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Patric W. Conroy
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April 30, 2006

Re: Indian Point Units 1, 2 & 3
Docket Nos. 50-3, 50-247, 50-286
NL-06-053

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Subject: **Indian Point Nuclear Power Plants Units 1, 2 and 3**
Annual Radiological Environmental Operating Report for 2005

Dear Sir:

Enclosed please find one copy of the Indian Point Site Annual Radiological Environmental Operating Report for the period January 1, 2005 to December 31, 2005. No commitments are being made by this report.

This report is submitted in accordance with facility licenses DPR-5, DPR-26, and DPR-64 for Indian Point Unit Nos. 1, 2 and 3 respectively.

Should you or your staff have any questions, please contact Mr. Dennis Loope, Radiation Protection Manager at 914-736-8401.

Sincerely,

A handwritten signature in black ink, appearing to read "Patric W. Conroy".

Patric W. Conroy
Manager, Licensing
Entergy, Indian Point Energy Center

Enclosure

cc: See next page

JEAS

NL-06-053
Docket Nos. 50-3, 50-247, 50-286
Page 2 of 2

cc:

Mr. John P. Boska, Senior Project Manager, NRC NRR DORL
Mr. Samuel J. Collins, Regional Administrator, NRC Region I
NRC Resident Inspector's Office, Indian Point 2
Mr. Paul Eddy, NYS Department of Public Service

ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

ENTERGY NUCLEAR NORTHEAST

**INDIAN POINT NUCLEAR GENERATING STATION
UNITS 1, 2, AND 3**

**Docket No. 50-003 Indian Point Unit 1 (IP1)
Docket No. 50-247 Indian Point Unit 2 (IP2)
Docket No. 50-286 Indian Point Unit 3 (IP3)**

January 1 - December 31, 2005

TABLE OF CONTENTS

	<u>Page</u>
1.0 EXECUTIVE SUMMARY	1-1
2.0 INTRODUCTION	2-1
2.1 Site Description	2-1
2.2 Program Background	2-1
2.3 Program Objectives	2-1
3.0 PROGRAM DESCRIPTION	3-1
3.1 Sample Collection	3-1
3.2 Sample Analysis	3-1
3.3 Sample Collection and Analysis Methodology	3-1
3.3.1 Direct Radiation	3-1
3.3.2 Airborne Particulates and Radioiodine	3-2
3.3.3 Hudson River Water	3-2
3.3.4 Drinking Water	3-2
3.3.5 Hudson River Shoreline Soil	3-2
3.3.6 Broad Leaf Vegetation	3-3
3.3.7 Fish and Invertebrates	3-3
3.3.8 Hudson River Aquatic Vegetation (Non-RECS)	3-3
3.3.9 Hudson River Bottom Sediment (Non-RECS)	3-3
3.3.10 Precipitation (Non-RECS)	3-3
3.3.11 Soil (Non-RECS)	3-3
3.3.12 Augmented Groundwater Sampling	3-4
3.3.13 Land Use Census	3-4
3.4 Statistical Methodology	3-4
3.4.1 Lower Limit of Detection and Critical Level	3-4
3.4.2 Determination of Mean and Propagated Error	3-6
3.4.3 Table Statistics	3-6
3.5 Program Units	3-7

TABLE OF CONTENTS (continued)

	<u>Page</u>
4.0 RESULTS AND DISCUSSION	4-1
4.1 Direct Radiation	4-3
4.2 Airborne Particulates and Radioiodine	4-4
4.3 Hudson River Water	4-5
4.4 Drinking Water	4-5
4.5 Hudson River Shoreline Soil	4-5
4.6 Broad Leaf Vegetation	4-6
4.7 Fish and Invertebrates	4-6
4.8 Additional Media Sampling	4-6
4.9 Land Use Census	4-7
4.10 Augmented Groundwater Sampling Results.	4-8
4.11 Conclusion	4-8
5.0 REFERENCES	5-1
APPENDICES:	
A. ENVIRONMENTAL SAMPLING AND ANALYSIS REQUIREMENTS	A-1
B. RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM RESULTS SUMMARY	B-1
C. HISTORICAL TRENDS	C-1
D. INTERLABORATORY COMPARISON PROGRAM	D-1

LIST OF FIGURES

<u>FIGURE</u>	<u>TITLE</u>	<u>Page</u>
A-1	Sampling Locations (Within Two Miles)	A-5
A-2	Sampling Locations (Greater Than Two Miles)	A-6
A-3	Sampling Locations (Non-RECS Sample Locations)	A-7
C-1	Direct Radiation, 1995 to 2005	C-3
C-2	Radionuclides in Air - Gross Beta, 1995 to 2005	C-5
C-3	Hudson River Water-Tritium, 1995 to 2005	C-7
C-4	Drinking Water - Tritium, 1995 to 2005	C-9
C-5	Radionuclides in Shoreline Soil, 1995 to 2005	C-11
C-6	Broad Leaf Vegetation - Cs-137, 1995 to 2005	C-13
C-7	Fish and Invertebrates - Cs-137, 1995 to 2005	C-15

LIST OF TABLES

<u>TABLE</u>	<u>TITLE</u>	<u>Page</u>
A-1	Indian Point REMP Sampling Station Locations	A-2
A-2	Lower Limit of Detection Requirements for Environmental Sample Analysis	A-8
A-3	Reporting Levels for Radioactivity Concentrations in Environmental Samples	A-9
B-1	Summary of Sampling Deviations, 2005	B-2
B-1a	2005 Air Sampling Deviations	B-3
B-1b	2005 TLD Deviations	B-4
B-1c	2005 Other Media Deviations	B-4
B-2	Annual Summary, 2005	B-5
B-3	2005 Direct Radiation, Quarterly Data	B-7
B-4	Direct Radiation, 1999 Through 2005 Data	B-8
B-5	2005 Direct Radiation, Inner and Outer Rings	B-9
B-6	Gross Beta Activity in Airborne Particulate Samples, 2005	B-10
B-7	Concentrations of Gamma Emitters in Quarterly Composites of Air Particulate Samples, 2005	B-16
B-8	I-131 Activity in Charcoal Cartridge Samples, 2005	B-22
B-9	Concentrations of Gamma Emitters in Hudson River Water Samples, 2005	B-23
B-10	Concentrations of Tritium in Hudson River Water Samples, 2005	B-25
B-11	Gross Beta Activity and Concentrations of Gamma Emitters in Drinking Water Samples, 2005	B-26
B-12	Concentrations of Tritium in Drinking Water Samples, 2005	B-38
B-13	Concentrations of Gamma Emitters in Shoreline Soil Samples, 2005	B-39
B-14	Concentrations of Gamma Emitters in Broad Leaf Vegetation, 2005	B-40
B-15	Concentrations of Gamma Emitters in Fish and Invertebrate Samples, 2005	B-46
B-16	Annual Summary, Non-RECS Sample Results, 2005	B-48
B-17	Milch Animal Census, 2005	B-49
B-18	Land Use Census, 2005	B-50

LIST OF TABLES (Continued)

