

LaSalle Generating Station  
2601 North 21st Road  
Marseilles, IL 61341-9757

www.exeloncorp.com

RA07-041

10 CFR 50 Appendix I

May 15, 2007

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: 2006 Annual Radiological Environmental Operating Report

Enclosed is the Exelon Generation Company, LLC, LaSalle County Station 2005 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 Simpkin, Regulatory Assurance Manager, at (815) 415-2800.

Respectfully,

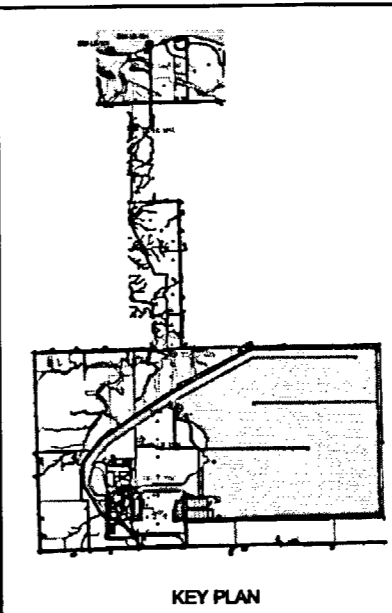
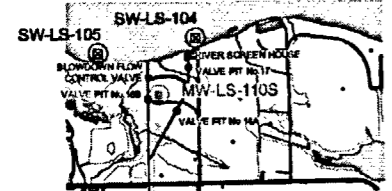
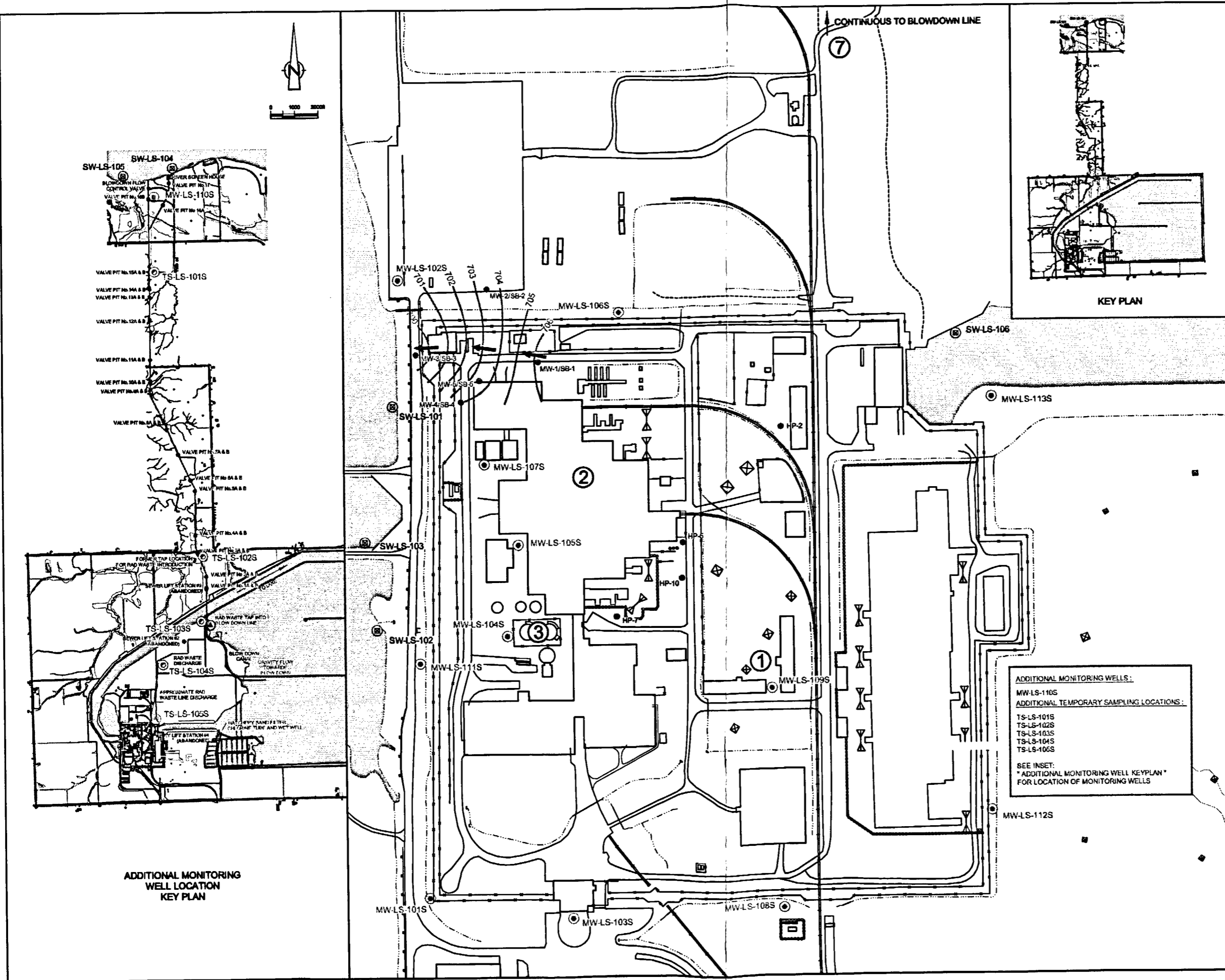


