WNW	1	2	11	10	9	1	34
NW	2	3	7	13	8	0	33
NNW	0	1	5	7	10	0	23
Variable	0	0	0	0	0	0	0
Total	8	34	65	113	128	94	442

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: 34

LaSalle County Generating Station

Period of Record: October - December 2010
Stability Class - Extremely Stable - 375Ft-33Ft Delta-T (F)
Winds Measured at 375 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	3	2	1	1	7
NNE	0	2	2	3	0	0	7
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	1	0	1	0	0	2
ESE	0	0	2	0	0	0	2
SE	0	0	4	1	0	0	5
SSE	0	1	2	3	0	0	6
S	0	0	1	13	9	1	24
SSW	0	0	1	5	8	0	14
SW	0	0	1	14	7	0	22
WSW	0	0	2	4	7	2	15
W	0	2	3	5	9	0	19
WNW	0	0	1	14	3	0	18
NW	0	0	4	7	2	0	13
NNW	0	1	0	3	1	0	5
Variable	0	0	0	0	0	0	0
Total	0	7	26	75	47	4	159

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: 34

APPENDIX G

ANNUAL RADIOLOGICAL GROUNDWATER PROTECTION PROGRAM REPORT (ARGPPR)

Docket No: 50-373
50-374

LASALLE COUNTY STATION
UNITS 1 and 2

Annual Radiological
Groundwater Protection Program Report

1 January Through 31 December 2010

Prepared By

Teledyne Brown Engineering
Environmental Services

Exelon SM
Nuclear

LaSalle County Station
Marseilles, IL 61341

May 2011

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Appendices

I. Summary and Conclusions

In 2006, Exelon instituted a comprehensive program to evaluate the impact of station operations on groundwater and surface water in the vicinity of LaSalle County Station. This evaluation involved numerous station personnel and contractor support personnel. Baseline sampling efforts included the use of six surface water locations, two of which were already included in LaSalle's REMP sampling program, and seventeen groundwater well sampling locations. Following baseline sampling and subsequent recommendations, LaSalle's Radiological Groundwater Protection Program (RGPP) program now consists of the six surface water and sixteen groundwater well sampling locations. The results for LaSalle's RGPP sampling efforts in 2010 are included in this report.

This is the fifth in a series of annual reports on the status of the RGPP conducted at LaSalle County Station. This report covers groundwater and surface water samples, collected from the environment, both on and off station property in 2010. During that time period, 258 analyses were performed on 76 samples from 23 locations (6 surface water and 17 ground water wells). The monitoring was conducted by Station personnel.

In assessing all the data gathered for this report, it was concluded that the operation of LaSalle County Station had no adverse radiological impact on the environment, and there are no known active releases into the groundwater at LaSalle County Station.

Strontium-90 was not detected in any groundwater or surface water sample during 2010.

Naturally occurring Potassium-40 was detected in two groundwater samples and one surface water sample. Other gamma-emitting radionuclides attributable to licensed plant operations were not detected in any of the groundwater or surface water samples.

In the case of tritium, Exelon specified that its laboratories achieve a lower limit of detection 10 times lower than that required by federal regulation.

Tritium was not detected in surface water samples at concentrations greater than the United States Environmental Protection Agency (USEPA) drinking water standard (and the Nuclear Regulatory Commission Reporting Limit) of 20,000 pCi/L. Levels of tritium were detected at concentrations greater than the LLD of 200 pCi/L in 5 of 17 groundwater monitoring locations. The tritium concentrations ranged from <LLD to 610,000 ± 59,500 pCi/L. Elevated tritium levels (>200 pCi/L) observed are associated with the U1 CY tank leak, which occurred in June - July, 2010, and historic elevated tritium believed to be associated with the 2001 CY tank rupture, as documented in the Station's

10CFR50.75(g) report.

Gross Alpha and Gross Beta analyses in the dissolved and suspended fractions were performed on groundwater samples during the second sampling in 2010. Gross Alpha (dissolved) was not detected in any of the groundwater locations. Gross Alpha (suspended) was detected in 4 of 14 samples affecting 4 of 10 groundwater locations analyzed. The concentrations ranged from 2.0 to 146 pCi/L. Gross Beta (dissolved) was detected in 10 of 14 samples affecting 8 of 11 groundwater locations analyzed. The concentrations ranged from 3.6 to 38 pCi/L. Gross Beta (suspended) was detected in 7 of 14 samples affecting 6 of 10 groundwater locations analyzed. The concentrations ranged from 3.0 to 1,320 pCi/L.

Hard-To-Detect analyses were performed on a select group of groundwater locations to establish background levels. The analyses for groundwater included Fe-55, Ni-63, Am-241, Cm-242, Cm-243/244, Pu-238, Pu-239/240, U-234, U-235, U-238. The isotopes of U-234 and U-238 were detected in six of seven samples affecting 4 of 4 groundwater monitoring locations analyzed. The U-234 concentrations ranged from 0.2 to 4.4 pCi/L and the U-238 concentrations ranged from 0.2 to 3.8 pCi/L. The levels detected are considered background.