<u>TABLE</u>	<u>TITLE</u>	<u>Page</u>
C-1	Direct Radiation Annual Summary, 1995 to 2005	C-2
C-2	Radionuclides in Air, 1995 to 2005	C-4
C-3	Radionuclides in Hudson River Water, 1995 to 2005	C-6
C-4	Radionuclides in Drinking Water, 1995 to 2005	C-8
C-5	Radionuclides in Shoreline Soil, 1995 to 2005	C-10
C-6	Radionuclides in Broad Leaf Vegetation, 1995 to 2005	C-12
C-7	Radionuclides in Fish and Invertebrates, 1995 to 2005	C-14
D-1	2005 QA Program Schedule	D-2
D-2	Ratio of Agreement	D-3
D-3	2005 Gross Beta Results (inter lab comparison)	D-5
D-4	2005 Tritium (inter lab comparison)	D-6
D-5	Interlaboratory Comparison Program	D-9

SECTION 1

EXECUTIVE SUMMARY

1.0 EXECUTIVE SUMMARY

This Annual Radiological Environmental Operating Report (AREOR) contains descriptions and results of the 2005 Radiological Environmental Monitoring Program (REMP) for the Indian Point site. The Indian Point site consists of Units 1, 2 and 3. Units 1, 2 and 3 are owned by Entergy Nuclear Northeast. Unit 1 was retired as a generating facility in 1974, and as such, its reactor is no longer operated.

The REMP is used to measure the direct radiation and the airborne and waterborne pathway activity in the vicinity of the Indian Point site. Direct radiation pathways include radiation from buildings and plant structures, airborne material that might be released from the plant, cosmic radiation, fallout, and the naturally occurring radioactive materials in soil, air and water. Analysis of thermoluminescent dosimeters (TLDs), used to measure direct radiation, indicated that there were no increased radiation levels attributable to plant operations.

The airborne pathway includes measurements of air, precipitation, drinking water, and broad leaf vegetation samples. The airborne pathway measurements indicated that there was no increased radioactivity attributable to 2005 Indian Point Station operation.

The waterborne pathway consists of Hudson River water, fish and invertebrates, aquatic vegetation, bottom sediment, and shoreline soil. Measurements of the media comprising the waterborne pathway indicated that there was no adverse radiological impact to the surrounding environment attributed to Indian Point Station operations.

This report contains a description of the REMP and the conduct of that program as required by the IPEC Offsite Dose Calculation Manuals, herein referred to as ODCM.

The ODCM designates samples required by Radiological Effluents Controls (RECS) as well as additional samples not required by RECS. This 2005 AREOR also contains summaries and discussions of the results of the 2005 program, trend analyses, potential impact on the environment, land use census, and interlaboratory comparisons.

During 2005, a total of 1347 analyses were performed. Table B-1 presents a summary of the collected sample results. The actual sampling frequency in 2005 was higher than required, due to the inclusion of additional (Non-RECS) sample locations and media.

During the latter part of 2005 (Sept-Dec 2005), IPEC identified an onsite Tritium ground water contamination issue in the Unit 2 transformer yard. The exact source is currently unknown and under investigation but may be associated with a small hairline crack discovered on the Unit 2 spent fuel pool shield wall (southern pool wall). As such IPEC has implemented an aggressive onsite and offsite ground water

monitoring program to fully characterized the onsite contamination, to quantify and determine its onsite and offsite radiological impact to the workers, public and surrounding environment, and to aid in identification and ultimate repair of any leaking systems, structures or components affected. To this end, interim changes have been made to the REMP program in the areas of offsite drinking water sampling, special ground and surface water sampling. Section 3 further discusses these augmented programs and there descriptions

In summary, the levels of radionuclides in the environment surrounding Indian Point are significantly less than NRC limits as a result of Indian Point Station operations in 2005. The levels present in the REMP Program for 2005 were within the historical ranges, i.e., previous levels resulting from natural and anthropogenic sources for the detected radionuclides. Further, Indian Point operations in 2005 did not result in approaching any environmental regulatory limits posed by the NRC, or result in any exposure to the public greater than environmental background levels.

SECTION 2

INTRODUCTION

2.0 INTRODUCTION

2.1 Site Description

The Indian Point site occupies 239 acres on the east bank of the Hudson River on a point of land at Mile Point 42.6. The site is located in the Village of Buchanan, Westchester County, New York. Three nuclear reactors, Indian Point Unit Nos. 1, 2 and 3, and associated buildings occupy approximately 35 acres. Unit 1 has been retired as a generating facility. Units 1, 2, and 3 are owned and operated by Entergy Nuclear Northeast.

2.2 Program Background

Environmental monitoring and surveillance have been conducted at Indian Point since 1958, which was four years prior to the start-up of Unit 1. The pre-operational program was designed and implemented to determine the background radioactivity and to measure the variations in activity levels from natural and other sources in the vicinity, as well as fallout from nuclear weapons tests. Thus, as used in this report, background levels consist of those resulting from both natural and anthropogenic sources of environmental radioactivity. Accumulation of this background data permits the detection and assessment of environmental activity attributable to plant operations.

2.3 Program Objectives

The current environmental monitoring program is designed to meet two primary objectives:

1. To enable the identification and quantification of changes in the radioactivity of the area, and
2. To measure radionuclide concentrations in the environment attributable to operations of the Indian Point site.

To identify changes in activity, the environmental sampling schedule requires that analyses be conducted for specific environmental media on a regular basis. The radioactivity profile of the environment is established and monitored through routine evaluation of the analytical results obtained.

The REMP designates sampling locations for the collection of environmental media for analysis. These sample locations are divided into indicator and control locations. Indicator locations are established near the site, where the presence of environmental radioactivity of plant origin is most likely to be detected. Control locations are established farther away (and upwind/upstream, where applicable) from the site, where the level would not generally be affected by plant discharges. The use of indicator and control

locations enables the identification of potential sources of detected radioactivity, thus meeting one of the program objectives.

Verification of expected radionuclide concentrations resulting from effluent releases attributable to the site is another program objective. Verifying projected concentrations through the REMP is difficult since the environmental concentrations resulting from plant releases are consistently too small to be detected. Plant related radionuclides were detected in 2005, however, residual radioactivity from atmospheric bomb tests and naturally occurring radioactivity were the predominant sources of radioactivity in the samples collected. Nonetheless, analysis of the data verified that plant effluents were far below regulatory limits at environmental levels.

SECTION 3

PROGRAM DESCRIPTION

3.0 PROGRAM DESCRIPTION

To achieve the objectives of the REMP and ensure compliance with the ODCM, sampling and analysis of environmental media are performed as outlined in Table A-1 and described in section 3.3. The Indian Point REMP consists of samples that are required by ODCM and additional samples, Non-RECS, that are not required by ODCM.

3.1 Sample Collection

Entergy Nuclear Northeast Nuclear Environmental Monitoring (NEM) personnel perform collection of environmental samples for the Indian Point site.

Assistance in the collection of fish and invertebrate samples was provided by a contracted environmental vendor, Normandeau Associates, Inc.

