

**ANNUAL RADIOLOGICAL ENVIRONMENTAL
OPERATING REPORT
FOR THE
R. E. GINNA NUCLEAR POWER PLANT**

January 1 - December 31, 2005

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I. SUMMARY

The Annual Radiological Environmental Operating Report is published in accordance with Section 5.0 of the Offsite Dose Calculation Manual, (ODCM). This report describes the Radiological Environmental Monitoring Program, (REMP), and its implementation as required by the ODCM.

The REMP is implemented to measure radioactivity in the aquatic and terrestrial pathways. The aquatic pathways include Lake Ontario fish, Lake Ontario water, and Deer Creek water. Measurement results of the samples representing these pathways contained only natural background radiation or low concentrations of Cs-137 resulting from past atmospheric nuclear weapons testing. Terrestrial pathways monitored included airborne particulate and radioiodine, milk, food products, and direct radiation. Analysis of terrestrial pathways demonstrated no detectable increase in radiation levels as a result of plant operation. The 2005 results were consistent with data for the past five years and exhibited no adverse trends.

The analytical results from the 2005 Radiological Environmental Monitoring program demonstrate that the operation of the R.E. Ginna Nuclear Power Plant had no measurable radiological impact on the environment. The results also demonstrate that operation of the plant did not result in a measurable radiation dose to the general population above natural background levels.

During 2005, 1228 samples were collected for analysis by gross beta counting and/or gamma spectroscopy. These included 936 air samples, 60 water samples, 16 fish samples, 5 sediment samples, 12 vegetation samples, 43 milk samples, and 156 thermoluminescent dosimeter measurements. During 2005 there were no deviations from the sampling schedule for air samples. The minimum number of samples required in the ODCM (Ref. 2) were collected for all pathways.

Samples were collected by Ginna Station chemistry personnel and analyzed by Constellation Energy Fort Smallwood Environmental Laboratory. A summary of the content of the REMP and the results of all the data collected for indicator and control locations is given in Table 1 and Table 2.

II. R. E. GINNA NUCLEAR POWER PLANT
RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM

II.A. INTRODUCTION

The R. E. Ginna site is an operating nuclear generating station consisting of one pressurized water reactor. Unit 1 achieved criticality in 1969 and commenced commercial operation in 1970. The location of the plant in relation to local metropolitan areas is shown on Figure A-1.

Results of the monitoring program for the pre-operational and previous operational periods through 2004 have been reported in a series of documents.

Results of the monitoring program for the current operational period are included in this report. The report presents the content of the REMP (Table 1), the sampling locations (Appendix A), the summary of the analytical results (Table 2), a compilation of the analytical data (Appendix B), the results of the Quality Assurance Program (Appendix C), and the results of the Land Use Survey (Appendix D). Interpretation of the data and conclusions are presented in the body of the report.

The environmental surveillance data collected during this reporting period were compared with that generated in previous periods whenever possible to evaluate the environmental radiological impact of the R. E. Ginna Nuclear Power Plant.

II.B. PROGRAM

II.B.1 Objectives

The objectives of the REMP for the Ginna Nuclear Power Plant are:

- a. Measure and evaluate the effects of plant operation on the environment.
- b. Monitor background radiation levels in the environs of the Ginna site.
- c. Demonstrate compliance with the environmental conditions and requirements of applicable state and federal regulations, including the ODCM and 40 CFR 190.
- d. Provide information by which the general public can evaluate environmental aspects of the operation of the R.E. Ginna Nuclear Power Plant.

II.B.2 Sample Collection

The locations of the individual sampling stations are listed in Table A-1 and shown in Figures A-2 and A-3. All samples were collected by contractors to, or personnel of Constellation Energy according to Ginna Procedures (Ref. 3).

II.B.3 Data Interpretation

Many results in environmental monitoring occur at or below the minimum detectable activity (MDA). In this report, all results at or below the relevant MDA are reported as being "less than" the MDA value.

II.B.4 Program Exceptions

Three items reportable in the Annual Environmental Radiological Operating Report under procedure CHA-RETS-VARIATION were reported as follows:

1. Environmental Air Sampler #6 found OOS 1/12/05. Run time 119.6 hours, sample volume 514 m³. Breaker reset, no subsequent failures.
2. Environmental Air Sampler #12 found OOS 10/10/05. Run time 95.5 hours, sample volume 344.8 m³. Cause was RG&E maintenance, no subsequent failures.
3. Operator of Gerber Milk Farm, Boston Road, no longer produces milk for human consumption as of 10/12/05.

II.C. RESULTS AND DISCUSSIONS

All the environmental samples collected during the year were analyzed using Constellation Energy laboratory procedures (Ref. 4). The analytical results for this reporting period are presented in Appendix B and are also summarized in Table 2. For discussion, the analytical results are divided into four categories. The categories are the Aquatic Environment, the Atmospheric Environment, the Terrestrial Environment, and Direct Radiation. These categories are further divided into subcategories according to sample type (e.g., Circulating Water, Aquatic Organisms, etc., for the Aquatic Environment).

II.C.1 Aquatic Environment

The aquatic environment surrounding the plant was monitored by analyzing samples of surface and drinking water, aquatic organisms, and shoreline sediment. These samples were obtained from various sampling locations on Lake Ontario and Deer Creek near the plant.

II.C.1.a Surface and Drinking Water

Samples are collected weekly from Lake Ontario, upstream (Monroe County Water Authority – Shoremont Station) and downstream (Ontario Water District Plant - OWD), composited monthly, and analyzed for gross beta activity, Table B-1. There was no statistically significant difference between the upstream and downstream sample concentrations. The 2005 averages were 2.24 pCi/liter and 2.23 pCi/liter for the upstream and downstream samples respectively. Gamma isotopic analysis of the monthly composite samples showed no statistically significant difference in activity between the upstream and downstream samples.

Gross beta peaks of up to 10 pCi/liter can occur when the lake is stirred up by wind and the weekly sample includes large quantities of suspended silt.

Weekly samples are taken from the plant circulating water intake (Circ In) and discharge canal (Circ Out), and composited monthly. The 2005 averages were 2.39 pCi/liter and 2.18 pCi/liter for the intake and discharge canal respectively. These are essentially the same as the upstream and downstream values as they fall within the ± 1 sigma error band and range of the measurement.

Results for all water beta analyses are listed in Table B-1.

Samples of the creek which crosses the site are collected and analyzed monthly. Deer Creek gross beta values are typically higher than other surface water samples due to Radon progeny in the soils from which the creek recharges and over which the creek flows.

Gamma isotopic analysis including I-131 is performed on each monthly composite sample. These are listed in Table B-1 and are separated by source of sample. No anomalous results were noted. The analysis allows the determination of Iodine-131 activity of <1 pCi/liter. Any positive counts and the 1 sigma error are reported. During 2005, no sample results indicated I-131 activity in excess of the LLD for the analysis.

Tritium analysis was performed on all water samples on a monthly basis. Composites are made from the weekly samples and a portion filtered to remove interferences for analysis by beta scintillation. Tritium data is given in Table B-1.

II.C.1.b Aquatic Organisms

Indicator fish are caught in the vicinity of the Discharge Canal and analyzed for radioactivity from liquid effluent releases from the plant. The fish are filleted to represent that portion which would normally be eaten. Additional fish are caught more than 15 miles away to be used as control samples and are prepared in the same manner.

Four different species of fish are analyzed during each half-year from the indicator and control locations if they are available. There was no statistically significant difference in the activity of the fish caught between the indicator and control locations.

Fish are caught by R. E. Ginna Nuclear Power Plant environmental staff and are analyzed by gamma spectroscopy after being held for periods of less than one week to keep the LLD value for the shorter half-life isotopes realistic. Detection limits could also be affected by small mass samples, (< 2000 grams), in some species. Gamma isotopic concentrations (pCi/kilogram wet) are listed in Table B-2.

II.C.1.c Shoreline Sediment

Samples of shoreline sediment are taken upstream (Russell Station or Monroe County Water Authority - Shoremont) and downstream (Ontario Water District) of Ginna Station. Results of the gamma isotopic analysis for sediment are included in Table B-3, along with benthic sediment and cladophora from Lake Ontario.

II.C.2 Atmospheric Environment

Radioactive particles in air are collected by drawing approximately one SCFM through a two inch diameter particulate filter. The volume of air sampled is measured by a dry gas meter and corrected for the pressure drop across the filter. The filters are changed weekly and allowed to decay for three days prior to counting to eliminate most of the natural radioactivity such as the short half-life decay products of radon. The decay period is used to give a more sensitive measurement of long-lived man-made radioactivity.

A ring of 6 sampling stations is located on the plant site from 150 to 420 meters from the reactor centerline near the point of the maximum annual average ground level concentration, 1 more is located near site at 690 meters, and 2 others offsite at approximately 7 miles. In addition, there are 3 sampling stations located approximately 7 to 16 miles from the site that serve as control stations. See Figures A-2 and A-4.

II.C.2.a Air Particulate Filters

Based on weekly comparisons, there was no statistical difference between the control and indicator radioactive particulate concentrations. The averages for the control samples were 0.019 pCi/m^3 , and the averages for the indicators were 0.019 pCi/m^3 for the period of January to December, 2005. Maximum weekly concentrations for each station were less than 0.040 pCi/m^3 .

The major airborne species released from the plant are noble gases, tritium and radioiodines. Most of this activity is released in a gaseous form, however, some radioiodine is released as airborne particulate and some of the particulate activity is due to short lived noble gas decay products.

Table B-5a is a list of gross beta analysis values for the on-site sample stations. Table B-6a is a list of gross beta analysis values for the off-site sampler stations.

The particulate filters from each sampling location were saved and a 13 week composite was made. A gamma isotopic analysis was performed for each sampling location and corrected for decay. The results of these analyses are listed in Table B-7.

II.C.2.b Air Iodine

Radioiodine cartridges are placed at six locations. These cartridges are changed and analyzed each week. No positive analytical results were found on any sample. A list of values for these cartridges is given in Table B-4.

II.C.3 Terrestrial Environment

Crops are grown on the plant property in a location with a highest off-site meteorological deposition parameter, and samples of the produce are collected at harvest time for analysis. Control samples are purchased from farms greater than ten miles from the plant, (Gro-Moore Farm Market in Henrietta, New York).

II.C.3.a Vegetation

There was no indication in the samples of any measurable activity other than naturally occurring K-40 and Ra-226.

Gamma isotopic data is given in Table B-8.

II.C.3.b Milk

There were two indicator dairy herds located three to five miles from the plant on 1/1/04. The owner of previous indicator farm C retired early in 2002, and a change to the ODCM was submitted to reflect this. Milk samples are collected monthly during November through May from one of the indicator farms and biweekly during June through October from each. Farm B ceased commercial milk production in October 2005, and a change to the ODCM will be submitted to reflect this. No other milk farm is operated within 5 miles of the plant. A control farm sample is taken for each monthly sample and once during each biweekly period. The milk is analyzed for Iodine-131 and also analyzed by gamma spectroscopy for major fission products.

All positive counts and the ± 1 sigma error are reported. During 2005, no samples indicated I-131 activity that exceeded the LLD for the analysis.

Table B-9 is a listing of all samples collected during 2005 with analytical results.

II.C.4 Direct Radiation

Thermoluminescent dosimeters, (TLD's), with a sensitivity of 5 millirem/quarter are placed as part of the environmental monitoring program. Thirty-nine TLD badges are currently placed in four rings around the plant. These rings range from less than 1000 feet to 15 miles and have been dispersed to give indications in each of the nine land based sectors around the plant should

an excessive release occur from the plant. Badges are changed and read after approximately 3 months exposure.

TLD locations #7 and #13 are influenced by close proximity to radioactive equipment storage areas and will normally read slightly higher than other locations. For the year of 2005, on-site exposure ranged between 9.3 – 17.3 mrem/quarter, with an average exposure of 12.0 mrem/quarter and off-site exposure ranged between 9.0 – 13.4 mrem/quarter with an average exposure of 10.9 mrem/quarter.

40 CFR 190 requires that the annual dose equivalent not exceed 25 millirems to the whole body of any member of the public. Using the annual average of control TLD stations as background and the highest site boundary TLD, leads to 5.2 millirem direct radiation dose to the hypothetical maximally exposed member of the public, off-site.

Table B-12 gives TLD readings for each quarter.

II.D. CONCLUSION

It is concluded that the operation of R. E. Ginna Nuclear Power Plant produced radioactivity and ambient radiation levels significantly below the limits of the ODCM and 40 CFR Part 190, and there was no significant buildup of plant-related radionuclides in the environment due to the operation of the Ginna Station.

Table 1
Synopsis of 2005 R. E. Ginna Nuclear Power Plant Radiological Environmental Monitoring Program

Sample Type	Sampling Frequency ¹	Number of Locations	Number Collected	Analysis	Analysis Frequency ¹	Number Analyzed
Aquatic Environment						
Drinking Water	MC	1	12	Gamma	M	12
				Gross Beta	M	12
				Tritium	QC	4
Surface Water	MC	2	24	Gamma	M	24
				Gross Beta	M	24
				Tritium	QC	8
Fish ²	SA	8	16	Gamma	B	16
Sediment	SA	2	4	Gamma	SA	4
Atmospheric Environment						
Air Iodine ³	W	6	312	Gamma	W	312
Air Particulates ⁴	W	12	624	Gross Beta	W	624
				Gamma	Q	52
Milk	BM (June thru October)	3	31	Gamma	BM	40
	M (November thru May)	2	12	Gamma	M	14
Direct Radiation						
Ambient Radiation	Q	39	156	TLD	Q	?
Terrestrial Environment						
Food Products ⁵	A	4	12	Gamma	A	10

¹ W=Weekly, BW=biweekly (15 days), M=Monthly (31 days), Q=Quarterly (92 days), SA=Semiannual, A=Annual, C= Composite

² Twice during fishing season including at least four species

³ The collection device contains activated charcoal

⁴ Beta counting is performed \geq 24 hours following filter change. Gamma spectroscopy performed on quarterly composite of weekly samples

⁵ Annually during growing season. Samples include broad leaf vegetation

Table 2
Annual Summary of Radioactivity in the Environs of the R. E. Ginna Nuclear Power Plant

Medium or Pathway Sampled (Unit of Measurement)	Type and Total Number of Analyses Performed	Average Lower Limit of Detection (LLD)	Indicator Locations Mean (F)/Range ¹	Location with Highest Annual Mean Name/Distance & Direction ²	Highest Annual Mean (F)/Range ¹	Control Locations Mean (F)/Range ¹
Aquatic Environment						
Drinking Water (pCi/L)	Gross Beta	0.60	2.23(12/12) (1.77 – 2.98)	Ontario Water District Station 15 2.2 km ENE	2.23(12/12) (1.77 – 2.98)	2.24(12/12) (1.65 – 2.75)
Surface Water (pCi/L)	H-3	710	<LLD (36/36)	Circulating Water Inlet Station 15 0.42 km N	<LLD (12/12)	-- --
	Gross Beta	0.60	3.26(36/36) (1.42 – 9.55)	Deer Creek Station 18	5.24(12/12) (3.24 – 9.55)	2.24(12/12) (1.65 – 2.75)
Atmospheric Environment						
Air Particulates (10 ⁻² pCi/m ³)	Gross Beta	0.5	1.85(468/468) (0.33 – 3.97)	Seabreeze Station 8 19.2 km WSW	1.95(52/52) (0.50 – 3.97)	1.85(156/156) (0.45 – 3.97)
Direct Radiation						
Ambient Radiation (mR/91 days)	TLD (468)	--	11.6 (120/120) (9.0 – 17.3)	West Fence Line Station 7 0.22 km WSW	15.4(12/12) (13.7 – 17.3)	10.7(36/36) (9.0 – 12.3)

¹ Mean and range based upon detectable measurements only. Fraction (F) of detectable measurements at specified location is indicated in parentheses

² From the centerpoint of the containment building

V. REFERENCES

- (1) R. E. Ginna Nuclear Power Plant, Nos. DPR-XX, Technical Specification 5.6.2; Annual Radiological Environmental Operating Report.
- (2) Offsite Dose Calculation Manual for the R. E. Ginna Nuclear Power Plant.
- (3) Constellation Energy Laboratory Procedures Manual, General Services Department.
- (4) Constellation Energy, "Land Use Survey Around R. E. Ginna Nuclear Power Plant, August 2004."