Susan R. Landahl  
Site Vice President  
LaSalle County Station

Attachment

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

IE25



**LEGEND**

- EDGE OF WALKER
- CLATHRATED FIELD
- TRANSMISSION TOWER
- HP-1 MONITORING WELL LOCATION
- ABANDONED MONITORING WELL LOCATION
- PROPOSED ADDITIONAL MONITORING WELL LOCATION
- PROPOSED ADDITIONAL TEMPORARY GROUNDWATER SAMPLING LOCATION
- PROPOSED SURFACE WATER SAMPLE LOCATION
- EXISTING STAFF GAUGE SAMPLE LOCATION
- GROUNDWATER CONTOUR
- ← GROUNDWATER FLOW DIRECTION

SOURCE	AREAS OF FURTHER EVALUATION
1	HFCB/S
2	REACTOR / TURBINE / AUXILIARY BUILDINGS
3	CV SYSTEM
4	VALVE PIT 3B
5	VALVE PIT 5B
6	VALVE PIT 6B
7	RAD WASTE LINE

NOTE: ARE 4, 5, & 6 ARE NOT SHOWN ON THIS PLAN.

**ADDITIONAL MONITORING WELLS:**  
 MW-LS-110S  
**ADDITIONAL TEMPORARY SAMPLING LOCATIONS:**  
 TS-LS-101S  
 TS-LS-102S  
 TS-LS-103S  
 TS-LS-104S  
 TS-LS-106S

SEE INSET:  
 \* ADDITIONAL MONITORING WELL KEYPLAN \*  
 FOR LOCATION OF MONITORING WELLS

**ADDITIONAL MONITORING WELL LOCATION KEY PLAN**

**FINAL DRAFT**  
 PRIVILEGED AND CONFIDENTIAL  
 ATTORNEY-CLIENT COMMUNICATION  
 ATTORNEY WORK PRODUCT

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

**EXELON GENERATION COMPANY, LLC**  
**FLEETWIDE TRITIUM ASSESSMENT**  
**MONITORING WELL AND SAMPLING LOCATIONS**  
**LASALLE GENERATING STATION**  
**MARSELLES, ILLINOIS**



Source Reference: SOI CONSULTANTS ALTA/ACEM LAND TITLE SURVEY LASALLE NUCLEAR STATION, 8-18-2000

Project Manager: S. GUNLEY	Reviewed By: M. KELLY	Date: MAY 2008
Scale: AS SHOWN	Project No. #: 45138-24	Report No. #: 016
		Drawing No. #: figure 4.1

45138-24(218)04-WA001 MAY 2008

## **APPENDIX B**

### **DATA TABLES**

TABLE B-1.1

**CONCENTRATIONS OF TRITIUM IN GROUNDWATER AND SURFACE  
WATER SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY  
STATION, 2006**