3.2 Sample Analysis

The analysis of Indian Point environmental samples is performed by the James A. Fitzpatrick Nuclear Power Plant (JAFNPP) Environmental Laboratory in Fulton, New York. The JAFNPP lab at Fulton currently analyzes all samples with the exception of environmental TLDs. In addition some water and well samples were analyzed at another EPA certified laboratory. TLDs are analyzed by Framatome.

3.3 Sample Collection and Analysis Methodology

3.3.1 Direct Radiation

Direct gamma radiation is measured using integrating calcium sulfate thermoluminescent dosimeters (TLDs), which provide cumulative measurements of radiation exposure (i.e., total integrated exposures in milliroentgen, mR) for a given period. The area surrounding the Indian Point site is divided into 16 compass sectors. Each sector has two TLD sample locations. The inner ring is located near the site boundary at approximately 1 mile (1.6 km). The outer ring is located at approximately 5 miles (8 km) from the site (6.7- 8.0 km), see Figures A-1 and A-2.

An additional TLD sample site is located at Roseton (20.7 miles north) as a control, and there are eight other TLD sample locations of special interest. In total, there are 41 TLD sample sites, designated DR-1 through DR-41, with two TLDs at each site. TLDs are collected and processed on a quarterly basis. The results are reported as mR per standard quarter (91 days). The mR reported is the average of the two TLDs from each sample site.

3.3.2 Airborne Particulates and Radioiodine

Air samples were taken at nine locations varying in distance from 0.28 to 20.7 miles (0.4 to 33 km) from the plant. These locations represent one control and eight indicator locations. The air samples are collected continuously by means of fixed air particulate filters followed by in-line charcoal cartridges. Both are changed on a weekly basis. The filter and cartridge samples are analyzed for gross beta and radioiodine, respectively. In addition, gamma spectroscopy analysis (GSA) is performed on quarterly composites of the air particulate filters. The five required ODCM air sample locations are designated by the codes A-1 through A-5, see Figures A-1 and A-2.

3.3.3 Hudson River Water

Hudson River water sampling is performed continuously at the intake structure (ODCM designation Wa1) and at a point exterior to the discharge canal where Hudson River water and water from the discharge canal mix (ODCM designation Wa2), see Figure A-1. An automatic sampling apparatus is used to take representative samples. On a weekly basis, accumulated samples are taken from both sample points. These weekly river water samples are composited for monthly gamma spectroscopy analysis, and quarterly for tritium analysis.

3.3.4 Drinking Water

Samples of drinking water are collected monthly from the Camp Field Reservoir (3.4 miles NE, ODCM designation Wb1) and New Croton Reservoir (6.3 Mi SE, Non-RECS designation 8), see Figure A-3. Each monthly sample is approximately 4 liters and is analyzed for gamma-emitting radionuclides, gross beta, and I-131. They are also composited quarterly and analyzed for tritium. In addition, due to the onsite tritium groundwater contamination issue, augmented sampling of this pathway was performed (see 3.3.12.) Sample point AMICUS is a quality control split of a drinking water sample point.

3.3.5 Hudson River Shoreline Soil

Shoreline soil samples are collected at three indicator and two control locations along the Hudson River. The designation for the ODCM indicator location is Wc1 and the ODCM control location is designated Wc2, see Figures A-1 and A-2. The remaining two indicator and one control locations are Non-RECS. The samples are gathered at a level above low tide and below high tide and are approximately 2-kg grab samples. These samples are collected at greater than 90 days apart and are analyzed by gamma spectroscopy.

3.3.6 Broad Leaf Vegetation

Broad leaf vegetation samples are collected from three locations during the growing season. The designation for the two ODCM indicator locations are lc1 and lc2, and the ODCM control location is designated lc3, see Figures A-1 and A-2. The samples are collected monthly, when available, and analyzed by gamma spectroscopy. These samples consist of at least 1 kg of leafy vegetation and are used in the assessment of the food product and milk ingestion pathways.

3.3.7 Fish and Invertebrates

Fish and invertebrate samples are obtained from the Hudson River at locations upstream and downstream of the plant discharge. The ODCM designation for the upstream sample point is lb2 and the downstream designation is lb1, see Figures A-1 and A-2. These samples are collected in season or semiannually if they are not seasonal. The fish and invertebrates sampled are analyzed by gamma spectroscopy.

3.3.8 Hudson River Aquatic Vegetation (Non-RECS)

During the spring and summer, aquatic vegetation samples are collected from the Hudson River at two indicator locations and one control location, see Figure A-3. Samples of aquatic vegetation are obtained depending on sample availability. These samples are analyzed by gamma spectroscopy.

3.3.9 Hudson River Bottom Sediment (Non-RECS)

Bottom sediment and benthos are sampled at four locations, three indicator and one control, along the Hudson River, once each spring and summer, see Figure A-3. These samples are obtained using a Peterson grab sampler or similar instrument. The bottom sediment samples are analyzed by gamma spectroscopy.

3.3.10 Precipitation (Non-RECS)

Precipitation samples are continuously collected at one indicator and one control location, see Figure A-3. They are collected in sample bottles designed to hinder evaporation. They are composited quarterly and analyzed for tritium. They are also analyzed by gamma spectroscopy.

3.3.11 Soil (Non-RECS)

Soil samples are collected from one control and two indicator locations, see Figure A-3. They are approximately 2 kg in size and consist of about twenty

2-inch deep cores. The soil samples are analyzed by gamma spectroscopy.

3.3.12 Augmented Groundwater Sampling

Due to the onsite discovery of tritium and strontium-90 ground water contamination, augmented sampling of (in addition to the REMP) existing drinking water sources and special water sources (non-drinking water sources) was implemented for the latter part of 2005. For drinking water sources, both the Camp Field and Croton Reservoirs were sampled monthly for tritium. Further, near site special waters were sampled monthly for tritium at the Algonquin and Gypsum Outfalls, Rock Quarry and a private abandoned well. In addition, regulatory agencies together with IPEC conducted "split samples" of all of these offsite locations as an independent quality check. Section 4.10 discusses the results for 2005. Additionally more changes will be implemented in 2006 in accordance with NL-06-033-NRC Commitments. Those commitments include routine sampling of new site perimeter well and special strontium sampling of fish and invertebrates and shoreline sediment.

3.3.13 Land Use Census

Each year a land use census consisting of milch animal and residence surveys is conducted during the growing season to determine the current utilization of land within 5 miles (8 km) of the site. These surveys are used to determine whether there are changes in existing conditions that warrant changing the sampling program.

The milch animal census is used to identify animals producing milk for human consumption within 5 miles (8 km) of Indian Point. The census consists of visual field surveys of the areas where a high probability of milch animals exists and confirmation through personnel such as feed suppliers who deal with farm animals and dairy associations (See Table B-17). Although there are presently no animals producing milk for human consumption within 5 miles (8 km) of the site, the census is performed to determine if a milk-sampling program needs to be conducted.

A residence census is also performed to identify the nearest residence(s) to the site in each of the 16 sectors surrounding Indian Point. See Table B-18.

ODCM allow sampling of vegetation in two sectors near the site boundary in lieu of a garden census.

3.4 Statistical Methodology

There are a number of statistical calculation methodologies used in evaluating the data from the Indian Point REMP. These methods include determination of Lower Limits of Detection (LLD) and Critical Levels (L_c), and estimation of

the mean and associated propagated error.