APPENDIX A

Sample Locations for the REMP

Appendix A contains information concerning the environmental samples which were collected during this operating period.

Sample locations and specific information about individual locations for the Ginna are given in Table A-1. Figure A-1 shows the location of the Ginna Station in relation to New York State and Lake Ontario. Figures A-2, A-3 and A-4 show the locations of the power plant sampling sites in relation to the plant site at different degrees of detail.

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TABLE A-1
Locations of Environmental Sampling Stations
for the R. E. Ginna Nuclear Plant

Station	Description	Distance		Direction
		Meters	Miles	Sector
Air Samplers				
2	Manor House Yard	320	0.2	E
3	East Field	420	0.3	ESE
4	Training Center Parking Lot	250	0.2	SE
5	Creek Bridge	160	0.1	SSE
6	Main Parking Lot	225	0.1	SW
7	West Fence Line	220	0.1	WSW
8	Seabreeze	19200	11.9	WSW
9	Webster	11400	7.1	SW
10	Walworth	13100	8.1	S
11	Williamson	11500	7.1	ESE
12	Sodus Point	25100	15.6	E
13	Substation 13	690	0.4	SSW
Direct Radiation				
2	Onsite-Manor House Yard	320	0.2	E
3	Onsite-In field approximately 200 ft SE of station	420	0.3	ESE
4	Onsite-Training Center yard driveway circle	250	0.2	SE
5	Onsite-Between creek and plant entry road	160	0.1	SSE
6	Onsite-SW side of plant parking lot	225	0.1	SW
7	Onsite-utility pole along West plant fence	220	0.1	WSW
8 ¹	Topper Drive-Irondequoit, Seabreeze Substation	19200	11.9	WSW
9	Phillips Road-Webster, intersection with Highway #104, Substation #74	11400	7.1	SW
10 ¹	Atlantic Avenue-Walworth, Substation #230	13100	8.1	S
11	W. Main Street-Williamson, Substation #207	11500	7.1	ESE
12 ¹	12 Seaman Avenue-Sodus Point-Off Lake Road by Sewer district, Substation #209	25100	15.6	E
13	At corner of plant-controlled area fence and dogleg to West	230	0.1	WNW
14	NW corner of field along lake shore	770	0.5	WNW
15	Field access road, west of orchard, approximately 3000' West of plant	850	0.5	W
16	SW Corner of orchard, approximately 3000' West of plant, approximately 200' North of Lake Road	900	0.6	WSW
17	Utility pole in orchard, approximately 75" North of Lake Road	500	0.3	SSW
18	Approximately 30' North of NE corner of Substation 13A fence	650	0.4	SSW
19	On NW corner of house 100' East of plant access road	400	0.2	S
20	Approximately 150' West of Ontario Center Road and approximately 170' South of Lake Road	680	0.4	SSE
21	North side of Lake Road, approximately 200' East of Ontario Center Road	600	0.4	SE

Station	Description	Distance		Direction
		Meters	Miles	Sector
22	North side of Lake Road, SE, property owner	810	0.5	SE
23	East property line, midway between Lake Road and Lake shore	680	0.4	ESE
24	Lake shore near NE corner of property	630	0.4	E
25 ¹	Substation #73, Klem Road, adjacent to 897 Klem Road	14350	8.9	WSW
26 ¹	Service Center, Plank Road, West of 250	14800	9.2	SW
27 ¹	Atlantic Avenue at Knollwood Drive utility pole, North side of road	14700	9.1	SSW
28 ¹	Substation #193, Marion, behind Stanton Ag. Service, North Main Street	17700	11.0	SE
29 ¹	Substation #208, Town Line Road (CR-118), 1000' North of Route 104	13800	8.6	ESE
30 ¹	District Office, Sodus, on pole, West side of bldg	20500	12.7	ESE
31	Lake Road, pole 20' North of road, 500' East of Salt Road	7280	4.5	W
32	Woodard Road at County Line Road, pole @ BW corner	6850	4.2	WSW
33	County Line Road at RR tracks, pole approximately 100' East along tracks	7950	4.9	SW
34	Lincoln Road, pole midway between Ridge Road and Route 104	6850	4.2	SSW
35	Transmission Right of Way, North of Clevenger Road on pole	7600	4.7	SSW
36	Substation #205, Route 104, East of Ontario Center Road, North side of fence	5650	3.5	S
37	Rail Road Avenue, pole at 2048	6000	3.7	SSE
38	Fisher Road at RR Tracks, pole East of road	7070	4.4	SE
39	Seeley Road, Pole South side 100' West of intersection with Stony Lonesome Road	6630	4.1	ESE
40	Lake Road at Stoney Lonesome Road, pole at SE corner	6630	4.1	E
Fish				
25	Lake Ontario Discharge Plume	2200	1.4	ENE
26	Russell Station	25600	15.9	W
Produce (Vegetation)				
Indicator and background samples of lettuce, apples, tomatoes, and cabbage are collected from gardens grown on company property and purchased from farms >10 miles from the plant.				
Water				
14	Shoremont/MCWA	27160	16.7	
15	Ontario Water District	2200	1.4	ENE
16	Circ Water Intake	420	0.3	N
17	Circ Water Discharge	130	0.1	NNE
18	Deer Creek	260	0.2	ESE
Sediment				
25	Lake Ontario Discharge Plume	2200	1.4	ENE
26	Russell Station	25600	15.9	W

Station	Description	Distance		Direction
		Meters	Miles	Sector
Milk				
21	Farm A	8270	5.1	ESE
22	Farm B	4680	2.9	WSW
24	Farm D	21000	13.0	SE

FIGURE A-1
Map of New York State and Lake Ontario Showing Location of R. E. Ginna Nuclear Power Plant



FIGURE A-2
Onsite Sample Locations

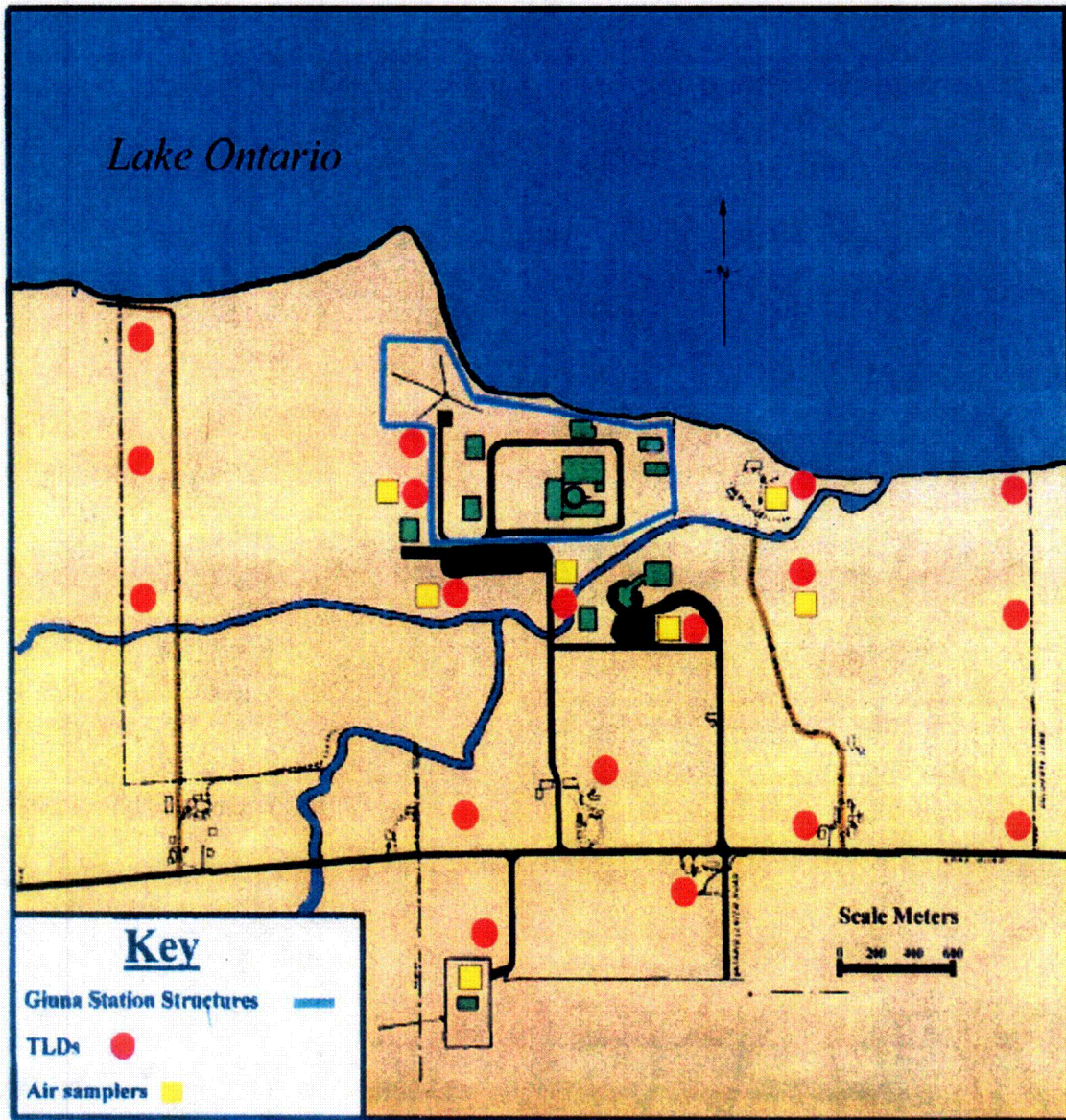
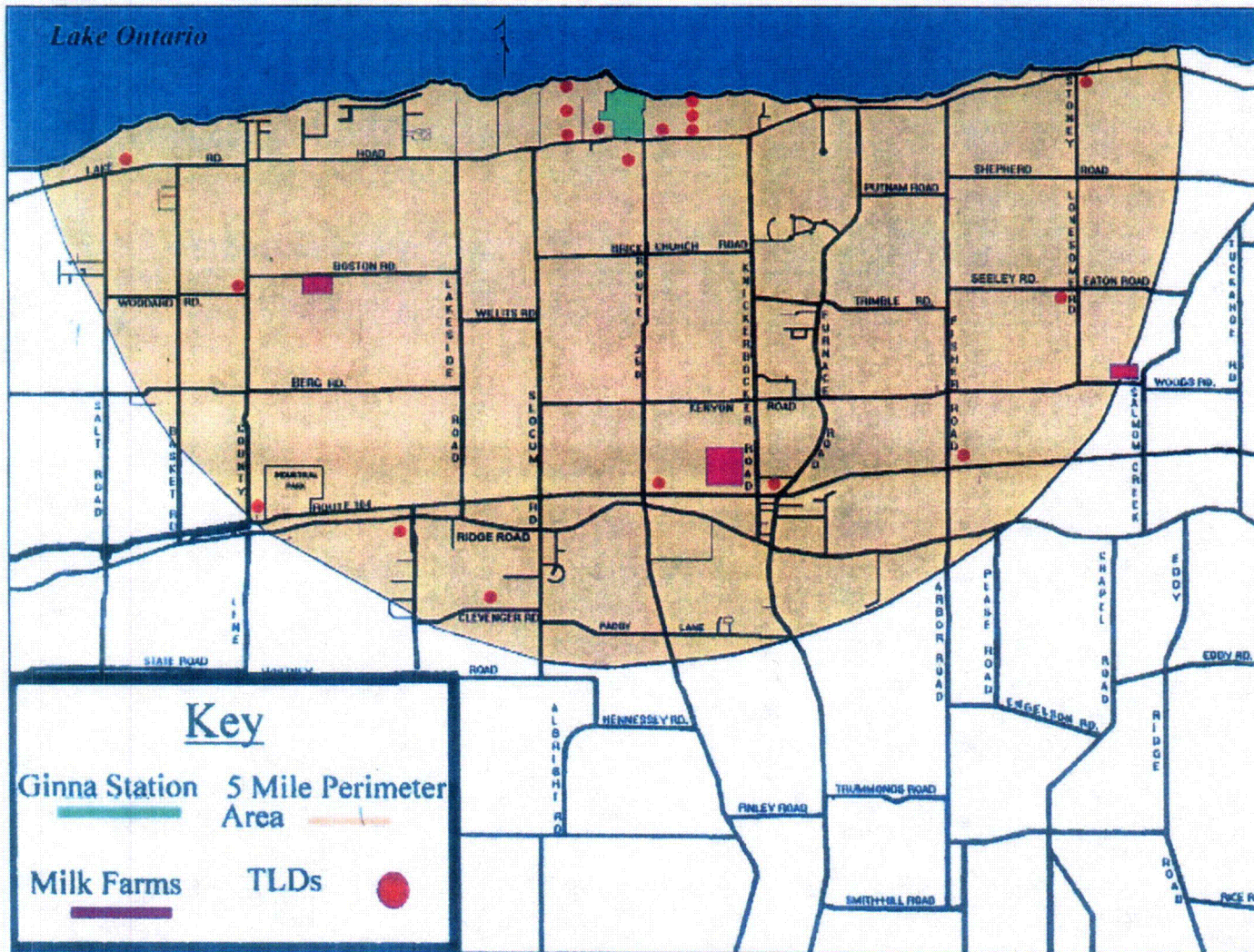