RESULTS IN UNITS OF PCI/LITER  $\pm$  2 SIGMA

SITE		COLLECTION DATE	
HP-10		05/24/06	< 165
HP-10		10/04/06	< 182 *
HP-2		05/24/06	< 164
HP-2		10/03/06	< 186 *
HP-5		05/24/06	< 163
HP-5		10/03/06	< 185 *
HP-7		05/24/06	< 165
HP-7		10/04/06	< 189 *
MS-LS-101S		05/24/06	185 $\pm$ 111
MS-LS-103S		05/23/06	< 160
MS-LS-104S		05/26/06	< 170
MS-LS-105S		05/26/06	1280 $\pm$ 184
MS-LS-106S		05/25/06	< 167
MS-LS-107S		05/26/06	< 171
MS-LS-108S		05/25/06	< 172
MS-LS-109S		05/26/06	< 170
MS-LS-110S		05/25/06	188 $\pm$ 114
MS-LS-111S	ORIG	05/30/06	< 169
MS-LS-111S DUP	DUP	05/30/06	< 166
MS-LS-112S	ORIG	05/30/06	< 168
MS-LS-112S DUP	DUP	05/30/06	< 170
MW-LS-101S		10/05/06	< 167 *
MW-LS-102S		10/05/06	< 188 *
MW-LS-103S		10/04/06	< 185 *
MW-LS-104S		10/04/06	< 186 *
MW-LS-105S		07/05/06	766 $\pm$ 153*
MW-LS-105S		10/05/06	1720 $\pm$ 240*
MW-LS-105S	RERUN	10/05/06	1940 $\pm$ 255*
MW-LS-106S		10/05/06	< 185 *
MW-LS-107S		10/04/06	< 181 *
MW-LS-109S		10/04/06	< 184 *
MW-LS-111S		10/05/06	< 182 *
MW-LS-112S		10/06/06	< 187 *
MW-LS-113S		10/06/06	< 188 *
MW-LS-114S		10/05/06	< 184 *
MW-LS-115S		10/05/06	< 183 *
SW-LS-101		05/23/06	232 $\pm$ 116
SW-LS-101		10/05/06	< 187 *
SW-LS-102		05/23/06	177 $\pm$ 111
SW-LS-102		10/05/06	< 168 *
SW-LS-103		05/23/06	< 167
SW-LS-103		10/05/06	< 179 *
SW-LS-104		05/25/06	< 165
SW-LS-104		10/05/06	721 $\pm$ 147*
SW-LS-104	RERUN	10/05/06	713 $\pm$ 151*
SW-LS-105	ORIG	05/25/06	173 $\pm$ 116
SW-LS-105 DUP	DUP	05/25/06	< 166
SW-LS-105		10/05/06	< 176 *
SW-LS-106		05/24/06	219 $\pm$ 113
SW-LS-106		10/05/06	< 178 *

\* INDICATES DISTILLED ANALYSIS

**TABLE B-1.1**

**CONCENTRATIONS OF TRITIUM IN GROUNDWATER AND SURFACE  
WATER SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY  
STATION, 2006**

**RESULTS IN UNITS OF PCI/LITER  $\pm$  2 SIGMA**

<b>SITE</b>	<b>COLLECTION DATE</b>	
TS-LS-101S	05/09/06	< 168
TS-LS-102S	05/05/06	183 $\pm$ 105
TS-LS-103S	05/05/06	< 166
TS-LS-104S	05/05/06	< 167
TS-LS-105S	05/09/06	< 167

TABLE B-I.2

**HIGHEST TO LOWEST CONCENTRATIONS OF TRITIUM IN  
GROUNDWATER AND SURFACE WATER SAMPLES COLLECTED IN THE  
VICINITY OF LASALLE COUNTY STATION, 2006**