3.4.1 Lower Limit of Detection (LLD) and Critical Level (L_c)

The LLD is a predetermined concentration or activity level used to establish a detection limit for the analytical procedures.

The Nuclear Regulatory Commission (NRC) specifies the maximum acceptable LLDs for each radionuclide in specific media. The LLDs are determined by taking into account overall measurement methods. The equation used to calculate the LLD is:

$$LLD = 4.66 K S_b,$$

where: S_b = standard deviation of the background count rate,
and

K consists of variables, which account for such parameters as:

- Instrument characteristics (e.g., efficiency)
- Sample size
- Counting time
- Media density (self-absorption)
- Radioactive decay
- Chemical yield

In the ODCM program, LLDs are used to ensure that minimum acceptable detection capabilities for the counting system are met with specified statistical confidence levels (95% detection probability with 5% probability of a false negative). The LLD is defined as an "a priori" (before the fact) limit representing the capability of a measurement process and not as an "a posteriori" (after the fact) limit for a particular measurement. Table A-2 presents the RETS required LLDs for specific media and radionuclides as specified by the NRC. The LLDs actually achieved are usually much lower since the RETS required LLDs represent the maximum allowed.

The critical level (L_c) is defined as that net sample counting rate which has a 5% probability of being exceeded when the actual sample activity is zero (e.g., when counting background only). It is determined using the following equation.

$$L_c = k_a S_b (1 + T_b/T_s)^{0.5} \text{ in cpm}$$

where: k_a = 1.645 (corresponds to a 95% confidence level)
 S_b = standard deviation of the background count rate = $(R_b/T_b)^{0.5}$
 R_b = background count rate (cpm)
 T_b = background count time (min)
 T_s = sample count time (min)

For the REMP, net sample results which are less than the L_c value are considered not detected, and the L_c value is reported as the "less than"

value, unless otherwise noted. Values above the L_c are considered positively detected radioactivity in the environmental media of interest (with a 5% chance of false positive).

3.4.2 Determination of Mean and Propagated Error

In accordance with program policy, recounts of positive samples are performed. When the initial count reveals the presence of radioactivity, which may be attributed to plant operations, at a value greater than the L_c , two recounts are performed to verify the positive results. The recounts are not performed on; air samples with positive results from gross beta analysis, since the results are always positive due to natural background radioactive material in the air, or tritium in water samples, since an outside contractor provides these activities. When a radionuclide is positively identified in two or more counts, the analytical result for the radionuclide is reported as the mean of the positive detections and the associated propagated error for that mean. In cases where more than one sample result is available, the mean of the sample results and the estimated error for the mean are reported in the Annual Report.

The mean (X) and propagated error (PE) are calculated using the following equations:

$$X = \frac{\sum_{i=1}^N X_i}{N}$$

where: X_i = value of each individual observation
 N = number of observations

$$PE = \frac{\sqrt{\sum_{i=1}^N (ERR_i)^2}}{N}$$

where: ERR_i = 1 sigma error of the individual analysis
 N = number of observations

3.4.3 Table Statistics

The averages shown in the summary table (Table B-2) are the averages of the positive values in accordance with the NRC's Branch Technical Position (BTP) to Regulatory Guide 4.8 (Reference 14). Samples with "<" values are not included in the averages.

It should be noted that this statistic for the mean using only positive values

tends to strongly bias the average high, particularly when only a few of the data are measurably positive. The REMP data show few positive values; thus the corresponding means are biased high. Exceptions to this include direct radiation measured by TLDs and gross beta radioactivity in air, which show positive monitoring results throughout the year.

In the data tables B-6 through B-15, values shown are based on the L_c value, unless otherwise noted. If a radionuclide was detected at or above the L_c value in two or more counts, the mean and error are calculated as per Section 3.4.2, and reported in the data table. Values listed as "<" in the data tables are the L_c values for that sample, unless otherwise noted. If multiple counts were performed on a sample and a radionuclide's values are "< L_c " each time, the largest critical level is reported in the data table.

The historical data tables contain the annual averages of the positive values for each year. The historical averages are calculated using only the positive values presented for 1995 through 2004. The 2005 average values are included in these historic tables for purposes of comparison.

3.5 Program Units

The Radiological Environmental Monitoring Program uses standard radiological units to express program results. The units and their description are as follows:

Becquerel is a measure of radioactive material, abbreviated Bq, from the International System of Units (SI). A Becquerel is one atom disintegration per second. A Becquerel will normally be used with a volume or mass to express the radioactive concentration of some sample material.

Cubic meter is a metric volume slightly larger than a cubic yard. It is abbreviated m^3 and is used in this report as the unit for the volume of air.

Curie is the basic unit used to describe the intensity of radioactivity. The curie is equal to 37 billion disintegrations per second.

Kilogram is a metric unit of mass; it is equivalent to 2.2 pounds. Kilogram is abbreviated kg and can be expressed as kg-wet or kg-dry. The wet or dry designation denotes whether the sample is dried or not before it is counted.

Liter is a metric unit of volume slightly larger than a quart. It is abbreviated L and is used as the volume for liquids.

Microsievert (μ Sv) is the SI unit for measure of radiation dose to humans. It is equal to 0.1 mrem.

Millirem is a measure of radiation dose to humans, abbreviated mrem; it is 1/1000 of a rem. Millirem expressed for some period of time is the dose rate. The millirem is different from the milliroentgen in that the millirem is used for

reporting radiation dose to humans and the milliroentgen is a measure of radiation in the environment or in air. Normal background radiation dose is approximately 300 mrem per year.

Milliroentgen is a measure of radiation exposure, abbreviated mR; it is 1/1000 of a roentgen. Milliroentgen expressed for some period of time is the exposure rate.

Milliroentgen (mR) per standard quarter is used for direct radiation or Thermoluminescent Dosimeter (TLD) results.

Picocurie is a measure of radioactive material, abbreviated pCi. A picocurie is 2.22 atom disintegrations per minute. A picocurie will normally be used with a volume or mass to express the radioactive concentration of some sample material.

Picocuries per cubic meter (pCi/m³) is used to express concentration for all air samples.

Picocuries per kilogram (pCi/kg) is the expression used to express concentration for REMP vegetation, soil, shoreline soil, and bottom sediment samples.

Picocuries per liter (pCi/L) is used to express concentration for liquid samples such as, precipitation, drinking water, and river water samples.

Standard quarter is a measure of time (91 days). It is used as the unit of time for expression of mR for the direct radiation measurements from TLDs.

SECTION 4

RESULTS AND DISCUSSION

SECTION 4

RESULTS AND DISCUSSION

4.0 RESULTS AND DISCUSSION

The 2005 Radiological Environmental Monitoring Program (REMP) was conducted in accordance with Indian Point's Offsite Dose Calculation Manuals ODCM. The ODCM contain requirements for the number and distribution of sampling locations, the types of samples to be collected, and the types of analyses to be performed for measurement of radioactivity. Additional sampling conducted for the REMP is designated "Non-RECS" because these samples are not required by the ODCM.

The REMP at Indian Point includes measurements of radioactivity levels in the following environmental pathways.