FIGURE A-3
Offsite Sample Locations (TLDs and milk farms within 5 miles)



C03

FIGURE A-4
Water Sample, Milk Farms and TLD Locations

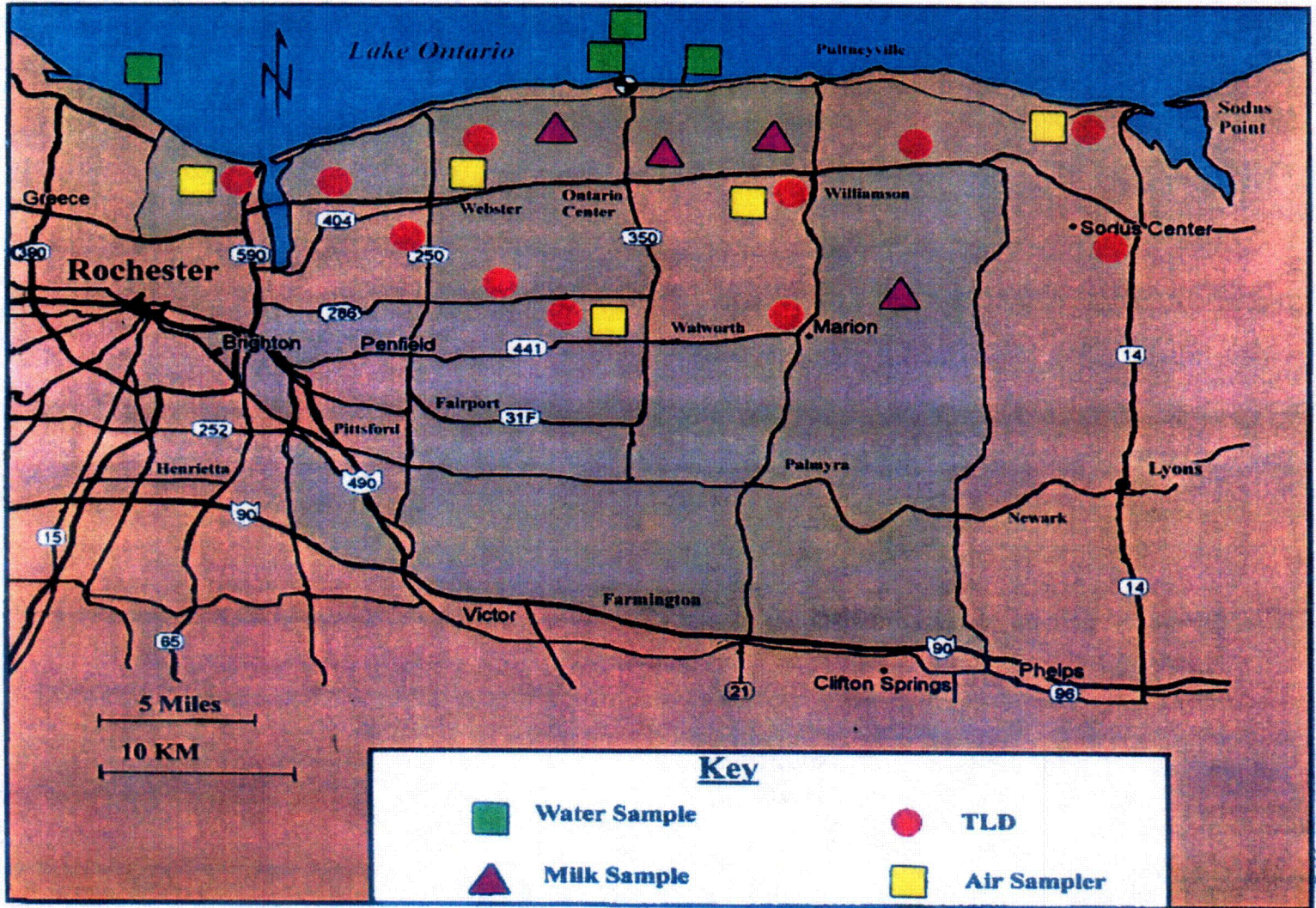


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Table B-1

Concentration of Tritium, Gamma Emitters and Gross Beta in Surface and Drinking Water
(Results in units of pCi/L $\pm 2\sigma$)

Location	Sample Date	H-3	Gamma Emitters	Gross Beta
Monroe County Water Authority (MCWA)	01/31/2005	*	*	2.53 \pm 0.53
Station 14	02/28/2005	*	*	2.46 \pm 0.53
	03/28/2005	*	*	2.54 \pm 0.52
	05/02/2005	*	*	2.06 \pm 0.52
	05/31/2005	*	*	2.18 \pm 0.53
	06/27/2005	*	*	1.67 \pm 0.49
	08/01/2005	*	*	1.65 \pm 0.51
	08/29/2005	*	*	1.97 \pm 0.55
	10/03/2005	*	*	2.04 \pm 0.52
	10/31/2005	*	*	2.46 \pm 0.53
	11/28/2005	*	*	2.55 \pm 0.54
	01/03/2006	*	*	2.75 \pm 0.57
Ontario Water District (OWD)	01/31/2005	*	*	2.08 \pm 0.50
Station 15	02/28/2005	*	*	1.88 \pm 0.52
	03/28/2005	*	*	2.33 \pm 0.51
	05/02/2005	*	*	2.03 \pm 0.53
	05/31/2005	*	*	1.77 \pm 0.50
	06/27/2005	*	*	2.34 \pm 0.52
	08/01/2005	*	*	1.99 \pm 0.54
	08/29/2005	*	*	1.78 \pm 0.54
	10/03/2005	*	*	2.55 \pm 0.54
	10/31/2005	*	*	2.84 \pm 0.55
	11/28/2005	*	*	2.98 \pm 0.56
	01/03/2006	*	*	2.15 \pm 0.54
Circulating Water Inlet (Circ In)	01/31/2005	*	*	3.68 \pm 0.61
Station 16	02/28/2005	*	*	2.16 \pm 0.53
	03/30/2005	*	*	2.60 \pm 0.53
	05/02/2005	*	*	1.98 \pm 0.51
	05/31/2005	*	*	2.33 \pm 0.54
	06/27/2005	*	*	2.38 \pm 0.53
	08/01/2005	*	*	1.95 \pm 0.54
	08/29/2005	*	*	2.21 \pm 0.56
	10/03/2005	*	*	2.68 \pm 0.55
	10/31/2005	*	*	2.67 \pm 0.54

	11/29/2005	*	*	1.57 ± 0.53
	01/03/2006	*	*	2.47 ± 0.57

Table B-1 (Continued)

Location	Sample Date	H-3	Gamma Emitters	Gross Beta
Circulating Water Outlet (Circ Out)	01/31/2005	*	*	2.64 ± 0.54
Station 17	02/28/2005	*	*	2.53 ± 0.55
	03/28/2005	*	*	2.34 ± 0.52
	05/02/2005	*	*	2.08 ± 0.51
	05/31/2005	*	*	2.04 ± 0.51
	06/27/2005	*	*	1.95 ± 0.51
	08/01/2005	*	*	1.42 ± 0.52
	08/29/2005	*	*	2.14 ± 0.55
	10/03/2005	*	*	2.20 ± 0.53
	10/31/2005	*	*	2.29 ± 0.52
	11/28/2005	*	*	2.42 ± 0.53
	01/03/2006	*	*	2.15 ± 0.54
Deer Creek Station 18	01/17/2005	*	*	4.85 ± 0.69
	02/14/2005	*	*	4.32 ± 0.70
	03/14/2005	*	*	3.99 ± 0.67
	04/18/2005	*	*	3.51 ± 0.65
	05/23/2005	*	*	3.24 ± 0.70
	06/13/2005	*	*	4.07 ± 0.68
	07/22/2005	*	*	9.55 ± 1.30
	08/15/2005	*	*	4.73 ± 0.89
	09/19/2005	*	*	7.29 ± 1.16
	10/17/2005	*	*	6.99 ± 0.95
	11/14/2005	*	*	5.96 ± 0.77
	12/19/2005	*	*	4.41 ± 0.80

* All Non-Natural Gamma Emitters, including I-131, and tritium <MDA

Table B-2

Concentration of Gamma Emitters in the Flesh of Edible Fish
(Results in units of pCi/kg (wet) $\pm 2\sigma$)

Location	Sample Date	Fish Type	Gamma Emitters
Lake Ontario Discharge Plume (Indicator)	1/14/2005	Lake Trout	*
Station 25	1/25/2005	Small Mouth Bass	*
	1/25/2005	Burbot	*
	5/9/2005	Rainbow Trout	*
	08/31/2005	Lake Trout	*
	9/22/2005	Carp Fish	*
	9/22/2005	Salmon Fish	*
	10/11/2005	Brown Trout	*
Russel Station (Control)	1/25/2005	Carp	*
Station 26	4/19/2005	Freshwater Drum	*
	6/8/2005	Yellow Perch	*
	6/15/2005	White Sucker	*
	9/27/2005	Carp Fish	*
	9/27/2005	Bullhead Fish	*
	9/27/2005	Pike Fish	*
	9/27/2005	Salmon Fish	*
*All Non-Natural Gamma Emitters <MDA			

Table B-3

Concentration of Gamma Emitters in Sediment
(Results in units of pCi/kg (wet) $\pm 2\sigma$)

Description	Sample Date	Gamma Emitters
Shoreline Sediment		
Russel Station Station 26	05/16/2005	*
	07/25/2005	*
Lake Ontario Discharge Plume Station 25	05/17/2005	*
	07/22/2005	*
Benthic Sediment		
Lake Ontario Discharge Plume Station 25	6/14/2005	*

* All Non-Natural Gamma Emitters <MDA

Table B-4

Concentration of Iodine-131 in Filtered Air (Charcoal Cartridges)
(Results in units of 10^{-2} pCi/m³ $\pm 2\sigma$)

Start Date	Stop Date	Station #2 (I) Manor House Yard	Station #4 (I) Training Center Parking Lot	Station #7 (I) West Fence Line	Station #8 (C) Seabreeze [†]	Station #9 (I) Webster	Station #11 (I) Williamson
12/27/2005	01/03/2005	*	*	*	*	*	*
01/03/2005	01/10/2005	*	*	*	*	*	*
01/10/2005	01/17/2005	*	*	*	*	*	*
01/17/2005	01/24/2005	*	*	*	*	*	*
01/24/2005	01/31/2005	*	*	*	*	*	*
01/31/2005	02/07/2005	*	*	*	*	*	*
02/07/2005	02/14/2005	*	*	*	*	*	*
02/14/2005	02/22/2005	*	*	*	*	*	*
02/22/2005	02/28/2005	*	*	*	*	*	*
02/28/2005	03/07/2005	*	*	*	*	*	*
03/07/2005	03/14/2005	*	*	*	*	*	*
03/14/2005	03/21/2005	*	*	*	*	*	*
03/21/2005	03/28/2005	*	*	*	*	*	*
03/28/2005	04/04/2005	*	*	*	*	*	*
04/04/2005	04/11/2005	*	*	*	*	*	*
04/11/2005	04/18/2005	*	*	*	*	*	*
04/18/2005	04/25/2005	*	*	*	*	*	*
04/25/2005	05/2/2005	*	*	*	*	*	*
05/02/2005	05/09/2005	*	*	*	*	*	*
05/09/2005	05/16/2005	*	*	*	*	*	*
05/16/2005	05/23/2005	*	*	*	*	*	*
05/23/2005	05/31/2005	*	*	*	*	*	*
05/31/2005	06/06/2005	*	*	*	*	*	*
06/06/2005	06/13/2005	*	*	*	*	*	*
06/13/2005	06/20/2005	*	*	*	*	*	*
06/20/2005	06/27/2005	*	*	*	*	*	*

[†] Control Location

* <MDA (I-131)

Table B-4 (Continued)

Concentration of Iodine-131 in Filtered Air (Charcoal Cartridges)
(Results in units of 10^{-2} pCi/m³ $\pm 2\sigma$)

Start Date	Stop Date	Station #2 (I) Manor House Yard	Station #4 (I) Training Center Parking Lot	Station #7 (I) West Fence Line	Station #8 (C) Seabreeze ¹	Station #9 (I) Webster	Station #11 (I) Williamson
06/27/2005	07/05/2005	*	*	*	*	*	*
07/05/2005	07/11/2005	*	*	*	*	*	*
07/11/2005	07/18/2005	*	*	*	*	*	*
07/18/2005	07/25/2005	*	*	*	*	*	*
07/25/2005	08/01/2005	*	*	*	*	*	*
08/01/2005	08/08/2005	*	*	*	*	*	*
08/08/2005	08/15/2005	*	*	*	*	*	*
08/15/2005	08/22/2005	*	*	*	*	*	*
08/22/2005	08/29/2005	*	*	*	*	*	*
08/29/2005	09/06/2005	*	*	*	*	*	*
09/06/2005	09/12/2005	*	*	*	*	*	*
09/12/2005	09/19/2005	*	*	*	*	*	*
09/19/2005	09/26/2005	*	*	*	*	*	*
09/26/2005	10/03/2005	*	*	*	*	*	*
10/03/2005	10/10/2005	*	*	*	*	*	*
10/10/2005	10/17/2005	*	*	*	*	*	*
10/17/2005	10/24/2005	*	*	*	*	*	*
10/24/2005	10/31/2005	*	*	*	*	*	*
10/31/2005	11/07/2005	*	*	*	*	*	*
11/07/2005	11/14/2005	*	*	*	*	*	*
11/14/2005	11/21/2005	*	*	*	*	*	*
11/21/2005	11/28/2005	*	*	*	*	*	*
11/28/2005	12/05/2005	*	*	*	*	*	*
12/05/2005	12/12/2005	*	*	*	*	*	*
12/12/2005	12/19/2005	*	*	*	*	*	*
12/19/2005	12/26/2006	*	*	*	*	*	*
12/26/2005	01/03/2006	*	*	*	*	*	*