RESULTS IN UNITS OF PCI/LITER  $\pm$  2 SIGMA

SITE	COLLECTION		
		DATE	
MW-LS-105S	RERUN	10/05/06	1940 $\pm$ 255*
MW-LS-105S		10/05/06	1720 $\pm$ 240*
MS-LS-105S		05/26/06	1280 $\pm$ 184
MW-LS-105S		07/05/06	766 $\pm$ 153*
SW-LS-104		10/05/06	721 $\pm$ 147*
SW-LS-104	RERUN	10/05/06	713 $\pm$ 151*
SW-LS-101		05/23/06	232 $\pm$ 116
SW-LS-106		05/24/06	219 $\pm$ 113
HP-7		10/04/06	< 189 *
MS-LS-110S		05/25/06	188 $\pm$ 114
MW-LS-102S		10/05/06	< 188 *
MW-LS-113S		10/06/06	< 188 *
MW-LS-112S		10/06/06	< 187 *
SW-LS-101		10/05/06	< 187 *
HP-2		10/03/06	< 186 *
MW-LS-104S		10/04/06	< 186 *
MS-LS-101S		05/24/06	185 $\pm$ 111
HP-5		10/03/06	< 185 *
MW-LS-103S		10/04/06	< 185 *
MW-LS-106S		10/05/06	< 185 *
MW-LS-109S		10/04/06	< 184 *
MW-LS-114S		10/05/06	< 184 *
TS-LS-102S		05/05/06	183 $\pm$ 105
MW-LS-115S		10/05/06	< 183 *
HP-10		10/04/06	< 182 *
MW-LS-111S		10/05/06	< 182 *
MW-LS-107S		10/04/06	< 181 *
SW-LS-103		10/05/06	< 179 *
SW-LS-106		10/05/06	< 178 *
SW-LS-102		05/23/06	177 $\pm$ 111
SW-LS-105		10/05/06	< 176 *
SW-LS-105	ORIG	05/25/06	173 $\pm$ 116
MS-LS-108S		05/25/06	< 172
MS-LS-107S		05/26/06	< 171
MS-LS-104S		05/26/06	< 170
MS-LS-109S		05/26/06	< 170
MS-LS-112S DUP	DUP	05/30/06	< 170
MS-LS-111S	ORIG	05/30/06	< 169
MS-LS-112S	ORIG	05/30/06	< 168
SW-LS-102		10/05/06	< 168 *
TS-LS-101S		05/09/06	< 168
MS-LS-106S		05/25/06	< 167
MW-LS-101S		10/05/06	< 167 *
SW-LS-103		05/23/06	< 167
TS-LS-104S		05/05/06	< 167
TS-LS-105S		05/09/06	< 167
MS-LS-111S DUP	DUP	05/30/06	< 166
SW-LS-105 DUP	DUP	05/25/06	< 166
TS-LS-103S		05/05/06	< 166
HP-10		05/24/06	< 165

\* INDICATES DISTILLED ANALYSIS

**TABLE B-I.2**

**HIGHEST TO LOWEST CONCENTRATIONS OF TRITIUM IN  
GROUNDWATER AND SURFACE WATER SAMPLES COLLECTED IN THE  
VICINITY OF LASALLE COUNTY STATION, 2006**

**RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA**

<b>SITE</b>	<b>COLLECTION</b>	
	<b>DATE</b>	
HP-7	05/24/06	< 165
SW-LS-104	05/25/06	< 165
HP-2	05/24/06	< 164
HP-5	05/24/06	< 163
MS-LS-103S	05/23/06	< 160

**TABLE B-1.3**

**CONCENTRATIONS OF STRONTIUM IN GROUNDWATER AND SURFACE  
WATER SAMPLES COLLECTED IN THE VICINITY OF LASALLE COUNTY  
STATION, 2006**

**RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA**

<b>SITE</b>		<b>COLLECTION DATE</b>	
HP-2		05/24/06	1.8 ± 0.8
MS-LS-107S		05/26/06	0.9 ± 0.5
MS-LS-111S	ORIG	05/30/06	1.9 ± 1.0
SW-LS-104		05/25/06	1.1 ± 0.6