Introduction

The LaSalle County Station (LSCS), consisting of two boiling water reactors, each rated for 3546 MWt, owned and operated by Exelon Corporation, is located in LaSalle County, Illinois. Unit No. 1 went critical on 16 March 1982. Unit No. 2 went critical on 02 December 1983. The site is located in northern Illinois, approximately 75 miles southwest of Chicago, Illinois.

This report covers those analyses performed by Teledyne Brown Engineering (TBE) on samples collected in 2010.

A. Objectives of the RGPP

The long-term objectives of the RGPP are as follows:

1. Identify suitable locations to monitor and evaluate potential impacts from station operations before significant radiological impact to the environment and potential drinking water sources.

2. Understand the local hydrogeologic regime in the vicinity of the station and maintain up-to-date knowledge of flow patterns on the surface and shallow subsurface.

3. Perform routine water sampling and radiological analysis of water from selected locations.

4. Report new leaks, spills, or other detections with potential radiological significance to stakeholders in a timely manner.

5. Regularly assess analytical results to identify adverse trends.

6. Take necessary corrective actions to protect groundwater resources.

B. Implementation of the Objectives

The objectives identified have been implemented at LaSalle County Station as discussed below:

Exelon and its consultant identified locations as described in the 2006 Phase 1 study. Phase 1 studies were conducted by Conestoga Rovers and Associates (CRA) and the results and conclusions were made available to state and federal regulators.

1. The LaSalle County Station reports describe the local hydrogeologic regime. Periodically, the flow patterns on the

surface and shallow subsurface are updated based on ongoing measurements.

2. LaSalle County Station will continue to perform routine sampling and radiological analysis of water from selected locations.

3. LaSalle County Station has implemented procedures to identify and report new leaks, spills, or other detections with potential radiological significance in a timely manner.

4. LaSalle County Station staff and consulting hydrogeologist assess analytical results on an ongoing basis to identify adverse trends.

C. Program Description

1. Sample Collection

Sample locations can be found in Table A–1, Appendix A.

Groundwater and Surface Water

Samples of water are collected, managed, transported and analyzed in accordance with approved procedures following EPA methods. Both groundwater and surface samples water are collected. Sample locations, sample collection frequencies and analytical frequencies are controlled in accordance with approved station procedures. Contractor and/or station personnel are trained in the collection, preservation management, and shipment of samples, as well as in documentation of sampling events. Analytical laboratories are subject to internal quality assurance programs, industry cross-check programs, as well as nuclear industry audits. Station personnel review and evaluate all analytical data deliverables as data are received.

Analytical data results are reviewed by both station personnel and an independent hydrogeologist for adverse trends or changes to hydrogeologic conditions.

D. Characteristics of Tritium (H-3)

Tritium (chemical symbol H-3) is a radioactive isotope of hydrogen. The most common form of tritium is tritium oxide, which is also called "tritiated water." The chemical properties of tritium are essentially those of ordinary hydrogen.

Tritiated water behaves the same as ordinary water in both the

environment and the body. Tritium can be taken into the body by drinking water, breathing air, eating food, or absorption through skin. Once tritium enters the body, it disperses quickly and is uniformly distributed throughout the body. Tritium is excreted primarily through urine with a clearance rate characterized by an effective biological half-life of about 14 days. Within one month or so after ingestion, essentially all tritium is cleared. Organically bound tritium (tritium that is incorporated in organic compounds) can remain in the body for a longer period.

Tritium is produced naturally in the upper atmosphere when cosmic rays strike air molecules. Tritium is also produced during nuclear weapons explosions, as a by-product in reactors producing electricity, and in special production reactors, where the isotopes lithium-7 and/or boron-10 are activated to produce tritium. Like normal water, tritiated water is colorless and odorless. Tritiated water behaves chemically and physically like non-tritiated water in the subsurface, and therefore tritiated water will travel at the same velocity as the average groundwater velocity.

Tritium has a half-life of approximately 12.3 years. It decays spontaneously to helium-3 (3He). This radioactive decay releases a beta particle (low-energy electron). The radioactive decay of tritium is the source of the health risk from exposure to tritium. Tritium is one of the least dangerous radionuclides because it emits very weak radiation and leaves the body relatively quickly. Since tritium is almost always found as water, it goes directly into soft tissues and organs. The associated dose to these tissues is generally uniform and is dependent on the water content of the specific tissue.

III. Program Description

A. Sample Analysis

This section describes the general analytical methodologies used by TBE to analyze the environmental samples for radioactivity for the LaSalle County Station RGPP in 2010. Sample and analysis and frequency is based upon well location, assessed risk and site hydrogeology as described in the RGPP.

In order to achieve the stated objectives, the current program includes the following analyses:

1. Concentrations of gamma emitters in groundwater and surface water.

2. Concentrations of strontium in groundwater and surface water.

3. Concentrations of tritium in groundwater and surface water.

4. Concentrations of Gross Alpha, Dissolved and Suspended and Gross Beta, Dissolved and Suspended in groundwater and surface water.