START DATE	STOP DATE	Station #2 (l) Manor House Yard	Station #3 (l) East Field	Station #4 (l) Training Center Parking Lot	Station #5 (l) Creek Bridge	Station #6 (l) Main Parking Lot	Station #7 (l) West Fence Line	Station #13 (l) Substation 13
12/27/2004	1/3/2005	0.0240 +/- 0.0080	0.0270 +/- 0.0080	0.0230 +/- 0.0100	0.0250 +/- 0.0040	0.0260 +/- 0.0030	0.0220 +/- 0.0060	0.0250 +/- 0.0060
1/3/2005	1/10/2005	0.0120 +/- 0.0060	0.0140 +/- 0.0060	0.0180 +/- 0.0080	0.0180 +/- 0.0060	0.0150 +/- 0.0060	0.0140 +/- 0.0060	0.0150 +/- 0.0060
1/10/2005	1/17/2005	0.0172 +/- 0.0013	0.0204 +/- 0.0013	0.0156 +/- 0.0017	0.0141 +/- 0.0012	0.0149 +/- 0.0011	0.0139 +/- 0.0011	0.0128 +/- 0.0010
1/17/2005	1/24/2005	0.0205 +/- 0.0014	0.0238 +/- 0.0013	0.0238 +/- 0.0019	0.0221 +/- 0.0014	0.0222 +/- 0.0013	0.0212 +/- 0.0012	0.0233 +/- 0.0013
1/24/2005	1/31/2005	0.0171 +/- 0.0013	0.0168 +/- 0.0012	0.0182 +/- 0.0018	0.0186 +/- 0.0013	0.0183 +/- 0.0012	0.0169 +/- 0.0012	0.0177 +/- 0.0011
1/31/2005	2/7/2005	0.0264 +/- 0.0015	0.0254 +/- 0.0014	0.0255 +/- 0.0020	0.0259 +/- 0.0015	0.0240 +/- 0.0013	0.0220 +/- 0.0013	0.0276 +/- 0.0014
2/7/2005	2/14/2005	0.0207 +/- 0.0014	0.0219 +/- 0.0013	0.0217 +/- 0.0019	0.0222 +/- 0.0014	0.0216 +/- 0.0013	0.0201 +/- 0.0013	0.0229 +/- 0.0013
2/14/2005	2/22/2005	0.0166 +/- 0.0012	0.0165 +/- 0.0011	0.0170 +/- 0.0016	0.0178 +/- 0.0012	0.0169 +/- 0.0011	0.0166 +/- 0.0011	0.0171 +/- 0.0011
2/22/2005	2/28/2005	0.0183 +/- 0.0014	0.0172 +/- 0.0013	0.0210 +/- 0.0020	0.0183 +/- 0.0014	0.0182 +/- 0.0013	0.0178 +/- 0.0013	0.0187 +/- 0.0013
2/28/2005	3/7/2005	0.0170 +/- 0.0013	0.0177 +/- 0.0012	0.0178 +/- 0.0018	0.0168 +/- 0.0013	0.0168 +/- 0.0012	0.0157 +/- 0.0011	0.0174 +/- 0.0012
3/7/2005	3/14/2005	0.0182 +/- 0.0013	0.0185 +/- 0.0012	0.0207 +/- 0.0018	0.0190 +/- 0.0013	0.0192 +/- 0.0012	0.0185 +/- 0.0012	0.0184 +/- 0.0012
3/14/2005	3/21/2005	0.0156 +/- 0.0012	0.0167 +/- 0.0012	0.0165 +/- 0.0017	0.0162 +/- 0.0013	0.0166 +/- 0.0011	0.0173 +/- 0.0012	0.0158 +/- 0.0011
3/21/2005	3/28/2005	0.0123 +/- 0.0011	0.0130 +/- 0.0011	0.0127 +/- 0.0015	0.0127 +/- 0.0012	0.0136 +/- 0.0011	0.0128 +/- 0.0010	0.0145 +/- 0.0011
3/28/2005	4/4/2005	0.0082 +/- 0.0010	0.0089 +/- 0.0010	0.0089 +/- 0.0015	0.0106 +/- 0.0011	0.0099 +/- 0.0010	0.0081 +/- 0.0009	0.0087 +/- 0.0009
4/4/2005	4/11/2005	0.0143 +/- 0.0012	0.0137 +/- 0.0011	0.0148 +/- 0.0016	0.0156 +/- 0.0013	0.0141 +/- 0.0011	0.0139 +/- 0.0011	0.0156 +/- 0.0011
4/11/2005	4/18/2005	0.0174 +/- 0.0013	0.0186 +/- 0.0013	0.0190 +/- 0.0018	0.0205 +/- 0.0014	0.0189 +/- 0.0012	0.0175 +/- 0.0012	0.0193 +/- 0.0012
4/18/2005	4/25/2005	0.0126 +/- 0.0011	0.0131 +/- 0.0011	0.0144 +/- 0.0016	0.0144 +/- 0.0013	0.0138 +/- 0.0011	0.0139 +/- 0.0011	0.0117 +/- 0.0010
4/25/2005	5/2/2005	0.0101 +/- 0.0011	0.0123 +/- 0.0011	0.0107 +/- 0.0015	0.0116 +/- 0.0011	0.0116 +/- 0.0010	0.0109 +/- 0.0010	0.0121 +/- 0.0010
5/2/2005	5/9/2005	0.0143 +/- 0.0012	0.0144 +/- 0.0012	0.0133 +/- 0.0016	0.0146 +/- 0.0013	0.0135 +/- 0.0011	0.0141 +/- 0.0011	0.0133 +/- 0.0010
5/9/2005	5/16/2005	0.0134 +/- 0.0012	0.0151 +/- 0.0012	0.0151 +/- 0.0016	0.0147 +/- 0.0011	0.0153 +/- 0.0011	0.0152 +/- 0.0011	0.0149 +/- 0.0013
5/16/2005	5/23/2005	0.0087 +/- 0.0010	0.0098 +/- 0.0010	0.0079 +/- 0.0014	0.0090 +/- 0.0010	0.0092 +/- 0.0009	0.0092 +/- 0.0010	0.0093 +/- 0.0010
5/23/2005	5/31/2005	0.0108 +/- 0.0010	0.0106 +/- 0.0010	0.0107 +/- 0.0013	0.0113 +/- 0.0009	0.0109 +/- 0.0009	0.0100 +/- 0.0009	0.0116 +/- 0.0009
5/31/2005	6/6/2005	0.0140 +/- 0.0013	0.0154 +/- 0.0013	0.0162 +/- 0.0018	0.0151 +/- 0.0012	0.0145 +/- 0.0012	0.0149 +/- 0.0012	0.0147 +/- 0.0013
6/6/2005	6/13/2005	0.0193 +/- 0.0013	0.0228 +/- 0.0014	0.0225 +/- 0.0018	0.0222 +/- 0.0014	0.0209 +/- 0.0013	0.0207 +/- 0.0013	0.0215 +/- 0.0023
6/13/2005	6/20/2005	0.0078 +/- 0.0010	0.0086 +/- 0.0010	0.0089 +/- 0.0012	0.0085 +/- 0.0009	0.0086 +/- 0.0009	0.0083 +/- 0.0009	0.0076 +/- 0.0017
6/20/2005	6/27/2005	0.0177 +/- 0.0013	0.0189 +/- 0.0013	0.0187 +/- 0.0016	0.0196 +/- 0.0013	0.0178 +/- 0.0012	0.0191 +/- 0.0013	0.0187 +/- 0.0021

1st 6-Month Summary

Maximum	0.0264 +/- 0.0080	0.0270 +/- 0.0080	0.0255 +/- 0.0100	0.0259 +/- 0.0060	0.0260 +/- 0.0060	0.0220 +/- 0.0060	0.0276 +/- 0.0060
Average	0.0156	0.0166	0.0166	0.0167	0.0162	0.0156	0.0164
Minimum	0.0078 +/- 0.0010	0.0086 +/- 0.0010	0.0079 +/- 0.0012	0.0085 +/- 0.0009	0.0086 +/- 0.0009	0.0081 +/- 0.0009	0.0076 +/- 0.0009

Table B-5b
Concentration of Beta Emitters in Air Particulates-Onsite Samples
Results in pCi/m³ ± 2sigma Uncertainty

START DATE	STOP DATE	Station #2 (l) Manor House Yard	Station #3 (l) East Field	Station #4 (l) Training Center Parking Lot	Station #5 (l) Creek Bridge	Station #6 (l) Main Parking Lot	Station #7 (l) West Fence Line	Station #13 (l) Substation 13
6/27/2005	7/5/2005	0.0198 +/- 0.0012	0.0245 +/- 0.0013	0.0228 +/- 0.0016	0.0240 +/- 0.0013	0.0214 +/- 0.0012	0.0228 +/- 0.0012	0.0242 +/- 0.0021
7/5/2005	7/11/2005	0.0165 +/- 0.0014	0.0180 +/- 0.0014	0.0183 +/- 0.0017	0.0187 +/- 0.0014	0.0182 +/- 0.0013	0.0183 +/- 0.0014	0.0188 +/- 0.0023
7/11/2005	7/18/2005	0.0285 +/- 0.0015	0.0287 +/- 0.0018	0.0298 +/- 0.0019	0.0287 +/- 0.0015	0.0339 +/- 0.0022	0.0283 +/- 0.0015	0.0287 +/- 0.0024
7/18/2005	7/25/2005	0.0175 +/- 0.0013	0.0199 +/- 0.0014	0.0200 +/- 0.0017	0.0215 +/- 0.0013	0.0196 +/- 0.0019	0.0194 +/- 0.0018	0.0211 +/- 0.0022
7/25/2005	8/1/2005	0.0160 +/- 0.0012	0.0180 +/- 0.0012	0.0184 +/- 0.0016	0.0174 +/- 0.0012	0.0181 +/- 0.0018	0.0161 +/- 0.0013	0.0151 +/- 0.0020
8/1/2005	8/8/2005	0.0320 +/- 0.0018	0.0344 +/- 0.0017	0.0369 +/- 0.0020	0.0355 +/- 0.0016	0.0372 +/- 0.0023	0.0370 +/- 0.0018	0.0349 +/- 0.0026
8/8/2005	8/15/2005	0.0265 +/- 0.0015	0.0266 +/- 0.0014	0.0303 +/- 0.0019	0.0312 +/- 0.0016	0.0307 +/- 0.0021	0.0315 +/- 0.0017	0.0311 +/- 0.0024
8/15/2005	8/22/2005	0.0175 +/- 0.0013	0.0170 +/- 0.0011	0.0214 +/- 0.0017	0.0181 +/- 0.0012	0.0210 +/- 0.0018	0.0200 +/- 0.0014	0.0197 +/- 0.0021
8/22/2005	8/29/2005	0.0153 +/- 0.0012	0.0139 +/- 0.0010	0.0163 +/- 0.0015	0.0166 +/- 0.0012	0.0173 +/- 0.0017	0.0156 +/- 0.0012	0.0169 +/- 0.0020
8/29/2005	9/6/2005	0.0167 +/- 0.0011	0.0175 +/- 0.0010	0.0203 +/- 0.0015	0.0194 +/- 0.0012	0.0190 +/- 0.0016	0.0193 +/- 0.0012	0.0196 +/- 0.0019
9/6/2005	9/12/2005	0.0238 +/- 0.0015	0.0228 +/- 0.0013	0.0265 +/- 0.0019	0.0250 +/- 0.0015	0.0251 +/- 0.0021	0.0256 +/- 0.0016	0.0267 +/- 0.0025
9/12/2005	9/19/2005	0.0305 +/- 0.0016	0.0311 +/- 0.0014	0.0326 +/- 0.0019	0.0332 +/- 0.0016	0.0334 +/- 0.0022	0.0358 +/- 0.0017	0.0302 +/- 0.0024
9/19/2005	9/26/2005	0.0256 +/- 0.0015	0.0255 +/- 0.0013	0.0276 +/- 0.0018	0.0275 +/- 0.0014	0.0285 +/- 0.0020	0.0295 +/- 0.0016	0.0266 +/- 0.0023
9/26/2005	10/3/2005	0.0201 +/- 0.0013	0.0197 +/- 0.0012	0.0231 +/- 0.0017	0.0230 +/- 0.0013	0.0206 +/- 0.0018	0.0229 +/- 0.0014	0.0199 +/- 0.0022
10/3/2005	10/10/2005	0.0195 +/- 0.0013	0.0193 +/- 0.0012	0.0201 +/- 0.0016	0.0188 +/- 0.0012	0.0223 +/- 0.0019	0.0212 +/- 0.0014	0.0192 +/- 0.0021
10/10/2005	10/17/2005	0.0055 +/- 0.0009	0.0046 +/- 0.0008	0.0047 +/- 0.0011	0.0054 +/- 0.0009	0.0048 +/- 0.0013	0.0046 +/- 0.0009	0.0033 +/- 0.0015
10/17/2005	10/24/2005	0.0124 +/- 0.0011	0.0112 +/- 0.0010	0.0121 +/- 0.0013	0.0124 +/- 0.0010	0.0142 +/- 0.0016	0.0128 +/- 0.0011	0.0119 +/- 0.0018
10/24/2005	10/31/2005	0.0113 +/- 0.0011	0.0119 +/- 0.0010	0.0119 +/- 0.0013	0.0121 +/- 0.0010	0.0128 +/- 0.0015	0.0131 +/- 0.0011	0.0111 +/- 0.0017
10/31/2005	11/7/2005	0.0286 +/- 0.0016	0.0299 +/- 0.0014	0.0310 +/- 0.0019	0.0326 +/- 0.0015	0.0310 +/- 0.0021	0.0351 +/- 0.0017	0.0279 +/- 0.0023
11/7/2005	11/14/2005	0.0184 +/- 0.0013	0.0191 +/- 0.0012	0.0202 +/- 0.0016	0.0196 +/- 0.0013	0.0178 +/- 0.0017	0.0194 +/- 0.0014	0.0200 +/- 0.0021
11/14/2005	11/21/2005	0.0175 +/- 0.0013	0.0178 +/- 0.0011	0.0187 +/- 0.0015	0.0200 +/- 0.0012	0.0193 +/- 0.0017	0.0201 +/- 0.0013	0.0191 +/- 0.0020
11/21/2005	11/28/2005	0.0138 +/- 0.0012	0.0137 +/- 0.0011	0.0152 +/- 0.0015	0.0149 +/- 0.0010	0.0131 +/- 0.0016	0.0137 +/- 0.0012	0.0122 +/- 0.0018
11/28/2005	12/5/2005	0.0133 +/- 0.0012	0.0134 +/- 0.0010	0.0124 +/- 0.0014	0.0142 +/- 0.0012	0.0143 +/- 0.0016	0.0148 +/- 0.0012	0.0152 +/- 0.0019
12/5/2005	12/12/2005	0.0229 +/- 0.0014	0.0237 +/- 0.0013	0.0217 +/- 0.0016	0.0199 +/- 0.0012	0.0197 +/- 0.0017	0.0240 +/- 0.0014	0.0221 +/- 0.0021
12/12/2005	12/19/2005	0.0157 +/- 0.0012	0.0153 +/- 0.0011	0.0168 +/- 0.0015	0.0150 +/- 0.0011	0.0167 +/- 0.0017	0.0157 +/- 0.0012	0.0172 +/- 0.0020
12/19/2005	12/26/2005	0.0338 +/- 0.0016	0.0368 +/- 0.0015	0.0344 +/- 0.0018	0.0349 +/- 0.0015	0.0352 +/- 0.0020	0.0397 +/- 0.0017	0.0321 +/- 0.0022
12/26/2005	1/3/2006	0.0143 +/- 0.0012	0.0156 +/- 0.0011	0.0157 +/- 0.0015	0.0161 +/- 0.0011	0.0155 +/- 0.0016	0.0157 +/- 0.0012	0.0168 +/- 0.0019
2nd 6-Month Summary								
Maximum		0.0338 +/- 0.0016	0.0368 +/- 0.0017	0.0369 +/- 0.0020	0.0355 +/- 0.0016	0.0372 +/- 0.0023	0.0397 +/- 0.0018	0.0349 +/- 0.0026
Average		0.0197	0.0203	0.0215	0.0214	0.0215	0.0220	0.0208
Minimum		0.0055 +/- 0.0009	0.0046 +/- 0.0008	0.0047 +/- 0.0011	0.0054 +/- 0.0009	0.0048 +/- 0.0012	0.0046 +/- 0.0009	0.0033 +/- 0.0015
12-Month Summary								
Maximum		0.0338 +/- 0.0080	0.0368 +/- 0.0080	0.0369 +/- 0.0100	0.0355 +/- 0.0060	0.0372 +/- 0.0060	0.0397 +/- 0.0060	0.0349 +/- 0.0060
Average		0.0177	0.0185	0.0191	0.0191	0.0189	0.0188	0.0186
Minimum		0.0055 +/- 0.0009	0.0046 +/- 0.0008	0.0047 +/- 0.0011	0.0054 +/- 0.0009	0.0048 +/- 0.0009	0.0046 +/- 0.0009	0.0033 +/- 0.0009