- Hudson River-water
- Shoreline soil
- Fish and invertebrates
- Aquatic vegetation (Non-RECS)
- Bottom sediment (Non-RECS)
- Airborne Particulates and Radioiodine
- Precipitation (Non-RECS)
- Drinking Water
- Terrestrial Broad Leaf Vegetation
- Direct Gamma Radiation
- Soil (Non-RECS)

An annual land use and milch animal census is also part of the REMP.

To evaluate the contribution of plant operations to environmental radioactivity levels, other man-made and natural sources of environmental radioactivity, as well as the aggregate of past monitoring data, must be considered. It is not merely the detection of a radionuclide, but the evaluation of the location, magnitude, source, and history of its detection that determines its significance. Therefore, we have reported the data collected in 2005 and assessed the significance of the findings.

A summary of the results of the 2005 REMP is presented in Table B-2. This table lists the mean and range of all positive results obtained for each of the media sampled at ODCM indicator and control locations. Discussions of these results and their evaluations are provided below.

The radionuclides detected in the environment can be grouped into three categories: (1) naturally occurring radionuclides; (2) radionuclides resulting from weapons testing and other non-plant related, anthropogenic sources; and (3) radionuclides that could be related to plant operations.

The environment contains a broad inventory of naturally occurring radionuclides which can be classified as, cosmic ray induced (e.g., Be-7, H-3) or geologically derived (e.g., Ra-226 and progeny, Th-228 and progeny, K-40). These radionuclides constitute the majority of the background radiation source and thus account for a majority of the annual background dose detected. Since the detected concentrations of these radionuclides were consistent at indicator and control locations, and unrelated to plant operations, their presence is noted only in the data tables and will not be discussed further.

In addition to the naturally occurring radionuclides discussed above, Cs-137 was detected above background levels in various ODCM and Non-RECS sample media in the vicinity of Indian Point. The sources and significance of the presence of this radionuclide is described in later sections.

The second group of radionuclides detected in 2005 consists of those resulting from past weapons testing in the earth's atmosphere. Such testing in the 1950's and 1960's resulted in a significant atmospheric radionuclide inventory, which, in turn, contributed to the concentrations in the lower atmosphere and ecological systems. Although reduced in frequency, atmospheric weapons testing continued into the 1980's. The resultant radionuclide inventory, although diminishing with time (e.g., through radioactive decay), remains detectable.

In 2005, the detected radionuclide(s) attributable to past atmospheric weapons testing also consisted of Cs-137 in some media. The levels detected were consistent with the historical levels of radionuclides resulting from weapons tests as measured in previous years.

The final group of radionuclides detected through the 2005 REMP comprises those that may be attributable to current plant operations. During 2005, Cs-137 and H-3 were the only potentially plant-related radionuclide detected in some of the samples.

H-3 may be present in the local environment due to either natural occurrence, other man-made sources, or as a result of plant operations. Trace amounts of H-3 were detected in one of four quarterly composite samples from the discharge mixing zone. The levels detected were consistent with historical levels.

Cs-137 and Cs-134 are both produced in and released from fission reactors and were introduced into the environment from the accident at Chernobyl in 1986. Because Cs-134 has a short half-life relative to Cs-137, Cs-134 from Chernobyl is

not likely to be present in 2005. Only Cs-137 is currently found from Chernobyl and also found in weapons test debris.

I-131 is also produced in fission reactors, but can result from non-plant related anthropogenic sources, e.g., medical administrations, such as in four of the last five annual reports.

In the following sections, a summary of the results of the 2005 REMP is presented by sample medium, and the significance of any positive findings discussed. It should be noted that naturally occurring radionuclides are omitted from the summary table (Table B-2) and further discussion.

4.1 Direct Radiation

The environmental TLDs used to measure the direct radiation were TLDs supplied and processed by Framatome. The laboratory uses a Panasonic TLD system. In 2005, the TLD program produced a consistent picture of ambient background radiation levels in the vicinity of the Indian Point Station. A summary of the annual TLD data is provided in Table B-2 and all the TLD data are presented in Tables B-3, B-4 and B-5. TLD sample site DR-40 is the control site for the direct radiation (DR) series of measurements.

Table B-3 provides the quarterly and annual average reported doses in mR per standard quarter for each of the direct radiation sample points, DR-1 through DR-41. The table also provides the sector for each of the DR sample points. Table B-4 provides the mean, standard deviation, minimum and maximum values in mR per standard quarter for the years 1999 through 2004. The 2005 means are also presented in Table B-4. Table B-5 presents the 2005 TLD data for the inner ring and outer ring of TLDs.

The 2005 mean value for the direct radiation sample points was 14.1 mR per standard quarter. The mean value for the period 1999 through 2004 was 14.2 mR per standard quarter. At those locations where the 2005 mean value was higher, they are within historical bounds for the respective locations.

The DR sample locations are arranged so that there are two concentric rings of TLDs around the Indian Point site. The inner ring (DR-1 to DR-16) is close to the site boundary. The outer ring (DR-17 to DR-32) has a radius of approximately 5 miles from the three Indian Point units. The results for these two rings of TLDs are provided in Table B-5. The annual average for the inner ring was 14.1 mR per standard quarter and also average for the outer ring was 14.1 mR per standard quarter. The control location average for 2005 was 15.9 mR per standard quarter.

Table C-1 and Figure C-1 present the 10-year historical averages for the inner and outer rings of TLDS. The 2005 averages are consistent with the historical data. The 2005 and previous years' data show that there is no measurable direct radiation in the environment due to the operation of the Indian Point site.

4.2 Airborne Particulates and Radioiodine

An annual summary of the results of the 2005 air particulate filter and charcoal cartridge analyses is presented in Table B-2. As shown, there were no radionuclides detected in the air attributable to plant operations.

The results of the analyses of weekly air particulate filter samples for gross beta activity are presented in Table B-6, and the results of the gamma spectroscopy analyses of the quarterly composites of these samples are in Table B-7.

Gross beta activity was found in air particulate samples throughout the year at all indicator and control locations. The average gross beta activity for the eight indicator air sample locations was 0.015 pCi/m³ and the average for the control location was 0.016 pCi/m³. The activities detected were consistent for all locations, with no significant differences in gross beta activity in any sample due to location. Gamma spectroscopy analyses of the quarterly composite air samples showed that no reactor-related nuclides were detected and that only naturally-occurring radionuclides were present at detectable levels.

The mean annual gross beta concentrations and Cs-137 concentrations in air for the past 10 years are presented in Table C-2. From this table and Figure C-2, it can be seen that the average 2005 gross beta concentration was consistent with historical levels. Cs-137 has not been detected since 1987. This is consistent with the trend of decreasing ambient Cs-137 concentrations in recent years.

The charcoal cartridge analytical results are presented in Table B-8. "Less than" values are presented as sample critical level (L_c). There was no I-131 detected (LLD = 0.07 pCi/m³) in the charcoal cartridge samples, which is consistent with historical trends.

From the data, it can be seen that no airborne radioactivity attributable to the operation of Indian Point was detected in 2005.