5. Concentrations of Am-241 in groundwater and surface water.

6. Concentrations of Cm-242 and Cm-243/244 in groundwater and surface water.

7. Concentrations of Pu-238 and PU-239/240 in groundwater and surface water.

8. Concentrations of U-234, U-235 and U-238 in groundwater and surface water.

9. Concentrations of Fe-55 in groundwater and surface water.

10. Concentrations of Ni-63 in groundwater and surface water.

B. Data Interpretation

The radiological data collected prior to LaSalle County Station becoming operational were used as a baseline with which these operational data were compared. For the purpose of this report, LaSalle County Station was considered operational at initial criticality. Several factors were important in the interpretation of the data:

1. Lower Limit of Detection and Minimum Detectable Concentration

The lower limit of detection (LLD) is specified by federal regulation as a minimum sensitivity value that must be achieved routinely by the analytical parameter.

2. Laboratory Measurements Uncertainty

The estimated uncertainty in measurement of tritium in environmental samples is frequently on the order of 50% of the measurement value.

Statistically, the exact value of a measurement is expressed as a range with a stated level of confidence. The convention is to report results with a 95% level of confidence. The uncertainty comes

from calibration standards, sample volume or weight measurements, sampling uncertainty and other factors. Exelon reports the uncertainty of a measurement created by statistical process (counting error) as well as all sources of error (Total Propagated Uncertainty or TPU). Each result has two values calculated. Exelon reports the TPU by following the result with plus or minus ± the estimated sample standard deviation, as TPU, that is obtained by propagating all sources of analytical uncertainty in measurements.

Analytical uncertainties are reported at the 95% confidence level in this report for reporting consistency with the AREOR.

C. Background Analysis

A pre-operational radiological environmental monitoring program (pre-operational REMP) was conducted to establish background radioactivity levels prior to operation of the Station. The environmental media sampled and analyzed during the pre-operational REMP were atmospheric radiation, fall-out, domestic water, surface water, precipitation, marine life, and foodstuffs. The results of the monitoring were detailed in the report entitled, Environmental Radiological Monitoring for LaSalle County Nuclear Power Station, Commonwealth Edison Company, Annual Reports for the years 1979 and 1981. The pre-operational REMP contained analytical results from samples collected from the surface water and groundwater.

1. Background Concentrations of Tritium

The purpose of the following discussion is to summarize background measurements of tritium in various media performed by others. Additional detail may be found by consulting references (CRA 2006).

a. Tritium Production

Tritium is created in the environment from naturally occurring processes both cosmic and subterranean, as well as from anthropogenic (i.e., man-made) sources. In the upper atmosphere, "Cosmogenic" tritium is produced from the bombardment of stable nuclides and combines with oxygen to form tritiated water, which will then enter the hydrologic cycle. Below ground, "lithogenic" tritium is produced by the bombardment of natural lithium present in crystalline rocks by neutrons produced by the radioactive decay of naturally abundant uranium and thorium. Lithogenic production of

tritium is usually negligible compared to other sources due to the limited abundance of lithium in rock. The lithogenic tritium is introduced directly to groundwater.

A major anthropogenic source of tritium and strontium-90 comes from the former atmospheric testing of thermonuclear weapons. Levels of tritium in precipitation increased significantly during the 1950s and early 1960s, and later with additional testing, resulting in the release of significant amounts of tritium to the atmosphere. The Canadian heavy water nuclear power reactors, other commercial power reactors, nuclear research and weapons production continue to influence tritium concentrations in the environment.

b. Precipitation Data

Precipitation samples are routinely collected at stations around the world for the analysis of tritium and other radionuclides. Two publicly available databases that provide tritium concentrations in precipitation are Global Network of Isotopes in Precipitation (GNIP) and USEPA's RadNet database. GNIP provides tritium precipitation concentration data for samples collected world wide from 1960 to 2006. RadNet provides tritium precipitation concentration data for samples collected at stations throughout the U.S. from 1960 up to and including 2006. Based on GNIP data for sample stations located in the U.S. Midwest, tritium concentrations peaked around 1963. This peak, which approached 10,000 pCi/L for some stations, coincided with the atmospheric testing of thermonuclear weapons. Tritium concentrations in surface water showed a sharp decline up until 1975 followed by a gradual decline since that time. Tritium concentrations in Midwest precipitation have typically been below 100 pCi/L since around 1980. LaSalle's 1979 or 1981 pre-operational REMP showed precipitation tritium concentrations >300 pCi/L. Tritium concentrations in wells may still be above the 200 pCi/L detection limit from the external causes described above. Water from previous years and decades is naturally captured in groundwater, so some well water sources today are affected by the surface water from the 1960s that was elevated in tritium.