Table B-6a

Concentration of Beta Emitters in Air Particulates – Offsite Samples
(Results in pCi/m³ ± 2σ Uncertainty)

START DATE	STOP DATE	Station #8 (C) Seabreeze	Station #9 (I) Webster	Station #10 (C) Watworth	Station #11 (I) Williamson	Station #12 (C) Sodus Point
12/27/2004	1/3/2005	0.0230 +/- 0.0080	0.0210 +/- 0.0100	0.0210 +/- 0.0080	0.0210 +/- 0.0080	0.0270 +/- 0.0080
1/3/2005	1/10/2005	0.0130 +/- 0.0060	0.0110 +/- 0.0080	0.0120 +/- 0.0060	0.0130 +/- 0.0060	0.0160 +/- 0.0060
1/10/2005	1/17/2005	0.0185 +/- 0.0014	0.0206 +/- 0.0021	0.0228 +/- 0.0016	0.0160 +/- 0.0015	0.0152 +/- 0.0013
1/17/2005	1/24/2005	0.0242 +/- 0.0015	0.0215 +/- 0.0021	0.0227 +/- 0.0014	0.0229 +/- 0.0015	0.0241 +/- 0.0013
1/24/2005	1/31/2005	0.0173 +/- 0.0014	0.0164 +/- 0.0020	0.0149 +/- 0.0013	0.0173 +/- 0.0016	0.0175 +/- 0.0014
1/31/2005	2/7/2005	0.0266 +/- 0.0016	0.0237 +/- 0.0022	0.0264 +/- 0.0016	0.0237 +/- 0.0017	0.0251 +/- 0.0015
2/7/2005	2/14/2005	0.0226 +/- 0.0015	0.0190 +/- 0.0021	0.0210 +/- 0.0015	0.0213 +/- 0.0016	0.0196 +/- 0.0013
2/14/2005	2/22/2005	0.0175 +/- 0.0013	0.0133 +/- 0.0016	0.0166 +/- 0.0012	0.0168 +/- 0.0013	0.0181 +/- 0.0012
2/22/2005	2/28/2005	0.0193 +/- 0.0015	0.0168 +/- 0.0021	0.0175 +/- 0.0014	0.0173 +/- 0.0016	0.0158 +/- 0.0013
2/28/2005	3/7/2005	0.0164 +/- 0.0013	0.0169 +/- 0.0020	0.0156 +/- 0.0013	0.0166 +/- 0.0015	0.0164 +/- 0.0012
3/7/2005	3/14/2005	0.0179 +/- 0.0014	0.0160 +/- 0.0019	0.0170 +/- 0.0013	0.0174 +/- 0.0015	0.0191 +/- 0.0013
3/14/2005	3/21/2005	0.0184 +/- 0.0014	0.0155 +/- 0.0019	0.0166 +/- 0.0013	0.0153 +/- 0.0014	0.0144 +/- 0.0012
3/21/2005	3/28/2005	0.0143 +/- 0.0013	0.0111 +/- 0.0017	0.0130 +/- 0.0012	0.0129 +/- 0.0013	0.0120 +/- 0.0011
3/28/2005	4/4/2005	0.0107 +/- 0.0012	0.0095 +/- 0.0017	0.0103 +/- 0.0012	0.0097 +/- 0.0013	0.0101 +/- 0.0011
4/4/2005	4/11/2005	0.0157 +/- 0.0013	0.0124 +/- 0.0017	0.0158 +/- 0.0013	0.0147 +/- 0.0014	0.0141 +/- 0.0012
4/11/2005	4/18/2005	0.0197 +/- 0.0015	0.0194 +/- 0.0021	0.0189 +/- 0.0014	0.0182 +/- 0.0015	0.0171 +/- 0.0013
4/18/2005	4/25/2005	0.0153 +/- 0.0013	0.0131 +/- 0.0018	0.0135 +/- 0.0013	0.0144 +/- 0.0014	0.0117 +/- 0.0011
4/25/2005	5/2/2005	0.0129 +/- 0.0013	0.0107 +/- 0.0017	0.0120 +/- 0.0012	0.0118 +/- 0.0013	0.0107 +/- 0.0011
5/2/2005	5/9/2005	0.0162 +/- 0.0014	0.0125 +/- 0.0017	0.0145 +/- 0.0013	0.0134 +/- 0.0014	0.0129 +/- 0.0011
5/9/2005	5/16/2005	0.0185 +/- 0.0015	0.0153 +/- 0.0012	0.0155 +/- 0.0013	0.0142 +/- 0.0012	0.0143 +/- 0.0013
5/16/2005	5/23/2005	0.0116 +/- 0.0012	0.0093 +/- 0.0010	0.0101 +/- 0.0012	0.0091 +/- 0.0010	0.0092 +/- 0.0010
5/23/2005	5/31/2005	0.0137 +/- 0.0012	0.0103 +/- 0.0009	0.0111 +/- 0.0011	0.0109 +/- 0.0010	0.0098 +/- 0.0010
5/31/2005	6/6/2005	0.0174 +/- 0.0016	0.0137 +/- 0.0012	0.0158 +/- 0.0015	0.0146 +/- 0.0013	0.0128 +/- 0.0012
6/6/2005	6/13/2005	0.0240 +/- 0.0016	0.0216 +/- 0.0013	0.0211 +/- 0.0015	0.0223 +/- 0.0014	0.0195 +/- 0.0013
6/13/2005	6/20/2005	0.0098 +/- 0.0012	0.0076 +/- 0.0009	0.0084 +/- 0.0011	0.0073 +/- 0.0010	0.0077 +/- 0.0010
6/20/2005	6/27/2005	0.0225 +/- 0.0016	0.0188 +/- 0.0013	0.0212 +/- 0.0015	0.0203 +/- 0.0014	0.0193 +/- 0.0013
1st 6-Month Summary						
Maximum		0.0266 +/- 0.0080	0.0237 +/- 0.0100	0.0264 +/- 0.0080	0.0237 +/- 0.0080	0.0270 +/- 0.0080
Average		0.0176	0.0153	0.0164	0.0159	0.0158
Minimum		0.0098 +/- 0.0012	0.0076 +/- 0.0009	0.0084 +/- 0.0011	0.0073 +/- 0.0010	0.0077 +/- 0.0010

Table B-6b
Concentration of Beta Emitters in Air Particulates-Offsite Samples
Results in pCi/m³ ± 2sigma Uncertainty

START DATE	STOP DATE	Station #8 (C) Seabreeze	Station #9 (I) Webster	Station #10 (C) Walworth	Station #11 (I) Williamson	Station #12 (C) Sodus Point
6/27/2005	7/5/2005	0.0286 +/- 0.0016	0.0235 +/- 0.0013	0.0246 +/- 0.0015	0.0232 +/- 0.0013	0.0221 +/- 0.0013
7/5/2005	7/11/2005	0.0215 +/- 0.0017	0.0177 +/- 0.0014	0.0186 +/- 0.0016	0.0173 +/- 0.0014	0.0180 +/- 0.0014
7/11/2005	7/18/2005	0.0329 +/- 0.0018	0.0280 +/- 0.0015	0.0272 +/- 0.0017	0.0260 +/- 0.0015	0.0254 +/- 0.0015
7/18/2005	7/25/2005	0.0235 +/- 0.0016	0.0184 +/- 0.0013	0.0197 +/- 0.0015	0.0184 +/- 0.0014	0.0184 +/- 0.0013
7/25/2005	8/1/2005	0.0183 +/- 0.0015	0.0159 +/- 0.0012	0.0167 +/- 0.0014	0.0152 +/- 0.0013	0.0154 +/- 0.0012
8/1/2005	8/8/2005	0.0397 +/- 0.0020	0.0344 +/- 0.0016	0.0326 +/- 0.0018	0.0325 +/- 0.0017	0.0344 +/- 0.0017
8/8/2005	8/15/2005	0.0263 +/- 0.0015	0.0274 +/- 0.0015	0.0251 +/- 0.0013	0.0276 +/- 0.0016	0.0282 +/- 0.0015
8/15/2005	8/22/2005	0.0168 +/- 0.0013	0.0180 +/- 0.0012	0.0179 +/- 0.0012	0.0189 +/- 0.0014	0.0183 +/- 0.0013
8/22/2005	8/29/2005	0.0153 +/- 0.0012	0.0134 +/- 0.0011	0.0158 +/- 0.0011	0.0169 +/- 0.0013	0.0163 +/- 0.0012
8/29/2005	9/6/2005	0.0179 +/- 0.0012	0.0180 +/- 0.0011	0.0166 +/- 0.0010	0.0184 +/- 0.0012	0.0170 +/- 0.0012
9/6/2005	9/12/2005	0.0248 +/- 0.0018	0.0258 +/- 0.0015	0.0252 +/- 0.0014	0.0258 +/- 0.0017	0.0268 +/- 0.0016
9/12/2005	9/19/2005	0.0329 +/- 0.0017	0.0299 +/- 0.0015	0.0303 +/- 0.0014	0.0304 +/- 0.0016	0.0313 +/- 0.0016
9/19/2005	9/26/2005	0.0270 +/- 0.0015	0.0290 +/- 0.0015	0.0264 +/- 0.0014	0.0246 +/- 0.0015	0.0279 +/- 0.0015
9/26/2005	10/3/2005	0.0221 +/- 0.0014	0.0204 +/- 0.0013	0.0196 +/- 0.0012	0.0205 +/- 0.0014	0.0194 +/- 0.0013
10/3/2005	10/10/2005	0.0199 +/- 0.0014	0.0183 +/- 0.0013	0.0191 +/- 0.0012	0.0195 +/- 0.0014	0.0080 +/- 0.0015
10/10/2005	10/17/2005	0.0050 +/- 0.0009	0.0048 +/- 0.0008	0.0044 +/- 0.0008	0.0044 +/- 0.0009	0.0045 +/- 0.0008
10/17/2005	10/24/2005	0.0120 +/- 0.0011	0.0131 +/- 0.0011	0.0113 +/- 0.0010	0.0116 +/- 0.0011	0.0105 +/- 0.0010
10/24/2005	10/31/2005	0.0132 +/- 0.0012	0.0122 +/- 0.0010	0.0121 +/- 0.0010	0.0122 +/- 0.0011	0.0118 +/- 0.0010
10/31/2005	11/7/2005	0.0308 +/- 0.0016	0.0295 +/- 0.0015	0.0279 +/- 0.0014	0.0294 +/- 0.0016	0.0289 +/- 0.0015
11/7/2005	11/14/2005	0.0209 +/- 0.0014	0.0190 +/- 0.0013	0.0185 +/- 0.0012	0.0188 +/- 0.0013	0.0182 +/- 0.0013
11/14/2005	11/21/2005	0.0193 +/- 0.0013	0.0180 +/- 0.0012	0.0196 +/- 0.0012	0.0196 +/- 0.0013	0.0189 +/- 0.0012
11/21/2005	11/28/2005	0.0117 +/- 0.0012	0.0121 +/- 0.0011	0.0131 +/- 0.0011	0.0111 +/- 0.0011	0.0139 +/- 0.0012
11/28/2005	12/5/2005	0.0092 +/- 0.0015	0.0126 +/- 0.0010	0.0134 +/- 0.0011	0.0126 +/- 0.0011	0.0141 +/- 0.0011
12/5/2005	12/12/2005	0.0183 +/- 0.0013	0.0224 +/- 0.0013	0.0218 +/- 0.0013	0.0180 +/- 0.0013	0.0230 +/- 0.0013
12/12/2005	12/19/2005	0.0137 +/- 0.0012	0.0151 +/- 0.0011	0.0155 +/- 0.0011	0.0154 +/- 0.0012	0.0164 +/- 0.0012
12/19/2005	12/26/2005	0.0380 +/- 0.0017	0.0214 +/- 0.0012	0.0358 +/- 0.0015	0.0338 +/- 0.0016	0.0310 +/- 0.0014
12/26/2005	1/3/2006	0.0161 +/- 0.0013	0.0114 +/- 0.0010	0.0148 +/- 0.0011	0.0148 +/- 0.0012	0.0140 +/- 0.0011
2nd 6-Month Summary						
Maximum		0.0397 +/- 0.0020	0.0344 +/- 0.0016	0.0358 +/- 0.0018	0.0338 +/- 0.0017	0.0344 +/- 0.0017
Average		0.0213	0.0196	0.0201	0.0199	0.0197
Minimum		0.0050 +/- 0.0009	0.0048 +/- 0.0008	0.0044 +/- 0.0008	0.0044 +/- 0.0009	0.0045 +/- 0.0008
12-Month Summary						
Maximum		0.0397 +/- 0.0080	0.0344 +/- 0.0100	0.0358 +/- 0.0080	0.0338 +/- 0.0080	0.0344 +/- 0.0080
Average		0.0195	0.0175	0.0183	0.0179	0.0178
Minimum		0.0050 +/- 0.0009	0.0048 +/- 0.0008	0.0044 +/- 0.0008	0.0044 +/- 0.0009	0.0045 +/- 0.0008