**TABLE B-I.4****HIGHEST TO LOWEST CONCENTRATIONS OF STRONTIUM IN  
GROUNDWATER AND SURFACE WATER SAMPLES COLLECTED IN THE  
VICINITY OF LASALLE COUNTY STATION, 2006**RESULTS IN UNITS OF PCI/LITER  $\pm$  2 SIGMA

<b>SITE</b>		<b>COLLECTION DATE</b>	
MS-LS-111S	ORIG	05/30/06	1.9 $\pm$ 1.0
HP-2		05/24/06	1.8 $\pm$ 0.8
SW-LS-104		05/25/06	1.1 $\pm$ 0.6
MS-LS-107S		05/26/06	0.9 $\pm$ 0.5

**TABLE B-I.5**

**CONCENTRATIONS OF GAMMA EMITTERS IN GROUNDWATER AND  
SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF LASALLE  
COUNTY STATION, 2006**

**RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA**

SITE	COLLECTION		Be-7	K-40
	DATE			
HP-10	10/04/06		-	175 ± 51
MS-LS-101S	05/24/06		-	44 ± 41
MS-LS-106S	05/25/06		-	72 ± 38
MS-LS-107S	05/26/06		-	92 ± 37
MS-LS-108S	05/25/06		-	69 ± 44
MS-LS-111S	ORIG 05/30/06		-	61 ± 48
MS-LS-111S DUP	DUP 05/30/06		-	47 ± 40
MS-LS-112S	ORIG 05/30/06		-	91 ± 46
MS-LS-112S DUP	DUP 05/30/06		-	50 ± 43
MW-LS-105S	10/05/06		-	174 ± 79
MW-LS-109S	10/04/06		-	978 ± 129
MW-LS-113S	10/06/06		-	83 ± 59
MW-LS-115S	10/05/06		-	64 ± 52
SW-LS-105	ORIG 05/25/06		-	41 ± 32
SW-LS-105	10/05/06		-	187 ± 48
TS-LS-101S	05/09/06		-	41 ± 33
TS-LS-102S	05/05/06		-	434 ± 44
TS-LS-103S	05/05/06		-	245 ± 41
TS-LS-104S	05/05/06		-	75 ± 32
TS-LS-105S	05/09/06		-	190 ± 37

TABLE B-I.6

HIGHEST TO LOWEST CONCENTRATIONS OF GAMMA EMITTERS IN  
GROUNDWATER AND SURFACE WATER SAMPLES COLLECTED IN THE  
VICINITY OF LASALLE COUNTY STATION, 2006

RESULTS IN UNITS OF PCI/LITER  $\pm$  2 SIGMA

SITE	COLLECTION		K-40
		DATE	
MW-LS-109S		10/04/06	978 $\pm$ 129
TS-LS-102S		05/05/06	434 $\pm$ 44
TS-LS-103S		05/05/06	245 $\pm$ 41
TS-LS-105S		05/09/06	190 $\pm$ 37
SW-LS-105		10/05/06	187 $\pm$ 48
HP-10		10/04/06	175 $\pm$ 51
MW-LS-105S		10/05/06	174 $\pm$ 79
MS-LS-107S		05/26/06	92 $\pm$ 37
MS-LS-112S	ORIG	05/30/06	91 $\pm$ 46
MW-LS-113S		10/06/06	83 $\pm$ 59
TS-LS-104S		05/05/06	75 $\pm$ 32
MS-LS-106S		05/25/06	72 $\pm$ 38
MS-LS-108S		05/25/06	69 $\pm$ 44
MW-LS-115S		10/05/06	64 $\pm$ 52
MS-LS-111S	ORIG	05/30/06	61 $\pm$ 48
MS-LS-112S DUP	DUP	05/30/06	50 $\pm$ 43
MS-LS-111S DUP	DUP	05/30/06	47 $\pm$ 40
MS-LS-101S		05/24/06	44 $\pm$ 41
TS-LS-101S		05/09/06	41 $\pm$ 33
SW-LS-105	ORIG	05/25/06	41 $\pm$ 32