Surface Water Data

Tritium concentrations are routinely measured in large

surface water bodies, including Lake Michigan and the Mississippi River. Illinois surface water data were typically less than 100 pCi/L. Illinois River H3 results have shown >200 pCi/L, as evidenced in LaSalle's REMP program sample results. This could be attributable to release for Braidwood and Dresden upstream

The USEPA RadNet surface water data typically has a reported 'Combined Standard Uncertainty' of 35 to 50 pCi/L. According to USEPA, this corresponds to a ± 70 to 100 pCi/L 95% confidence bound on each given measurement. Therefore, the typical background data provided may be subject to measurement uncertainty of approximately ± 70 to 100 pCi/L.

The radio-analytical laboratory is counting tritium results to an Exelon specified LLD of 200 pCi/L. Typically, the lowest positive measurement will be reported within a range of 40 – 240 pCi/L or 140 ± 100 pCi/L. Clearly, these sample results cannot be distinguished as different from background at this concentration.

IV. Results and Discussion

A. Groundwater Results

Groundwater

Samples were collected from on -site wells throughout the year in accordance with the station radiological groundwater protection program. Analytical results and anomalies are discussed below.

Tritium

Samples from 17 locations were analyzed for tritium activity (Table B–I.1, Appendix B). Tritium values ranged from <LLD to 611,000 pCi/L at well MW-LS-104S. Based on the hyrogeological study conducted at LaSalle, there is no feasible pathway into a drinking water supply. Based on established aquifer flow paths the location most representative of potential offsite release into groundwater was also less than the detection limit.

Strontium

Strontium-90 was analyzed for in 22 samples from 11 groundwater

locations and was less than the required detection limit of 1.0 pCi/liter (Table B-I.1, Appendix B).

Gross Alpha and Gross Beta (dissolved and suspended)

Gross Alpha and Gross Beta analyses in the dissolved and suspended fractions were performed on groundwater and surface water samples during 2010. Gross Alpha (dissolved) was not detected in any of the groundwater locations analyzed. Gross Alpha (suspended) was detected in 4 of 14 samples affecting 4 of 10 groundwater locations analyzed. The concentrations ranged from 2.0 to 146 pCi/L. Gross Beta (dissolved) was detected in 10 of 14 samples affecting 8 of 10 groundwater locations analyzed. The concentrations ranged from 3.6 to 38 pCi/L. Gross Beta (suspended) was detected in 7 of 14 samples affecting 6 of 10 groundwater locations analyzed. The concentrations ranged from 3.0 to 1,320 pCi/L. (Table B-I.1, Appendix B).

Gamma Emitters

Naturally occurring K-40 was detected in two samples. The concentration ranged from 63 to 65 pCi/l. No other gamma emitting nuclides were detected in any of the samples analyzed (Table B-I.2, Appendix B).

Hard-To-Detect

Hard-To-Detect analyses were performed on a select group of groundwater locations to establish background levels. The analyses included Fe-55, Ni-63, Am-241, Cm-242, Cm-243/244, Pu-238, Pu-239/240, U-234, U-235, and U-238. The isotopes of U-234 and U-238 were detected in six of seven samples affecting 4 of 4 groundwater monitoring locations analyzed. The U-234 concentrations ranged from 0.2 to 4.4 pCi/L and the U-238 concentrations ranged from 0.2 to 3.8 pCi/L. The concentrations detected are considered background (Table B-I.3, Appendix B).

All other hard-to-detect nuclides were not detected at concentrations greater than their respective MDCs.

B. Surface Water Results

Surface Water

Samples were collected from on and off-site surface water locations throughout the year in accordance with the station radiological groundwater protection program. Analytical results and anomalies are discussed below.

Tritium

Samples from six locations were analyzed for tritium activity (Table B–II.1, Appendix B). All surface water samples were <LLD. Based on the hyrogeological study conducted at LaSalle, there is no feasible pathway into a drinking water supply. Based on established aquifer flow paths the location most representative of potential offsite release into groundwater was also less than the detection limit.

Strontium

No Sr-90 was detected in any surface water samples analyzed in 2010.

Gamma Emitters

Naturally occurring K-40 was detected in one sample at a concentration of 61 pCi/l. No other gamma emitting nuclides were detected in any of the samples analyzed (Table B-II.2, Appendix B).

C. Drinking Water Well Survey

A drinking water well survey was conducted during the summer 2006 by CRA (CRA 2006) around the LaSalle County Station. This survey concluded that no residents in the vicinity of the plant utilize the shallow water aquifer as a drinking water supply. Site hydrological studies of aquifer flow and permeation rates from the shallow aquifer to the deep aquifer concluded that there is no feasible dose receptor via a ground water pathway at LaSalle.

D. Summary of Results – Inter-Laboratory Comparison Program

Inter-Laboratory Comparison Program results for TBE and Environmental Inc. (Midwest Labs) are presented in the AREOR.