Table B-7

Concentration of Gamma Emitters in Air Particulates
(Results in units of 10^{-2} pCi/m³ \pm 2 σ)

Location	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
Station #2 Manor House Yard	*	*	*	*
Station #3 East Field	*	*	*	*
Station #4 Training Center Parking Lot	*	*	*	*
Station #5 Creek Bridge	*	*	*	*
Station #6 Main Parking Lot	*	*	*	*
Station #7 West Fence Line	*	*	*	*
Station #8 Seabreeze	*	*	*	*
Station #9 Webster	*	*	*	*
Station #10 Walworth	*	*	*	*
Station #11 Williamson	*	*	*	*
Station #12 Sodus Point	*	*	*	*
Station #13 Substation 13	*	*	*	*

* All Non-Natural Gamma Emitters <MDA

Table B-8

Concentration of Gamma Emitters in Vegetation Samples
(Results in units of pCi/kg (wet) $\pm 2\sigma$)

Location	Sample Date	Sample Type	Gamma Emitters
SE Garden	07/20/2005	Lettuce	*
	08/16/2005	Tomatoes	*
ESE Garden	07/26/2005	Lettuce	*
	08/08/2005	Tomatoes	*
Control Garden	07/26/2005	Lettuce	*
	08/08/2005	Tomatoes	*
	09/15/2005	Apples	*
	09/15/2005	Cabbage	*
Site Code 31-South	09/07/2005	Cabbage	*
Site Code 31-SSE	09/15/2005	Apples	*
Site Code 31-South	09/15/2005	Apples	*
Site Code 31-WSW	09/15/2005	Apples	*

* All Non-Natural Gamma Emitters <MDA

Table B-9

Concentration of Gamma Emitters (including I-131) in Milk
(Results in units of pCi/Liter $\pm 2\sigma$)

Location	Sample Date	Gamma Emitters
FARM A Station 21	02/8/2005	*
	04/11/2005	*
	06/14/2005	*
	06/28/2005	*
	07/12/2005	*
	07/25/2005	*
	08/08/2005	*
	08/23/2005	*
	09/08/2005	*
	09/20/2005	*
	10/04/2005	*
	10/18/2005	*
	11/07/2005	*
12/13/2005	*	
FARM B Station 22	01/11/2005	*
	03/08/2005	*
	05/10/2005	*
	06/14/2005	*
	06/28/2005	*
	07/12/2005	*
	07/26/2005	*
	08/09/2005	*
	08/23/2005	*
	09/07/2005	*
09/20/2005	*	
FARM D Station 24	01/11/2005	*
	02/08/2005	*
	03/07/2005	*
	04/11/2005	*
	05/10/2005	*
	06/14/2005	*
	06/28/2005	*
	07/12/2005	*
07/25/2005	*	

Table B-9 (Continued)

Concentration of Gamma Emitters (including I-131) in Milk
(Results in units of pCi/Liter $\pm 2\sigma$)

Location	Sample Date	Gamma Emitters
FARM D (Continued)	09/08/2005	*
	09/20/2005	*
	10/04/2005	*
	10/18/2005	*
	11/07/2005	*
	12/13/2005	*

* All Gamma Emitters, including I-131, <MDA

Table B-10
Typical MDA Ranges for Gamma Spectrometry

Selected Nuclides	Water pCi/l	Fish pCi/Kg	Sediment pCi/Kg	Particulate 10^{-3} pCi/m ³	Vegetation pCi/Kg	Milk pCi/l
H-3	223 - 779	-	-	-	-	-
Na-22	4 - 10	27 - 51	47 - 160	0.4 - 1.0	21 - 68	6 - 13
Cr-51	28 - 77	237 - 777	353 - 1380	14 - 27	143 - 380	31 - 61
Mn-54	4 - 8	20-39	39 - 118	0.5 - 0.9	15 - 56	5 - 10
Co-58	4 - 9	33 - 50	47 - 156	0.8 - 1.6	20 - 54	5 - 10
Fe-59	8 - 11	69 - 191	118-436	3 - 6	45 - 144	11 - 24
Co-60	4 - 9	24 - 47	49 - 144	0.5 - 1.0	21 - 70	5 - 12
Zn-65	8 - 21	53 - 95	102 - 365	3 - 3	45 - 166	12 - 25
Nb-95	4 - 11	39 - 100	53 - 222	2 - 3	23 - 61	5 - 9
Zr-95	6 - 16	47 - 94	75 - 259	1 - 3	34 - 102	8 - 16
Ru-106	34 - 71	185 - 267	319 - 922	4 - 6	149 - 440	37 - 75
Ag-110m	3 - 8	20 - 31	37 - 142	0.4 - 0.8	16 - 52	4 - 8
Te-129m	42 - 119	364 - 1170	538 - 2280	19 - 33	246 - 674	50 - 98
I-131	4 - 29**	100 - 12200	122 - 1300	161 - 827*	21 - 479	4 - 9***
Cs-134	3 - 7	18 - 27	33 - 117	0.4 - 0.7	14 - 51	4 - 8
Cs-137	4 - 8	21 - 32	39 - 125	0.3 - 0.7	18 - 57	5 - 10
Ba-140	6 - 29	59 - 2250	103 - 916	33 - 87	29 - 137	6 - 14
La-140	6 - 29	59 - 2250	103 - 916	33 - 87	29 - 137	6 - 14
Ce-144	18 - 39	61 - 80	140 - 413	1 - 2	64 - 195	20 - 43

* The MDA range for I-131 measured on a charcoal cartridge is typically 6.3×10^{-3} to 2.3×10^{-2} pCi/m³

** The MDA range for I-131 measured in drinking water is typically 0.5 to 1.1 pCi/L

***The MDA range for I-131 measured in milk is typically 0.6 to 0.9 pCi/L

Table B-11
Typical LLDs for Gamma Spectrometry

Selected Nuclides	Water pCi/l	Fish pCi/Kg	Sediment pCi/Kg	Particulate * 10^{-3} pCi/m ³	Vegetation pCi/Kg	Milk pCi/l
Na-22	4.1	24	59	3.7	35	
Cr-51	26	120	327	16	162	
Mn-54	3.8	20	49	2.8	27	
Co-58	3.9	20	36	2.8	25	
Fs-59	7.8	45	103	2.8	60	
Co-60	4.4	24	60	2.7	33	
Zn-65	7.9	54	141	7.0	66	
Nb-95	4.2	18	60	2.4	25	
Zr-95	6.5	35	79	5.0	44	
Ru-106	35	172	458	25	223	
Ag-110m	3.6	15	42	2.2	25	
Te-129m	41	170	551	27	265	
I-131	3.2	13	41	19 *	20	0.44
Cs-134	3.3	17	44	2.4	24	6
Cs-137	3.9	17	58	2.8	27	6
Ba-140	4.8	19	67	3.9	80	7
La-140	4.8	19	67	3.9	41	
Ce-144	17	58	191	8.9	101	

* The LLD for I-131 measured on a charcoal cartridge is typically 0.013 – 0.054 pCi/M3

Table B-12
Direct Radiation
(Results in Units of mR/90 days \pm 2 σ)

Station	Location	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
2	Onsite-Manor House Yard	11.0 \pm 2.8	12.9 \pm 3.3	12.5 \pm 3.1	12.4 \pm 3.1
3	Onsite-In field approximately 200 ft SE of station #2	10.6 \pm 2.7	12.7 \pm 3.2	12.6 \pm 3.2	12.1 \pm 3.0
4	Onsite-Training Center yard driveway circle	11.6 \pm 2.9	13.3 \pm 3.4	12.6 \pm 3.2	12.9 \pm 3.3
5	Onsite-Between creek and plant entry road	12.3 \pm 3.1	14.1 \pm 3.6	13.6 \pm 3.4	13.0 \pm 3.3
6	Onsite-SW side of plant parking lot	9.3 \pm 2.3	10.4 \pm 2.6	9.8 \pm 2.5	9.8 \pm 2.5
7	Onsite-utility pole along West plant fence	13.7 \pm 3.4	17.3 \pm 4.4	15.5 \pm 3.9	15.0 \pm 3.8
8 ¹	Topper Drive-Irondequoit, Seabreeze Substation #51	10.1 \pm 2.5	11.5 \pm 2.9	11.0 \pm 2.8	11.0 \pm 2.8
9	Phillips Road-Webster, intersection with Highway #104, Substation #74	9.6 \pm 2.4	11.8 \pm 3.0	11.2 \pm 2.8	11.0 \pm 2.8
10 ¹	Atlantic Avenue-Walworth, Substation #230	9.0 \pm 2.3	10.4 \pm 2.6	9.8 \pm 2.5	10.4 \pm 2.6
11	W. Main Street-Williamson, Substation #207	9.9 \pm 2.5	10.9 \pm 2.7	10.3 \pm 2.6	10.8 \pm 2.7
12 ¹	12 Seaman Avenue-Sodus Point-Off Lake Road by Sewer district, Substation #209	10.2 \pm 2.6	11.5 \pm 2.9	11.3 \pm 2.9	11.4 \pm 2.9
13	At corner of plant-controlled area fence and dogleg to West	11.4 \pm 2.9	13.5 \pm 3.4	13.1 \pm 3.3	12.8 \pm 3.2
14	NW corner of field along lake shore	10.3 \pm 2.6	12.5 \pm 3.2	12.4 \pm 3.1	12.0 \pm 3.0
15	Field access road, west of orchard, approximately 3000' West of plant	11.5 \pm 2.9	13.6 \pm 3.4	13.1 \pm 3.3	13.1 \pm 3.3
16	SW Corner of orchard, approximately 3000' West of plant,	10.7 \pm 2.7	12.8 \pm 3.2	12.5 \pm 3.2	12.1 \pm 3.1

approximately 200' North of Lake Road

17	Utility pole in orchard, approximately 75' North of Lake Road	10.4 ± 2.6	12.3 ± 3.1	11.1 ± 2.8	11.6 ± 2.9
18	Approximately 30' North of NE corner of Substation 13A fence	10.1 ± 2.5	12.2 ± 3.1	11.2 ± 2.8	11.2 ± 2.8
19	On NW corner of house 100' East of plant access road	9.4 ± 2.4	10.8 ± 2.5	10.1 ± 2.5	9.6 ± 2.4
20	Approximately 150' West of Ontario Center Road and approximately 170' South of Lake Road	10.3 ± 2.6	12.2 ± 3.1	12.2 ± 3.1	11.6 ± 2.9
21	North side of Lake Road, approximately 200' East of Ontario Center Road	10.0 ± 2.5	12.5 ± 3.1	12.4 ± 3.1	11.9 ± 3.0
22	North side of Lake Road, SE, property owner	9.5 ± 2.4	11.3 ± 2.8	11.2 ± 2.8	10.8 ± 2.7
23	East property line, midway between Lake Road and Lake shore	9.8 ± 2.5	12.0 ± 3.0	12.6 ± 3.2	12.8 ± 3.2
24	Lake shore near NE corner of property	10.6 ± 2.7	12.7 ± 3.2	12.8 ± 3.2	12.9 ± 3.2
25 ¹	Substation #73, Klem Road, adjacent to 897 Klem Road	10.7 ± 2.7	12.0 ± 3.0	10.8 ± 2.7	10.8 ± 2.7
26 ¹	Service Center, Plank Road, West of 250	9.9 ± 2.5	11.7 ± 3.0	10.8 ± 2.7	10.9 ± 2.8
27 ¹	Atlantic Avenue at Knollwood Drive utility pole, North side of road	9.8 ± 2.5	12.3 ± 3.1	11.9 ± 3.0	10.8 ± 2.7
28 ¹	Substation #193, Marion, behind Stanton Ag. Service, North Main Street	9.5 ± 2.4	10.9 ± 2.7	10.6 ± 3.7	11.1 ± 2.8
29 ¹	Substation #208, Town Line Road (CR-118), 1000' North of Route 104	9.4 ± 2.4	11.1 ± 2.8	10.1 ± 2.6	10.5 ± 2.6
30 ¹	District Office, Sodus, on pole, West side of bldg	10.4 ± 2.6	10.7 ± 2.7	11.1 ± 2.8	10.5 ± 2.7
31	Lake Road, pole 20' North of road, 500' East of Salt Road	10.8 ± 2.7	12.9 ± 3.2	12.8 ± 3.2	12.0 ± 3.0
32	Woodard Road at County Line Road, pole @ BW corner	9.2 ± 2.3	10.9 ± 2.8	10.4 ± 2.6	10.3 ± 2.6

33	County Line Road at RR tracks, pole approximately 100' East along tracks	10.0 ± 2.5	11.2 ± 2.8	10.7 ± 2.7	10.6 ± 2.7
34	Lincoln Road, pole midway between Ridge Road and Route 104	10.3 ± 2.6	12.8 ± 3.2	12.5 ± 3.1	11.8 ± 3.0
35	Transmission Right of Way, North of Clevenger Road on pole	10.9 ± 2.7	13.1 ± 3.3	13.4 ± 3.4	12.5 ± 3.2
36	Substation #205, Route 104, East of Ontario Center Road, North side of fence	9.5 ± 2.4	11.6 ± 2.9	11.0 ± 2.8	10.9 ± 2.7
37	Rail Road Avenue, pole at 2048	9.0 ± 2.3	10.3 ± 2.6	10.5 ± 2.6	10.1 ± 2.5
38	Fisher Road at RR Tracks, pole East of road	10.4 ± 2.6	12.3 ± 3.1	12.5 ± 3.1	11.6 ± 2.9
39	Seeley Road, Pole South side 100' West of intersection with Stony Lonesome Road	10.2 ± 2.6	12.8 ± 3.2	12.0 ± 3.0	12.3 ± 3.1
40	Lake Road at Stoney Lonesome Road, pole at SE corner	9.6 ± 2.4	11.0 ± 2.8	10.6 ± 2.7	10.2 ± 2.6

¹ Control Location

APPENDIX C

Quality Assurance Program

Appendix C is a summary of Constellation Energy laboratory's quality assurance program. It consists of Table C-1 which is a compilation of the results of the Constellation Energy Laboratory's participation in an intercomparison program with Environmental Resource Associates (ERA) located in Arvada, Colorado and Analytics, Inc. located in Atlanta, Georgia. It also includes Table C-2 which is a compilation of the results of the Constellation Energy Laboratory's participation in a split sample program with Teledyne Brown Engineering located in Knoxville, Tennessee and Table C-3 which is a list of typical MDAs achieved by Teledyne Brown for Gamma Spectroscopy.