4.3 Hudson River Water

A summary of the radionuclides detected in the Hudson River water is contained in Table B-2. Data resulting from analysis of monthly Hudson River water samples for gamma emitters, and H-3 analysis of quarterly composites, are presented in Tables B-9 and B-10, respectively.

No radionuclides other than those that are naturally occurring and tritium were detected in the Hudson River Water samples. Tritium, whose presence may or may not be attributable to plant operations, has been detected in the past as depicted in Table C-3, and was detected in one of four samples from the discharge canal at 618 ± 130 pCi/l, slightly above L_c (413 pCi/l). These tritium levels are well below the required LLD of 3000 pCi/L. Additionally, table C-3 indicates the absence of Cs-137 which is consistent with historical data .

4.4 Drinking Water

The annual program summary table (Table B-2) contains a summary of the 2005 drinking water sample analysis results. Results of the gamma spectroscopy analyses of the monthly drinking water samples are in Table B-11 and results of tritium analysis of quarterly composites are in Table B-12. Other than naturally occurring radionuclides, no radionuclides were detected in drinking water samples.

A summary and illustration of historic trends of drinking water are provided in Table C-4 and Figure C-4, respectively. An examination of the data indicates that operation of the Indian Point units had no detectable radiological impact on drinking water.

4.5 Hudson River Shoreline Soil

A summary of the radionuclide concentrations detected in the shoreline soil samples is contained in Table B-2. Table B-13 contains all the results of the gamma spectroscopic analyses of the shoreline soil samples.

In addition to the naturally occurring nuclides, Cs-137 was identified in the Hudson River shoreline soil samples in 2005. Cs-137 was detected in four out of ten samples from indicator locations. Cs-137 was detected at the control locations in two out of four samples. The average concentration for the indicator locations was 155 pCi/kg-dry with a maximum concentration of 173 pCi/kg-dry. The control locations had positive samples indicating an average of 104 pCi/kg-dry and a maximum of 173 pCi/kg-dry.

An historical look at Cs-137 detected in shoreline soil at indicator and control locations can be viewed in Table and Figure C-5. Cs-137 has been and continues to be present in this media, both at indicator and control locations,

at a consistent level over the past ten years, and is likely due to legacy contamination from weapons fallout.

4.6 Broad Leaf Vegetation

Table B-2 contains a summary of the broad leaf vegetation sample analysis results. All the data from analysis of the 2005 samples are presented in Table B-14. Analyses of broad leaf vegetation samples revealed only naturally occurring nuclides. Historically, Cs-137 has been detected in both control and indicator broad leaf vegetation.

Table C-6 contains a summary and Figure C-6 an illustration, of the broad leaf vegetation analysis results for the past 10 years. The detection of low levels of Cs-137 is consistent with the sporadic detection at both indicator and control locations of relatively low concentrations for the past ten years.

4.7 Fish and Invertebrates

A summary of the fish and invertebrate sample analysis results is presented in Table B-2. Table B-15 contains the results of the analysis of all fish and invertebrate samples for 2005. None of the indicator samples revealed radionuclide concentrations greater than L_c values. Only naturally occurring nuclides were detected. A summary of historical fish and invertebrate analytical data is presented in Table C-7 and illustrated in Figure C-7. Data are consistent with historical trends.

4.8 Additional Media Sampling

Although not required by the RECS, analyses were performed on aquatic vegetation, Hudson River bottom sediment, soil, precipitation samples, and various other special water samples. A summary of the analytical results obtained is presented in Table B-16. As shown by these data, the radionuclides detected were consistent with their respective historical levels. Since these samples were not required by the ODCM, individual tables and graphs are not presented for the data.

Cs-137 was detected in one of five indicator samples in aquatic vegetation and zero of five control location samples.

Precipitation samples were analyzed for H-3 (tritium) and plant-related nuclides at two locations. No tritium or other plant related nuclides were detected at either location. Historically, tritium has been detected in precipitation at both indicator and control locations.

The Algonquin Outfall, Gypsum Plant Stream, Verplanck-5th Street Well, and

Trap Rock Quarry samples were analyzed for tritium and plant-related nuclides. The samples did not show any tritium or other plant-related nuclides. The Non-RECS sample location of Algonquin Outfall was designated in 1996 and the other special water samples were designated late in 2003

The results from the Non-RECS sampling show that the main detected anthropogenic activity is Cs-137, which is found at both indicator and control locations. The Non-RECS sample data corroborate the ODCM sample data in determining that the operation of the Indian Point station in 2005 had no detectable adverse radiological impact on the environment.

4.9 Land Use Census

Environmental Monitoring Land Use Census
Methodology:

A comprehensive survey of the of the 5 mile (8 kilometer) area surrounding the Indian Point Site was conducted during the 2005 Spring, Summer and Fall months in accordance with the ODCM Section D 3.5 Radiological

Visual inspections were made of the 5-mile area around the Indian Point Site during routine sample collections and emergency plan equipment inspections in the area throughout the year.

Obtained information from the New York Agricultural Statistic Service on milching animals within the 5-mile area surrounding Indian Point Energy Center.

An extensive land survey was conducted of the 5-mile area in an attempt to identify new residential areas, commercial developments and to identify milch animals in pasture. Previous locations were visited and verified by dispatching Nuclear Environmental Technicians to the various locations.

Note: This was done while performing quarterly environmental badge change out and field inspections through out the 4 surrounding counties.

- Orange County was surveyed during through the summer and fall.
- Rockland County was surveyed during summer and fall.
- Putnam County was surveyed during the and summer and fall.
- Westchester County was surveyed during the summer and summer and fall.

Note: An aerial survey was not conducted of the 5-mile area this year.

Results:

A census was performed in the vicinity of Indian Point in 2005. This census consisted of a milch animal and a residence census. Results of this census are presented in Tables B-17 and B-18.

The results of the 2005 census were generally same as the 2004 census results. There were no animals producing milk for human consumption found within 5 miles (8 km) of the plant or listed in the New York Agricultural Statistic Service. The second part of this census revealed that the nearest residences are located 0.44 miles (0.71 km) ESE and 0.73 miles (1.13 km) S of the plant.

The 2005 land use census indicated there were no new residences that were closer in proximity to IPEC. NEM performed a complete nearest residence survey with updated distances.

The Indian Point REMP does not include a garden census. ODCM allows the sampling of broad leaf vegetation in two sectors at the site boundary in lieu of performing a garden census. Analysis results are discussed in section 4.6 and presented in Table B-14, Table C-6 and Figure C-6.

4.10 Tritium Investigation Results.

All water samples associated with the augmented offsite sampling showed no detectable levels of tritium, strontium-90 or other isotopes that were distinguishable from natural background levels related to nuclear power plant operations. Samples were counted at the JAF offsite environmental laboratory and some samples cross-checked with a third party independent laboratory. Further, regulatory agencies' sample results, which conducted split samples offsite, also showed no detection of plant related isotopes which were distinguishable from natural background levels for tritium or strontium-90. Accordingly, for this public dose pathway or offsite environmental impact assessment, all samples continue to show radioactivity levels that were indistinguishable from background radiation levels from natural occurring radionuclide's or legacy environmental contamination from weapons fallout.