E. Leaks, Spills, and Releases

There was one new leak identified at LaSalle Station during the reporting period. During the June and July of 2010, a leak from the U1 Cycled Condensate (CY) tank was identified and remediated. Upon confirmation of a leak, this issue was documented in the Corrective Actions Program (CAP) and the proper reports and notifications made to Regulatory agencies and stakeholders. After isolating the U1 CY tank, the tank was drained, repaired, and returned to service. Estimations concluded that 2.0E-01 Ci of tritium were released as a result of this leak with no tritium found to have migrated offsite. Remediation activities include installation of additional groundwater monitoring wells, increased ground water sampling frequency, and natural monitored attenuation (NMA). Due to the fact that no tritium has been found to have migrated offsite, no liquid radiological release was reported in the 2010 LaSalle ARERR.

F. Trends

Analysis results from samples continue to be trended in order to assess impact to groundwater at LaSalle Station. There was one leak identified in the reporting period. Sample data from the plume arising from the leak is being trended per the LaSalle RGPP. The plume is currently dispersing with the groundwater flow as to be expected. Currently, no tritium has migrated offsite, and tritium migration offsite is not expected.

G. Investigations

One investigation was carried out during the reporting period, due to the leak identified from the U1 CY tank described above.

H. Actions Taken

1. Compensatory Actions

   As a result of the leak from the U1 CY tank described above, compensatory actions were completed. The U1 CY tank was drained, repaired and returned to service, installation of additional monitoring wells, increased sampling frequency, and regulatory notifications were made to the NRC and State officials.

2. Installation of Monitoring Wells

   As a result of the leak from the U1 CY tank described above, there were six additional monitoring wells installed at LaSalle station: TW-LS-114s, TW-LS-115s, TW-LS-116s, TW-LS-117s, TW-LS-118s & TW-LS-119s. These well locations were based upon input from the hydrogeology contractor (CRA) to aid in monitoring and characterizing the resultant plume from the U1 CY tank leak.

3. Actions to Recover/Reverse Plumes

   LaSalle station is currently utilizing Natural Monitored Attenuation to remediate the plume resultant from the U1 CY tank leak that occurred in June – July 2010.