All the Constellation Energy Laboratory's results contained in Table C-1 generally agree with the intercomparison laboratory results within $\pm 2\sigma$ of each other, and both sets of results are also in agreement when using the NRC Resolution Test Criteria¹ for evaluation. The uncertainties for the Constellation Energy Laboratory's results and Analytics' results are $\pm 2\sigma$ while the ERA laboratory's uncertainty is based on USEPA guidelines².

All the results contained in Table C-2 generally agree with their respective Constellation Energy Laboratory replicates and/or split laboratory samples, except for three comparisons of soil samples involving Cs-137 results. The original analysis of the soil sample from SFS2 and the split analysis of the soil sample from SFS3, both of which were collected on 3/21/05, and the replicate analysis of the soil sample from SFS2 collected on 9/5/2005 do not agree within $\pm 2\sigma$ of their respective QC soil samples analyzed. These minor discrepancies, which have been observed in previous reporting periods, are most probably due to counting statistics and/or the non-homogeneous nature of this type of sample. As indicated in Table C-2, there was an instance where activity was observed in split sample, but not observed in either the original or replicate samples (viz., the 3/21/05 vegetation sample from SFb2). This is due to the lower MDA achieved by the split laboratory using very long count times. Other samples whose nature generally precludes sample splitting are marked "***" in the Split Analysis column.

¹ NRC Inspection Manual, Inspection Procedure 84750, March 15, 1994

² National Standards for Water Proficiency Testing Studies Criteria Document, December 1998

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TABLE C-1

Results of Participation in Cross Check Programs

Sample Date	Sample Type and Units	Isotope Observed	Reported Laboratory's Results ¹	Cross Check Lab Results ¹
2/15/05	Water-pCi/L	Ba-133	48±7	53±5
		Co-60	61±7	57±5
		Cs-134	62±6	65±5
		Cs-137	45±9	40±5
		Zn-65	178±24	161±16
3/17/05	Milk-pCi/L	I-131	111±14	92±3
		Cs-134	145±11	139±5
		Cs-137	156±16	130±4
		Ce-141	285±19	229±8
		Cr-51	420±95	334±11
		Mn-54	181±15	160±5
		Co-58	127±15	115±4
		Fe-59	137±19	111±4
		Co-60	164±12	144±5
Zn-65	229±32	198±7		
3/17/05	Charcoal Cartridge-pCi	I-131	73±7	60±2
3/17/05	Water-pCi/L	Gross β	271±2	268±9
5/17/05	Water-pCi/L	I-131	15±1	16±3
6/6/05	Water-pCi	Gross β	216±3	214±7
6/9/05	Water-pCi/L	Cs-134	90±19	104±3
		Cs-137	217±33	206±7
		Co-60	163±23	158±5
		Mn-54	144±31	136±5
		Zn-65	162±67	169±6
6/9/05	Filter-pCi/filter	Beta	77±2	83±3

¹ See discussion at the beginning of the Appendix.

TABLE C-1 - Continued

Results of Quality Assurance Program

Sample Date	Sample Type and Units	Isotope Observed	Reported Laboratory's Results ¹	Cross Check Lab Results ¹
6/9/05	Filter-pCi/filter	Ce-141	72±6	61±2
		Cr-51	252±42	200±7
		Cs-134	56±4	63±2
		Cs-137	131±8	125±4
		Mn-54	92±7	83±3
		Fe-59	48±8	42±1
		Zn-65	116±13	102±3
		Co-60	103±6	96±3
8/16/05	Water-pCi/L	Ba-133	104±10	106±11
		Cs-134	82±6	92±5
		Cs-137	77±9	73±5
		Zn-65	61±14	66±7
		Co-60	13±5	14±5
11/15/05	Water-pCi/L	I-131	18±3	17±3
12/08/05	Water-pCi/L	Gross β	245±3	285±10
12/08/05	Water-pCi/L	I-131	56±10	53±2
		Ce-141	161±13	165±6
		Cr-51	129±57	142±5
		Cs-134	60±6	64±2
		Cs-137	141±13	139±5
		Co-58	61±9	57±2
		Mn-54	116±11	112±4
		Fe-59	62±12	61±32
		Zn-65	122±20	113±4
		Co-60	80±8	81±3

¹ See discussion at the beginning of the Appendix

TABLE C-1 - Continued

Results of Quality Assurance Program

Sample Date	Sample Type and Units	Isotope Observed	Reported Laboratory's Results ³	Cross Check Lab Results ¹
12/08/05	Milk-pCi/L	I-131	82±20	75±2
		Ce-141	249±24	224±7
		Cr-51	223±129	193±6
		Cs-134	92±12	87±3
		Cs-137	223±26	189±6
		Co-58	84±17	78±2
		Mn-54	187±23	152±5
		Fe-59	63±25	82±3
		Zn-65	182±40	154±5
		Co-60	127±16	111±4
12/8/05	Filter-pCi/filter	Ce-141	234±9	205±7
		Cr-51	212±40	177±6
		Cs-134	69±6	80±3
		Cs-137	191±10	173±6
		Co-58	75±7	71±2
		Mn-54	159±9	139±5
		Fe-59	86±9	75±2
		Zn-65	164±16	141±5
		Co-60	108±6	101±3
12/8/05	Charcoal Cartridge-pCi	I-131	95±7	74±2

³ See discussion at the beginning of the Appendix

TABLE C-2

Results of Quality Assurance Program

Sample Type And Location	Sample Date	Type of Analysis	Original Analysis	Replicate Analysis	Split Analysis
				10^{-2} pCi/m ³	
Air Iodine-A3	1/03/05	I-131	<1.4	<1.5	**
Air Iodine-A4	1/03/05	I-131	<1.1	<1.3	**
Air Filter -A1	1/03/05	Beta	3.0±0.3	3.1±0.3	**
Air Filter -A2	1/03/05	Beta	2.5±0.2	2.8±0.2	**
Air Filter -A3	1/03/05	Beta	2.6±0.2	2.5±0.2	**
Air Filter -A4	1/03/05	Beta	2.9±0.2	2.9±0.2	**
Air Filter -A5	1/03/05	Beta	3.2±0.2	3.2±0.2	**
Air Filter -SFA1	1/03/05	Beta	2.8±0.2	2.7±0.2	**
Air Filter -SFA2	1/03/05	Beta	2.8±0.2	3.0±0.2	**
Air Filter -SFA3	1/03/05	Beta	3.2±0.2	3.2±0.2	**
Air Filter -SFA4	1/03/05	Beta	2.9±0.2	3.4±0.2	**
				10^{-2} pCi/m ³	
Air Filter-A1	2/07/05	Beta	2.2±0.2	2.0±0.2	**
Air Filter-A2	2/07/05	Beta	1.7±0.3	1.8±0.3	**
Air Filter-A3	2/07/05	Beta	1.9±0.2	1.9±0.2	**
Air Filter-A4	2/07/05	Beta	2.1±0.2	2.0±0.2	**
Air Filter-A5	2/07/05	Beta	2.2±0.2	2.2±0.2	**
Air Filter-SFA1	2/07/05	Beta	1.9±0.2	2.0±0.2	**
Air Filter-SFA2	2/07/05	Beta	2.2±0.2	2.2±0.2	**
Air Filter-SFA3	2/07/05	Beta	2.3±0.2	2.1±0.2	**
Air Filter-SFA4	2/07/05	Beta	2.2±0.2	2.4±0.2	**
Air Iodine-A1	2/07/05	I-131	<1.2	<1.4	**
Air Iodine-A2	2/07/05	I-131	<1.1	<1.3	**
				pCi/L	
Bay Water-Wa2	2/25/05	Gamma	<MDA	<MDA	<MDA

**The nature of these samples precluded splitting them with an independent laboratory.

TABLE C-2 - Continued

Results of Quality Assurance Program

Sample Type And Location	Sample Date	Type of Analysis	Original Analysis	Replicate Analysis	Split Analysis
			10^{-2} pCi/m ³		
Air Filter-A1	3/07/05	Beta	1.3±0.2	1.4±0.2	**
Air Filter-A2	3/07/05	Beta	1.5±0.2	1.8±0.2	**
Air Filter-A3	3/07/05	Beta	1.6±0.2	1.6±0.2	**
Air Filter-A4	3/07/05	Beta	1.6±0.2	1.6±0.2	**
Air Filter-A5	3/07/05	Beta	1.5±0.2	1.7±0.2	**
Air Filter-SFA1	3/07/05	Beta	1.6±0.2	1.6±0.2	**
Air Filter-SFA2	3/07/05	Beta	1.5±0.2	1.8±0.2	**
Air Filter-SFA3	3/07/05	Beta	1.7±0.2	1.9±0.2	**
Air Filter-SFA4	3/07/05	Beta	1.8±0.2	1.8±0.2	**
Air Iodine-A3	3/07/05	I-131	<1.5	<1.6	**
Air Iodine-A4	3/07/05	I-131	<1.3	<1.5	**
			pCi/Kg		
Soil-SFS2	3/21/05	Cs-137	82±24	165±56	116±14
Soil-SFS3	3/21/05	Cs-137	581±115	531±92	379±22
Vegetation-SFb2	3/21/05	Cs-137	<MDA	<MDA	20±10
Vegetation-SFb3	3/21/05	Cs-137	<MDA	<MDA	<MDA
Oysters-Ia3	3/30/05	Gamma	<MDA	<MDA	<MDA
			pCi/L		
Bay Water-Wa2	3/31/05	Gamma	<MDA	<MDA	<MDA
			10^{-2} pCi/m ³		
Air Filter-A1	4/04/05	Beta	0.6±0.2	0.6±0.2	**
Air Filter-A2	4/04/05	Beta	0.6±0.2	0.6±0.2	**
Air Filter-A3	4/04/05	Beta	0.5±0.2	0.5±0.2	**
Air Filter-A4	4/04/05	Beta	1.0±0.2	0.8±0.2	**
Air Filter-A5	4/04/05	Beta	0.8±0.1	0.8±0.1	**
Air Filter-SFA1	4/04/05	Beta	0.7±0.2	0.7±0.2	**
Air Filter-SFA2	4/04/05	Beta	0.6±0.2	0.6±0.2	**
Air Filter-SFA3	4/04/05	Beta	0.7±0.2	1.0±0.2	**
Air Filter-SFA4	4/04/05	Beta	0.7±0.2	1.0±0.2	**

**The nature of these samples precluded splitting them with an independent laboratory.

TABLE C-2 - Continued

Results of Quality Assurance Program

Sample Type And Location	Sample Date	Type of Analysis	Original Analysis	Replicate Analysis	Split Analysis
				10^{-2} pCi/m ³	
Air Iodine-A1	4/04/05	I-131	<1.5	<1.5	**
Air Iodine-A2	4/04/05	I-131	<1.4	<1.3	**
				10^{-2} pCi/m ³	
Air Iodine-A3	5/16/05	I-131	<1.5	<1.3	**
Air Iodine-A4	5/16/05	I-131	<1.5	<1.5	**
Air Filter-A1	5/16/05	Beta	0.9±0.2	1.1±0.2	**
Air Filter-A2	5/16/05	Beta	0.8±0.2	0.8±0.2	**
Air Filter-A3	5/16/05	Beta	0.9±0.1	0.7±0.2	**
Air Filter-A4	5/16/05	Beta	1.1±0.2	1.2±0.2	**
Air Filter-A5	5/16/05	Beta	1.1±0.2	1.1±0.1	**
Air Filter-SFA1	5/16/05	Beta	0.8±0.2	0.9±0.1	**
Air Filter-SFA2	5/16/05	Beta	0.9±0.2	1.0±0.2	**
Air Filter-SFA3	5/16/05	Beta	1.2±0.2	1.3±0.2	**
Air Filter-SFA4	5/16/05	Beta	0.9±0.2	1.0±0.2	**
				pCi/Kg	
Shoreline-Wb1	5/09/05	Gamma	<MDA	<MDA	<MDA
				10^{-2} pCi/m ³	
Air Filter-A1	6/6/05	Beta	0.8±0.2	1.0±0.2	**
Air Filter-A2	6/6/05	Beta	0.9±0.2	0.5±0.2	**
Air Filter-A3	6/6/05	Beta	0.5±0.2	0.6±0.2	**
Air Filter-A4	6/6/05	Beta	0.9±0.2	1.1±0.2	**
Air Filter-A5	6/6/05	Beta	1.0±0.2	1.0±0.2	**
Air Filter-SFA1	6/6/05	Beta	0.8±0.2	0.8±0.2	**
Air Filter-SFA2	6/6/05	Beta	0.9±0.2	1.1±0.2	**
Air Filter-SFA3	6/6/05	Beta	1.1±0.2	1.1±0.2	**
Air Filter-SFA4	6/6/05	Beta	0.7±0.2	0.8±0.2	**
Air Iodine-A1	6/6/05	I-131	<1.2	<1.4	**
Air Iodine-A2	6/6/05	I-131	<1.7	<2.0	**