4.11 Conclusion

The Radiological Environmental Monitoring Program is conducted each year to determine the radiological impact of Indian Point operations on the

environment. The preceding discussions of the results of the 2005 REMP reveal that operations at the station did not result in an adverse impact on the environment.

The results of the 2005 REMP also revealed that the impact on the environment of fallout from previous atmospheric weapons testing and Chernobyl continues to represent the greatest long-term radiological environmental impact from anthropogenic sources. The 2005 REMP results demonstrate the relative contributions of different radionuclide sources, both natural and anthropogenic, to the environmental concentrations. Overall, doses to humans are much more significant from non-plant related sources than those associated with plant operations.

SECTION 5

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5.0 REFERENCES

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APPENDIX A

ENVIRONMENTAL SAMPLING AND ANALYSIS REQUIREMENTS

APPENDIX A

Environmental media are sampled at the locations specified in Table A-1 and shown in Figures A-1, A-2, and A-3. The samples are analyzed according to criteria established in the ODCM. These requirements include: methods of sample collection; types of sample analysis; minimum sample size required; lower limit of detection, which must be attained for each medium, sample, or analysis type, and environmental concentrations requiring special reports.

Table A-1 provides the sampling station number, location, sector, distance from Indian Point, ODCM designation and sample type. Non-RECS samples are also listed but have no ODCM designation code. This table gives the complete listing of sample locations used in the 2005 REMP.

Three maps are provided to show the locations of REMP sampling. Figure A-1 shows the sampling locations within two miles of Indian Point. Figure A-2 shows the sampling locations within ten miles of Indian Point. Figure A-3 shows the Non-RECS sample locations within ten miles of Indian Point.

The ODCM required lower limits of detection for Indian Point sample analyses are presented in Table A-2. These required lower limits of detection are not the same as the lower limits of detection or critical levels actually achieved by the laboratory. The laboratory's lower limits of detection and critical levels must be equal to or lower than the required levels presented in Table A-2.

Table A-3 provides the reporting level for radioactivity in various media. Sample results that exceed these levels and are due to plant operations require that a special report be submitted to the NRC.

In addition to the sampling outlined in Table A-1, there is the environmental surveillance requirement that an annual land use and milch animal census be performed. See Tables B-17 and B-18 for the milch animal and land use census.

TABLE A-1

INDIAN POINT REMP SAMPLING STATION LOCATIONS

SAMPLING STATION	RECS SAMPLE DESIGNATION	LOCATION	DISTANCE	SAMPLE TYPES
3	DR8	Service Center Building	Onsite - 0.35 Mi (SSE) at 158°	Direct Gamma
4	A1 A1	Algonquin Gas Line	Onsite - 0.28 Mi (SW) at 234°	Air Particulate, Radioiodine
5	A4 A4 DR10	NYU Tower	Onsite - 0.88 Mi (SSW) at 208°	Air Particulate, Radioiodine, Direct Gamma
7	Wb1	Camp Field Reservoir	3.4 Mi (NE) at 51°	Drinking Water
8	NR	New Croton Reservoir	6.3 Mi (SE) at 124°	Drinking Water
9	Wa1	Plant Inlet (Hudson River Intake)*	Onsite - 0.16 Mi (W) at 273°	HR Water
10	Wa2 NR	Discharge Canal (Mixing Zone)	Onsite - 0.3 Mi (WSW) at 249°	HR Water, HR Bottom Sediment
14	DR7	Water Meter House	Onsite - Mi (SE) at 133°	Direct Gamma
17	NR NR NR	Off Verplanck	1.5 Mi (SSW) at 202.5°	HR Aquatic Vegetation, HR Shoreline Soil, HR Bottom Sediment
20	DR38	Cortlandt Yacht Club (AKA Montrose Marina)	1.5 Mi (S) at 180°	Direct Gamma
22	NR NR	Lovett Power Plant	1.6 Mi (WSW) at 244°	Air Particulate, Radioiodine
23	NR A5 A5 DR40 Ic3 NR Ib2	Roseton*	20.7 Mi (N) at 357°	Precipitation, Air Particulate, Radioiodine, Direct Gamma, Broad Leaf Vegetation, Soil, Fish & Invertebrates
25	Ib1	Downstream	Downstream	Fish & Invertebrate
27	NR NR DR41	Croton Point	6.36 Mi (SSE) at 156°	Air Particulate, Radioiodine, Direct Gamma
28	NR DR4 NR NR	Lent's Cove	0.45 Mi (ENE) at 069°	HR Shoreline Soil, Direct Gamma, HR Bottom Sediment, HR Aquatic Vegetation
29	NR NR DR39	Grassy Point	3.37 Mi (SSW) at 196°	Air Particulate, Radioiodine, Direct Gamma
33	DR33	Hamilton Street (Substation)	2.88 Mi (NE) at 053°	Direct Gamma

* = Control location
 HR = Hudson River
 NR = non ODCM
 R/S = Reuter Stokes

TABLE A-1

INDIAN POINT REMP SAMPLING STATION LOCATIONS

SAMPLING STATION	RECS SAMPLE DESIGNATION	LOCATION	DISTANCE	SAMPLE TYPES
34	DR9	South East Corner of site	Onsite - 0.52 Mi (S) at 179°	Direct Gamma
35	DR5	Broadway & Bleakley Avenue	Onsite - 0.37 Mi (E) at 092°	Direct Gamma
38	DR34	Furnace Dock (Substation)	3.43 Mi (SE) at 141°	Direct Gamma
44	NR NR NR	Peekskill Gas Holder Bldg	1.84 Mi (NE) at 052°	Precipitation, Air Particulate, Radioiodine
50	Wc2	Manitou Inlet*	4.48 Mi (NNW) at 347°	HR Shoreline Soil
53	Wc1 DR11	White Beach	0.92 Mi (SW) at 226°	HR Shoreline Soil, Direct Gamma
56	DR37	Verplanck - Broadway & Sixth Street	1.25 Mi (SSW) at 202°	Direct Gamma
57	DR1	Roa Hook	2 Mi (N) at 005°	Direct Gamma
58	DR17	Route 9D - Garrison	5.41 Mi (N) at 358°	Direct Gamma
59	DR2	Old Pemart Avenue	1.8 Mi (NNE) at 032°	Direct Gamma
60	DR18	Gallows Hill Road & Sprout Brook Road	5.02 Mi (NNE) at 029°	Direct Gamma
61	DR36	Lower South Street & Franklin Street	1.3 Mi (NE) at 052°	Direct Gamma
62	DR19	Westbrook Drive (near the Community Center)	5.03 Mi (NE) at 062°	Direct Gamma
64	DR20	Lincoln Road - Cortlandt (School Parking Lot)	4.6 Mi (ENE) at 067°	Direct Gamma
66	DR21	Croton Avenue - Cortlandt	4.87 Mi (E) at 083°	Direct Gamma
67	DR22	Colabaugh Pond Road - Cortlandt	4.5 Mi (ESE) at 114°	Direct Gamma
69	DR23	Mt. Airy & Windsor Road	4.97 Mi (SE) at 127°	Direct Gamma
71	DR25	Warren Ave - Haverstraw	4.83 Mi (S) at 188°	Direct Gamma
72	DR26	Railroad Avenue & 9W - Haverstraw	4.53 Mi (SSW) at 203°	Direct Gamma
73	DR27	Willow Grove Road & Captain Faldermeyer Drive	4.97 Mi (SW) at 226°	Direct Gamma
74	DR12	West Shore Drive - South	1.59 Mi (WSW) at 252°	Direct Gamma
75	DR28	Palisades Parkway	4.65 Mi (NW) at 310°	Direct Gamma
76	DR13	West Shore Drive - North	1.21 Mi (W) at 276°	Direct Gamma
77	DR29	Palisades Parkway	4.15 Mi (W) at 272°	Direct Gamma
78	DR14	Rt. 9W across from R/S #14	1.2 Mi (WNW) at 295°	Direct Gamma