APPENDIX A

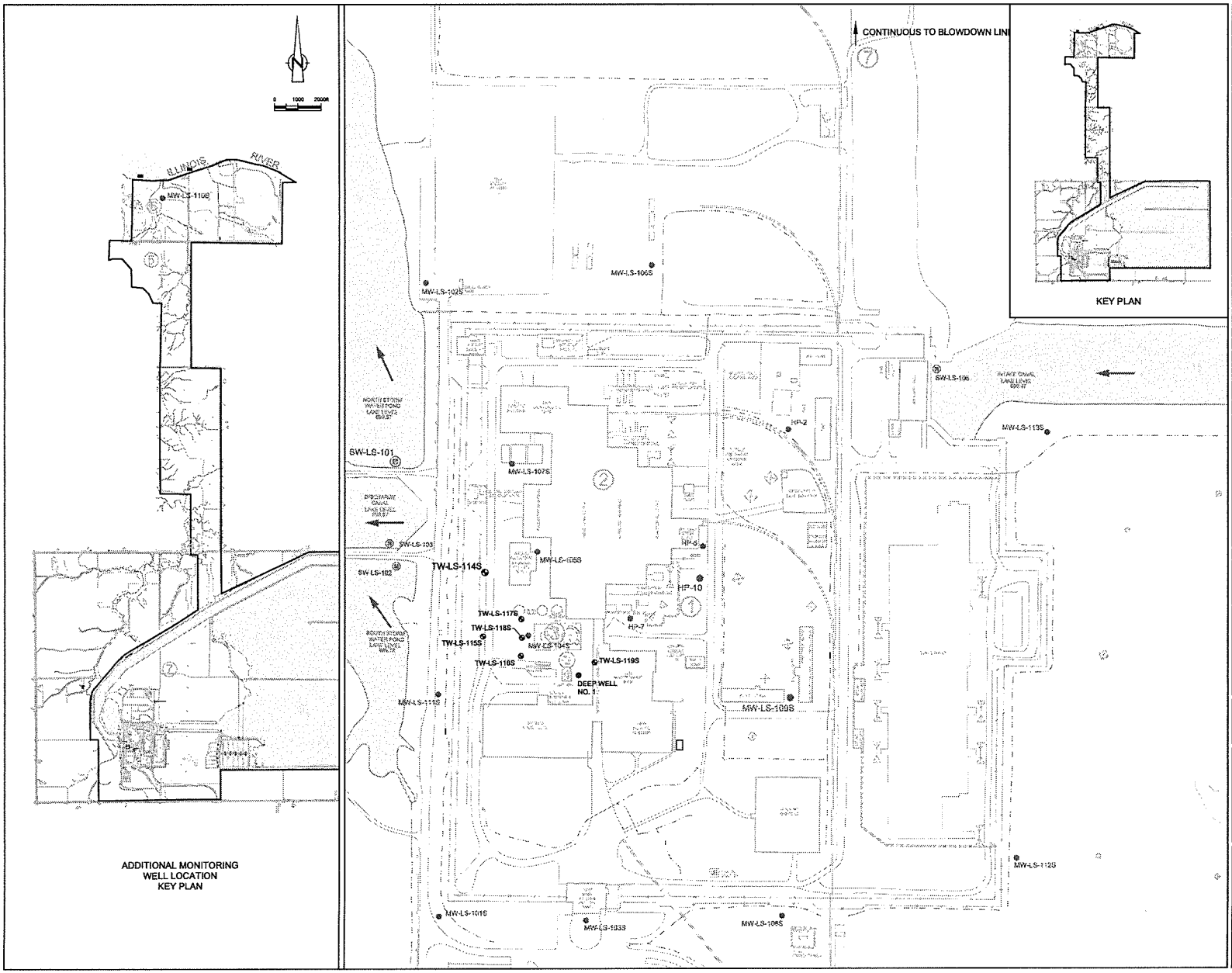
LOCATION DESIGNATION & DISTANCE

TABLE A-1 **LaSalle County Station Groundwater Monitoring Sample Point List, 2010**

Site	Site Type
SW-LS-101	Surface Water
SW-LS-102	Surface Water
SW-LS-103	Surface Water
SW-LS-104	Surface Water
SW-LS-105	Surface Water
SW-LS-106	Surface Water
MW-LS-101s	Monitoring Well
MW-LS-102s	Monitoring Well
MW-LS-103s	Monitoring Well
MW-LS-104s	Monitoring Well
MW-LS-105s	Monitoring Well
MW-LS-106s	Monitoring Well
MW-LS-107s	Monitoring Well
MW-LS-108s	Monitoring Well
MW-LS-109s	Monitoring Well
MW-LS-110s	Monitoring Well
MW-LS-111s	Monitoring Well
MW-LS-112s	Monitoring Well
MW-LS-113s	Monitoring Well
HP-2	Monitoring Well
HP-5	Monitoring Well
HP-7	Monitoring Well
HP-10	Monitoring Well
TW-LS-114s	Monitoring Well
TW-LS-115s	Monitoring Well
TW-LS-116s	Monitoring Well
TW-LS-117s	Monitoring Well
TW-LS-118s	Monitoring Well
TW-LS-119s	Monitoring Well

APPENDIX A-1

LASALLE COUNTY STATION MAP OF GROUNDWATER MONITORING SAMPLE LOCATIONS



SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

EXELON GENERATION COMPANY, LLC

FLEETWIDE ASSESSMENT

MONITORING WELL LOCATIONS
LaSALLE GENERATING STATION
MARSEILLES, ILLINOIS

Exelon

CONESTOGA-ROVERS & ASSOCIATES

Source References:
SDI CONSULTANTS, ALTA/ACSM LAND TITLE SURVEY
LASALLE NUCLEAR STATION, 9-18-2000

Project Manager:	Reviewed By:	Date:	
S. QUIGLEY	M. KELLY	JULY 2006	
Scale: AS SHOWN	Project No.: 72245-00	Report No.: PRES001	Drawing No.: figure 1

72245-00(PRES001)GN-CO002 APR 19/2011

APPENDIX B

DATA TABLES

TABLE B-I.1 CONCENTRATIONS OF TRITIUM, STRONTIUM, GROSS ALPHA, AND GROSS BETA IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY STATION, 2010