**The nature of these samples precluded splitting them with an independent laboratory.

TABLE C-2 - Continued

Results of Quality Assurance Program

Sample Type And Location	Sample Date	Type of Analysis	Original Analysis	Replicate Analysis	Split Analysis
10^{-2} pCi/m ³					
Air Filters-A1	6/15/05	Gamma	<MDA	<MDA	<MDA
Air Filters-A2	6/15/05	Gamma	<MDA	<MDA	<MDA
Air Filters-A3	6/15/05	Gamma	<MDA	<MDA	<MDA
Air Filters-A4	6/15/05	Gamma	<MDA	<MDA	<MDA
Air Filters-A5	6/15/05	Gamma	<MDA	<MDA	<MDA
Air Filters-SFA1	6/15/05	Gamma	<MDA	<MDA	<MDA
Air Filters-SFA2	6/15/05	Gamma	<MDA	<MDA	<MDA
Air Filters-SFA3	6/15/05	Gamma	<MDA	<MDA	<MDA
Air Filters-SFA4	6/15/05	Gamma	<MDA	<MDA	<MDA
$mR/90$ Days					
DR05	6/30/05	TLD	12.28±0.43	11.37±0.87	**
DR06	6/30/05	TLD	9.94±1.01	9.62±0.35	**
DR07	6/30/05	TLD	10.16±0.58	10.02±1.08	**
DR08	6/30/05	TLD	14.58±1.33	14.38±1.61	**
DR09	6/30/05	TLD	11.14±1.62	10.52±0.91	**
DR10	6/30/05	TLD	10.59±1.08	10.32±0.89	**
DR11	6/30/05	TLD	10.41±0.66	10.81±1.14	**
DR29	6/30/05	TLD	14.23±0.99	14.22±1.42	**
DR31	6/30/05	TLD	14.56±1.71	15.46±1.13	**
SFDR14	6/30/05	TLD	16.21±2.75	16.60±2.32	**
SFDR15	6/30/05	TLD	20.56±2.83	18.75±3.25	**
10^{-2} pCi/m ³					
Air Filter-A1	7/11/05	Beta	1.4±0.2	1.5±0.2	**
Air Filter-A2	7/11/05	Beta	0.5±0.2	0.4±0.2	**
Air Filter-A3	7/11/05	Beta	0.6±0.2	0.6±0.2	**
Air Filter-A4	7/11/05	Beta	1.1±0.2	1.0±0.2	**
Air Filter-A5	7/11/05	Beta	1.6±0.3	1.2±0.2	**
Air Filter-SFA1	7/11/05	Beta	1.5±0.2	1.4±0.2	**
Air Filter-SFA2	7/11/05	Beta	1.6±0.2	1.5±0.2	**
Air Filter-SFA3	7/11/05	Beta	1.2±0.2	1.5±0.2	**
Air Filter-SFA4	7/11/05	Beta	1.3±0.2	1.1±0.2	**
Air Iodine-A3	7/11/05	I-131	<1.7	<1.7	**
Air Iodine-A4	7/11/05	I-131	<1.9	<1.4	**

**The nature of these samples precluded splitting them with an independent laboratory.

TABLE C-2 - Continued

Results of Quality Assurance Program

Sample Type And Location	Sample Date	Type of Analysis	Original Analysis	Replicate Analysis	Split Analysis
				pCi/L	
Bay Water-Wa2	8/1/05	Gamma	<MDA	<MDA	<MDA
				10 ⁻² pCi/m ³	
Air Filter-A1	8/8/05	Beta	2.9±0.3	2.8±0.3	**
Air Filter-A2	8/8/05	Beta	0.8±0.3	0.8±0.3	**
Air Filter-A3	8/8/05	Beta	0.8±0.2	0.9±0.2	**
Air Filter-A4	8/8/05	Beta	2.4±0.3	2.6±0.3	**
Air Filter-A5	8/8/05	Beta	2.6±0.2	2.7±0.3	**
Air Filter-SFA1	8/8/05	Beta	4.2±0.7	4.2±0.7	**
Air Filter-SFA2	8/8/05	Beta	1.1±0.2	1.1±0.2	**
Air Filter-SFA3	8/8/05	Beta	3.3±0.3	3.6±0.3	**
Air Filter-SFA4	8/8/05	Beta	1.9±0.2	1.8±0.2	**
Air Iodine-A1	8/8/05	I-131	<1.3	<1.5	**
Air Iodine-A2	8/8/05	I-131	<2.0	<2.3	**
				pCi/kg	
Fish-Ia1	8/23/05	Gamma	<MDA	<MDA	<MDA
Oysters-Ia3	8/23/05	Gamma	<MDA	<MDA	<MDA
				pCi /kg	
Vegetation-Ib1	8/29/05	Gamma	<MDA	<MDA	**
Vegetation-Ib3	8/29/05	Gamma	<MDA	<MDA	**
Vegetation-Ib4	8/29/05	Gamma	<MDA	<MDA	**
Vegetation-Ib6	8/29/05	Gamma	<MDA	<MDA	**
Vegetation-Ib7	8/29/05	Gamma	<MDA	<MDA	**
Vegetation-Ib9	8/29/05	Gamma	<MDA	<MDA	**
				pCi/kg	
Soil-SFS1	9/5/05	Gamma	<MDA	<MDA	**
Soil-SFS2	9/5/05	Gamma	135±8	76±4	107±21
Soil-SFS4	9/5/05	Gamma	<MDA	<MDA	<MDA
Vegetation-SFb1	9/5/05	Gamma	<MDA	<MDA	<MDA
Vegetation-SFb2	9/5/05	Gamma	<MDA	<MDA	<MDA

**The nature of these samples precluded splitting them with an independent laboratory.

TABLE C-2 - Continued

Results of Quality Assurance Program

Sample Type And Location	Sample Date	Type of Analysis	Original Analysis	Replicate Analysis	Split Analysis
10^{-2} pCi/m ³					
Air Iodine-A3	9/5/05	I-131	<1.7	<1.6	**
Air Iodine-A4	9/5/05	I-131	<1.7	<1.4	**
Air Filter-A1	9/5/05	Beta	2.0±0.2	1.5±0.2	
Air Filter-A2	9/5/05	Beta	0.5±0.2	0.5±0.2	**
Air Filter-A3	9/5/05	Beta	0.6±0.2	0.7±0.2	**
Air Filter-A4	9/5/05	Beta	1.7±0.2	1.5±0.2	**
Air Filter-A5	9/5/05	Beta	1.6±0.2	1.4±0.2	**
Air Filter-SFA1	9/5/05	Beta	1.3±0.2	1.5±0.2	**
Air Filter-SFA2	9/5/05	Beta	1.5±0.2	1.7±0.2	**
Air Filter-SFA3	9/5/05	Beta	1.6±0.2	1.7±0.2	**
Air Filter-SFA4	9/5/05	Beta	1.4±0.2	1.4±0.2	**
pCi /kg					
Vegetation-Ib4	9/26/05	Gamma	<MDA	**	<MDA
Vegetation-Ib5	9/26/05	Gamma	<MDA	**	<MDA
Vegetation-Ib6	9/26/05	Gamma	<MDA	**	<MDA
Vegetation-Ib7	9/26/05	Gamma	<MDA	**	<MDA
Vegetation-Ib8	9/26/05	Gamma	<MDA	**	<MDA
Vegetation-Ib9	9/26/05	Gamma	<MDA	**	<MDA
10^{-2} pCi/m ³					
Air Iodine-A1	10/3/05	I-131	<1.2	<1.4	**
Air Iodine-A2	10/3/05	I-131	<1.4	<1.5	**
Air Filter-A1	10/3/05	Beta	1.7±0.2	1.6±0.2	**
Air Filter-A2	10/3/05	Beta	1.7±0.2	1.6±0.3	**
Air Filter-A3	10/3/05	Beta	1.1±0.2	1.1±0.2	**
Air Filter-A4	10/3/05	Beta	1.8±0.2	1.8±0.2	**
Air Filter-A5	10/3/05	Beta	1.7±0.2	1.5±0.2	**
Air Filter-SFA1	10/3/05	Beta	1.7±0.2	1.5±0.2	**
Air Filter-SFA2	10/3/05	Beta	1.6±0.2	1.4±0.2	**
Air Filter-SFA3	10/3/05	Beta	1.8±0.2	1.8±0.2	**
Air Filter-SFA4	10/3/05	Beta	1.5±0.2	1.4±0.2	**

*The nature of these samples precluded splitting them with an independent laboratory.

TABLE C-2 - Continued

Results of Quality Assurance Program

Sample Type And Location	Sample Date	Type of Analysis	Original Analysis	Replicate Analysis	Split Analysis
				pCi/kg	
Oyster-Ia3	10/27/05	Gamma	<MDA	<MDA	<MDA
				pCi/L	
Bay Water-Wa2	10/28/05	Gamma	<MDA	<MDA	<MDA
	11/29/05	Gamma	<MDA	<MDA	**
				10 ⁻² pCi/m ³	
Air Filter-A1	11/7/05	Beta	3.0±0.2	3.0±0.2	**
Air Filter-A2	11/7/05	Beta	1.3±0.2	2.2±0.2	**
Air Filter-A3	11/7/05	Beta	2.0±0.2	2.1±0.2	**
Air Filter-A4	11/7/05	Beta	1.2±0.1	1.3±0.1	**
Air Filter-A5	11/7/05	Beta	2.7±0.2	3.0±0.2	**
Air Filter-SFA1	11/7/05	Beta	3.0±0.3	3.4±0.3	**
Air Filter-SFA2	11/7/05	Beta	2.4±0.2	2.3±0.2	**
Air Filter-SFA3	11/7/05	Beta	2.8±0.2	3.1±0.2	**
Air Filter-SFA4	11/7/05	Beta	2.6±0.2	2.5±0.2	**
Air Iodine-A3	11/7/05	I-131	<1.2	<1.3	**
Air Iodine-A5	11/7/05	I-131	<1.3	<1.3	**
				10 ⁻² pCi/m ³	
Air Filter-A1	12/5/05	Beta	2.0±0.3	2.3±0.2	**
Air Filter-A2	12/5/05	Beta	1.6±0.2	1.8±0.2	**
Air Filter-A3	12/5/05	Beta	1.3±0.2	1.6±0.2	**
Air Filter-A4	12/5/05	Beta	2.4±0.3	2.6±0.1	**
Air Filter-A5	12/5/05	Beta	3.1±0.2	3.1±0.3	**
Air Filter-SFA1	12/5/05	Beta	2.1±0.2	2.4±0.2	**
Air Filter-SFA2	12/5/05	Beta	1.8±0.2	1.9±0.2	**
Air Filter-SFA3	12/5/05	Beta	1.8±0.2	1.8±0.2	**
Air Filter-SFA4	12/5/05	Beta	1.9±0.2	2.0±0.2	**
Air Iodine-A1	12/5/05	I-131	<1.8	<1.6	**
Air Iodine-A2	12/5/05	I-131	<1.1	<1.1	**

**The nature of these samples precluded splitting them with an independent laboratory

TABLE C-2 – Continued

Results of Quality Assurance Program

Sample Type And Location	Sample Date	Type of Analysis	Original Analysis	Replicate Analysis	Split Analysis
			10^{-3} pCi/m ³		
Air Filters-A1	12/15/05	Gamma	<MDA	<MDA	<MDA
Air Filters-A2	12/15/05	Gamma	<MDA	<MDA	<MDA
Air Filters-A3	12/15/05	Gamma	<MDA	<MDA	<MDA
Air Filters-A4	12/15/05	Gamma	<MDA	<MDA	<MDA
Air Filters-A5	12/15/05	Gamma	<MDA	<MDA	<MDA
Air Filters-SFA1	12/15/05	Gamma	<MDA	<MDA	<MDA
Air Filters-SFA2	12/15/05	Gamma	<MDA	<MDA	<MDA
Air Filters-SFA3	12/15/05	Gamma	<MDA	<MDA	<MDA
Air Filters-SFA4	12/15/05	Gamma	<MDA	<MDA	<MDA
DR05	12/31/05	TLD	11.67±0.90	12.10±1.02	**
DR06	12/31/05	TLD	10.01±0.68	10.92±1.12	**
DR07	12/31/05	TLD	10.13±0.54	11.14±1.59	**
DR08	12/31/05	TLD	14.93±1.53	14.89±1.10	**
DR09	12/31/05	TLD	11.38±0.69	11.57±2.64	**
DR10	12/31/05	TLD	10.48±1.01	10.85±1.99	**
DR11	12/31/05	TLD	10.77±0.69	11.55±1.86	**
SFDR14	12/31/05	TLD	16.37±2.64	18.61±3.05	**
SFDR15	12/31/05	TLD	19.88±3.12	24.52±2.63	**

**The nature of these samples precluded splitting them with an independent laboratory

TABLE C-3

Teledyne Brown Engineering's Typical MDAs for Gamma Spectrometry

Selected Nuclides	Bay Water pCi/l	Fish pCi/kg	Shellfish pCi/kg	Sediment pCi/kg	Vegetation pCi/kg	Particulates 10 ⁻³ pCi/m ³
H-3	175	--	--	--	--	--
Na-22	1	8	3	12	6	5
Cr-51	12	105	4	104	50	63
Mn-54	1	9	3	12	5	4
Co-58	1	9	4	9	4	5
Fe-59	3	28	9	24	10	12
Co-60	1	9	4	12	5	6
Zn-65	2	20	8	25	10	9
Nb-95	1	12	7	14	6	9
Zr-95	2	18	8	20	9	9
Ru-106	9	75	30	90	41	40
Ag-110m	1	10	10	10	5	4
Te-129m	16	131	60	162	79	95
I-131	4	65	30	35	22	74
Cs-134	1	8	4	10	5	4
Cs-137	1	9	4	10	5	4
BaLa-140	3	32	15	25	14	36
Ce-144	7	40	16	54	26	18

APPENDIX D
Land Use Survey

Appendix D contains the results of a Land Use Survey conducted around Ginna Station during this operating period. A table listing the raw data of this survey and a discussion of the results are included in this appendix.

Table D 1

Sector	Distance to Nearest Residence	Distance to Nearest Garden	Distance to Milk Producing Animals
E	1260 m	N/A	N/A
ESE	1050 m	Onsite Garden	N/A
SE	610 m	N/A	8270 m
SSE	660 m	N/A	N/A
S	1560 m	N/A	N/A
SSW	760 m	N/A	N/A
SW	660 m	N/A	4680 m
WSW	1350 m	N/A	N/A
W	1160 m	N/A	N/A

Discussion

A Land Use Survey was conducted to identify, within a distance of 5 miles, the location of the nearest milk animal, the nearest residence, and the nearest garden greater than 50 m² in each of the nine sectors over land. A detailed description of the Land Use Survey is given in a separate document (Ref. 9). The position of the nearest residence and garden and animals producing milk for human consumption in each sector out to 5 miles is given in the above Table D1.

The closest residence is situated in the SE sector (610m), the nearest garden is in the ESE sector (1050 m), And the nearest milk producing animals was in the SW sector (4680m).

Changes from Previous Years:

- Development of single family homes is increasing over past years.
- Interviews with area farmers indicate that the number of acres farmed will continue to decrease.
- No new agricultural land use was noted.
- No new food producing facilities were noted.

Milk Animal Locations:

- Gerber Farm – 450 Boston Road, Ontario, NY
- Eaton Farm -- 6747 Salmon Creek Road, Williamson, NY
- No new milk producing animals were identified in the 2005 Census.