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90	GR-A (DIS)	GR-A (SUS)	GR-B (DIS)	GR-B (SUS)
HP-10	03/17/10	< 159					
HP-10	06/14/10	< 159	< 0.4				
HP-10	09/13/10	< 160					
HP-10	11/09/10	< 173	< 0.7	< 24.3	< 7.0	16.6 ± 9.7	< 6.2
HP-2	03/17/10	< 159					
HP-2	06/16/10	< 160	< 0.3				
HP-2	09/13/10	< 157					
HP-2	11/12/10	< 175	< 0.6	< 3.4	< 7.5	10.9 ± 3.4	60.2 ± 5.5
HP-5	03/18/10	< 155					
HP-5	06/16/10	< 157	< 0.7				
HP-5	09/13/10	< 158					
HP-5	11/12/10	< 177	< 0.7	< 5.4	2.0 ± 1.2	5.9 ± 2.3	< 2.6
HP-7	03/17/10	< 158					
HP-7	06/16/10	< 158	< 0.4				
HP-7	09/17/10	< 158					
HP-7	11/09/10	< 172	< 0.7	< 15.9	< 7.0	21.9 ± 13.9	< 6.2
MW-LS-104S	03/19/10	< 159					
MW-LS-104S	06/16/10	< 157	< 0.6				
MW-LS-104S	07/07/10	611000 ± 59500	< 0.9	< 2.2	< 0.9	< 3.5	< 1.9
MW-LS-104S	09/09/10	54300 ± 5440					
MW-LS-104S	11/09/10	36200 ± 3670	< 0.9	< 3.5	< 2.3	< 2.1	9.6 ± 2.4
MW-LS-105S	03/18/10	293 ± 111	< 0.6	< 2.4	< 1.7	5.0 ± 2.2	6.1 ± 1.7
MW-LS-105S	06/14/10	< 164	< 0.5	< 2.3	< 0.4	3.6 ± 2.0	< 1.5
MW-LS-105S	09/09/10	342 ± 118					
MW-LS-105S	11/09/10	232 ± 116	< 0.6	< 3.4	< 1.6	8.5 ± 3.3	3.0 ± 1.8
MW-LS-106S	03/19/10	< 156					
MW-LS-106S	06/15/10	< 159	< 0.4				
MW-LS-106S	09/15/10	< 161					
MW-LS-107S	03/18/10	< 160					
MW-LS-107S	06/14/10	< 161	< 0.7				
MW-LS-107S	09/09/10	< 159					
MW-LS-107S	11/09/10	< 174	< 0.7	< 30.2	36.0 ± 9.5	< 23.8	128.0 ± 9.8
MW-LS-109S	06/14/10	< 177	< 0.7	< 55.4	146.0 ± 50.8	38.0 ± 15.5	1320.0 ± 94.9
MW-LS-110S	03/17/10	< 161	< 0.7	< 1.9	< 1.1	< 2.7	< 1.8
MW-LS-110S	06/15/10	< 173	< 0.6	< 2.4	2.1 ± 0.7	3.6 ± 1.9	8.0 ± 1.7
MW-LS-111S	03/18/10	< 159					
MW-LS-111S	06/15/10	< 160	< 0.8				
MW-LS-111S	09/09/10	< 163					
MW-LS-111S	11/12/10	< 172	< 0.7	< 15.1	< 7.0	26.1 ± 17.1	< 6.2
TW-LS-114S	09/17/10	< 159					
TW-LS-114S	11/09/10	< 173					
TW-LS-115S	08/11/10	< 162					
TW-LS-115S	09/09/10	< 156					
TW-LS-115S	11/09/10	< 183					
TW-LS-116S	08/11/10	< 165					
TW-LS-116S	09/09/10	< 159					
TW-LS-116S	11/09/10	197 ± 106					
TW-LS-117S	08/11/10	< 163					
TW-LS-117S	09/09/10	< 161					
TW-LS-117S	11/09/10	< 181					

TABLE B-I.1 CONCENTRATIONS OF TRITIUM, STRONTIUM, GROSS ALPHA, AND GROSS BETA IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY STATION, 2010

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90	GR-A (DIS)	GR-A (SUS)	GR-B (DIS)	GR-B (SUS)
TW-LS-118S	08/11/10	1210 ± 172					
TW-LS-118S	09/09/10	1290 ± 180					
TW-LS-118S	11/12/10	3200 ± 364					
TW-LS-119S	08/11/10	783 ± 140					
TW-LS-119S	09/09/10	1530 ± 208					
TW-LS-119S	11/09/10	407 ± 113					

TABLE B-I.2 **CONCENTRATIONS OF GAMMA EMITTERS IN GROUNDWATER SAMPLES COLLECTED COLLECTED IN THE VICINTY OF LASALLE COUNTY STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION PERIOD	Be-7	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
HP-10	06/14/10	< 15	< 20	< 1	< 2	< 3	< 1	< 3	< 2	< 3	< 12	< 1	< 1	< 17	< 5
HP-10	11/09/10	< 15	< 25	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 12	< 1	< 1	< 17	< 6
HP-2	06/16/10	< 19	< 17	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 13	< 2	< 2	< 21	< 7
HP-2	11/12/10	< 26	< 26	< 3	< 3	< 6	< 2	< 5	< 3	< 5	< 15	< 2	< 2	< 26	< 8
HP-5	06/16/10	< 15	< 12	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 11	< 1	< 2	< 17	< 5
HP-5	11/12/10	< 26	< 55	< 2	< 3	< 7	< 2	< 5	< 3	< 5	< 14	< 2	< 2	< 24	< 9
HP-7	06/16/10	< 19	< 18	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 13	< 2	< 2	< 21	< 7
HP-7	11/09/10	< 14	< 25	< 1	< 1	< 3	< 1	< 2	< 2	< 3	< 10	< 1	< 1	< 16	< 5
MW-LS-104S	06/16/10	< 20	< 44	< 2	< 2	< 6	< 2	< 4	< 2	< 4	< 13	< 2	< 2	< 22	< 8
MW-LS-104S	07/07/10	< 26	< 26	< 3	< 3	< 6	< 3	< 6	< 3	< 5	< 8	< 2	< 3	< 20	< 7
MW-LS-104S	11/09/10	< 16	< 12	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 14	< 1	< 1	< 20	< 7
MW-LS-105S	03/18/10	< 32	< 34	< 4	< 3	< 6	< 3	< 8	< 4	< 6	< 7	< 4	< 4	< 18	< 7
MW-LS-105S	06/14/10	< 18	< 38	< 2	< 2	< 4	< 2	< 4	< 2	< 4	< 7	< 2	< 2	< 14	< 4
MW-LS-105S	11/09/10	< 16	< 30	< 1	< 2	< 4	< 2	< 3	< 2	< 3	< 14	< 1	< 1	< 20	< 6
MW-LS-106S	06/15/10	< 20	< 36	< 2	< 2	< 5	< 2	< 3	< 2	< 4	< 14	< 2	< 2	< 20	< 7
MW-LS-107S	06/14/10	< 19	65 ± 27	< 2	< 2	< 5	< 2	< 3	< 2	< 3	< 13	< 2	< 2	< 22	< 7
MW-LS-107S	11/09/10	< 20	< 17	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 14	< 2	< 2	< 21	< 7
MW-LS-109S	06/14/10	< 22	63 ± 29	< 2	< 2	< 5	< 2	< 5	< 3	< 4	< 9	< 2	< 2	< 18	< 5
MW-LS-110S	03/17/10	< 39	< 33	< 4	< 5	< 9	< 4	< 7	< 4	< 7	< 9	< 4	< 5	< 22	< 8
MW-LS-110S	06/15/10	< 17	< 18	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 6	< 2	< 2	< 13	< 4
MW-LS-111S	06/15/10	< 19	< 17	< 2	< 2	< 4	< 2	< 3	< 2	< 4	< 13	< 2	< 2	< 22	< 7
MW-LS-111S	11/12/10	< 23	< 18	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 13	< 2	< 2	< 22	< 6

TABLE B-I.3 CONCENTRATIONS OF HARD TO DETECTS IN GROUNDWATER SAMPLES COLLECTED IN THE VICINTY OF LASALLE COUNTY STATION, 2010

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION PERIOD	AM-241	CM-242	CM-243/244	PU-238	PU-239/240	U-234	U-235	U-238	FE-55	NI-63
MW-LS-104S	07/07/10	< 0.12	< 0.07	< 0.02	< 0.1	< 0.07	0.5 ± 0.2	< 0.05	0.5 ± 0.2	< 142	< 4.3
MW-LS-104S	11/09/10	< 0.14	< 0.11	< 0.18	< 0.2	< 0.06	1.3 ± 0.3	< 0.10	1.0 ± 0.3	< 146	< 4.8
MW-LS-105S	03/18/10	< 0.20	< 0.04	< 0.11	< 0.1	< 0.03	0.6 ± 0.1	< 0.03	0.5 ± 0.1	< 160	< 4.2
MW-LS-105S	06/14/10	< 0.11	< 0.06	< 0.10	< 0.2	< 0.12	0.6 ± 0.2	< 0.07	0.5 ± 0.2	< 109	< 4.1
MW-LS-109S	06/14/10	< 0.10	< 0.03	< 0.03	< 0.1	< 0.11	4.4 ± 0.6	< 0.03	3.8 ± 0.5	< 111	< 3.1
MW-LS-110S	03/17/10	< 0.03	< 0.03	< 0.03	< 0.2	< 0.19	0.2 ± 0.1	< 0.05	0.2 ± 0.1	< 71	< 4.9
MW-LS-110S	06/15/10	< 0.12	< 0.02	< 0.09	< 0.2	< 0.08	< 0.1	< 0.05	< 0.1	< 115	< 4.1

TABLE B-II.1 CONCENTRATIONS OF TRITIUM AND STRONTIUM IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY STATION, 2010

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3	SR-90
SW-LS-101	03/16/10	< 156	
SW-LS-101	06/15/10	< 164	< 0.5
SW-LS-101	09/15/10	< 160	
SW-LS-101	11/12/10	< 173	
SW-LS-102	03/16/10	< 151	
SW-LS-102	06/15/10	< 161	< 0.6
SW-LS-102	09/21/10	< 171	
SW-LS-102	11/12/10	< 172	
SW-LS-103	03/16/10	< 169	
SW-LS-103	06/15/10	< 162	< 0.5
SW-LS-103	09/15/10	< 160	
SW-LS-103	11/12/10	< 174	
SW-LS-104	03/17/10	< 154	
SW-LS-104	06/15/10	< 162	< 0.8
SW-LS-105	03/17/10	< 153	
SW-LS-105	06/15/10	< 160	< 0.4
SW-LS-106	03/17/10	< 153	
SW-LS-106	06/14/10	< 160	< 0.9
SW-LS-106	09/15/10	< 159	
SW-LS-106	11/10/10	< 173	

TABLE B-II.2 **CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED COLLECTED IN THE VICINTY OF LASALLE COUNTY STATION, 2010**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION PERIOD	Be-7	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
SW-LS-101	06/15/10	< 21	< 19	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 15	< 2	< 2	< 22	< 8
SW-LS-102	06/15/10	< 19	61 ± 29	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 13	< 2	< 2	< 22	< 5
SW-LS-103	06/15/10	< 20	< 15	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 14	< 2	< 2	< 23	< 6
SW-LS-104	06/15/10	< 20	< 35	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 15	< 2	< 2	< 24	< 7
SW-LS-105	06/15/10	< 19	< 30	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 14	< 2	< 2	< 22	< 7
SW-LS-106	06/14/10	< 21	< 17	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 15	< 2	< 2	< 23	< 7