* = Control location
 HR = Hudson River
 NR = non ODCM
 R/S = Reuter Stokes

TABLE A-1

INDIAN POINT REMP SAMPLING STATION LOCATIONS

SAMPLING STATION	RECS SAMPLE DESIGNATION	LOCATION	DISTANCE	SAMPLE TYPES
79	DR30	Anthony Wayne Park	4.57 Mi (WNW) at 296°	Direct Gamma
80	DR15	Route 9W South of Ayers Road	1.02 Mi (NW) at 317°	Direct Gamma
81	DR31	Palisades Pkwy - Lake Welch Exit	4.96 Mi (WSW) at 255°	Direct Gamma
82	DR16	Ayers Road	1.01 Mi (NNW) at 334°	Direct Gamma
83	DR32	Route 9W - Fort Montgomery	4.82 Mi (NNW) at 339°	Direct Gamma
84	NR NR NR	Cold Spring *	10.88 Mi (N) at 356°	HR Aquatic Vegetation, HR Shoreline Soil, HR Bottom Sediment
88	DR6	R/S Pole #6	0.32 Mi (ESE) at 118°	Direct Gamma
89	DR35	Highland Ave & Sprout Brook Road (near rock cut)	2.89 Mi (NNE) at 025°	Direct Gamma
90	DR3	Charles Point	0.88 Mi (NE) at 047°	Direct Gamma
92	DR24	Warren Road - Cortlandt	3.84 Mi (SSE) at 149°	Direct Gamma
94	A2 A2 Ic2 NR	IPEC Training Center	Onsite- 0.39 Mi (S) at 193°	Air Particulate, Radioiodine, Broadleaf Vegetation, Soil
95	A3 A3 Ic1 NR	Meteorological Tower	Onsite - 0.46 Mi (SSW) at 208°	Air Particulate, Radioiodine, Broadleaf Vegetation, Soil
99	NR	Algonquin Outfall	Onsite - 0.34 Mi (SW) at 237°	Special Water
100	NR	Gypsum Plant Outfall	Onsite - 0.34 Mi (SW) at 237°	Special Water
101	NR	5th Street Well - Verplanck	1.3 Mi (S) at 202°	Special Water
102	NR	Trap Rock Quarry	0.7 Mi (SSW) at 208°	Special Water

* = Control location
 HR = Hudson River
 NR = non ODCM
 R/S = Reuter Stokes

FIGURE A-1

**SAMPLING LOCATIONS
Within Two Miles of Indian Point**

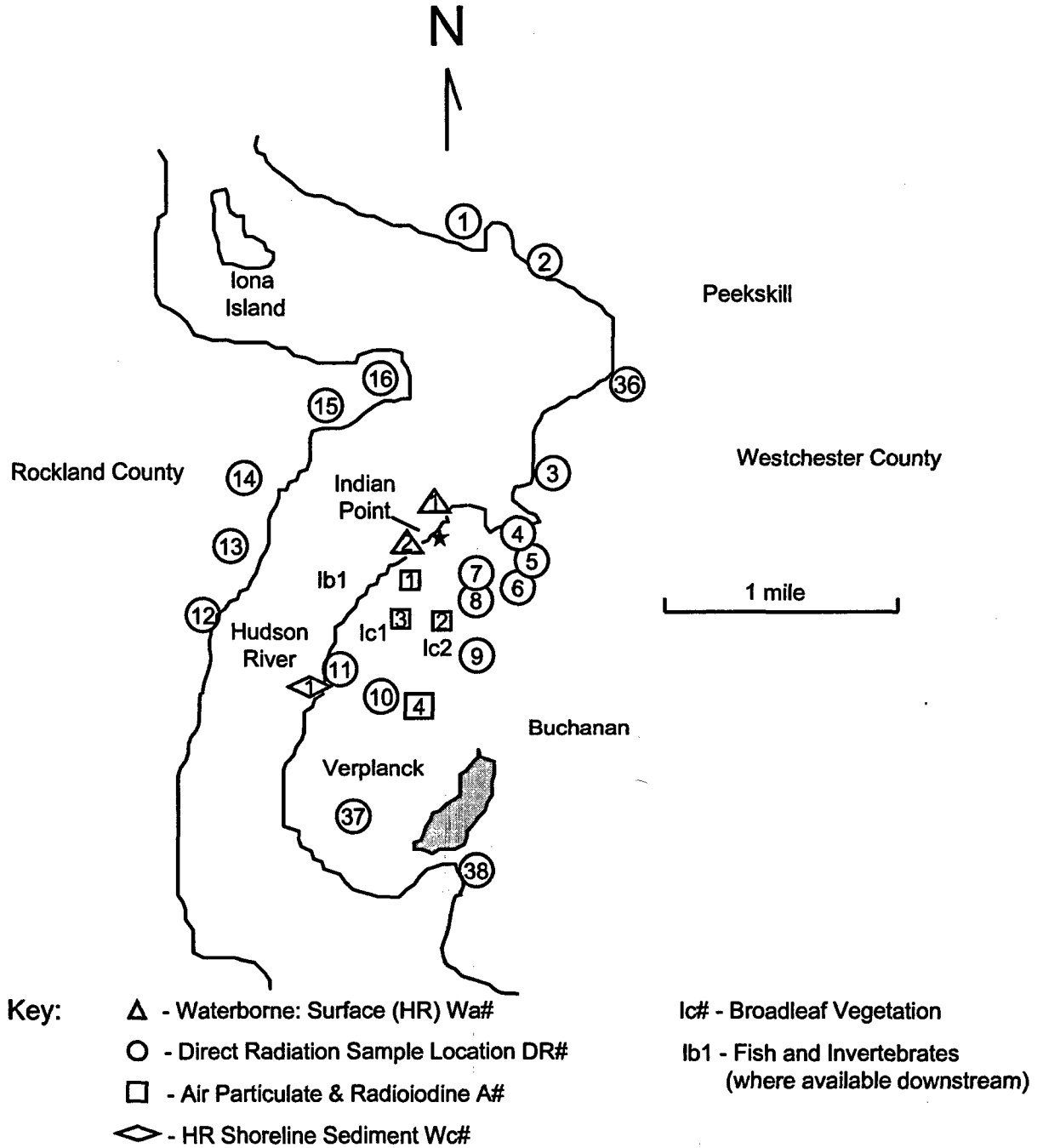
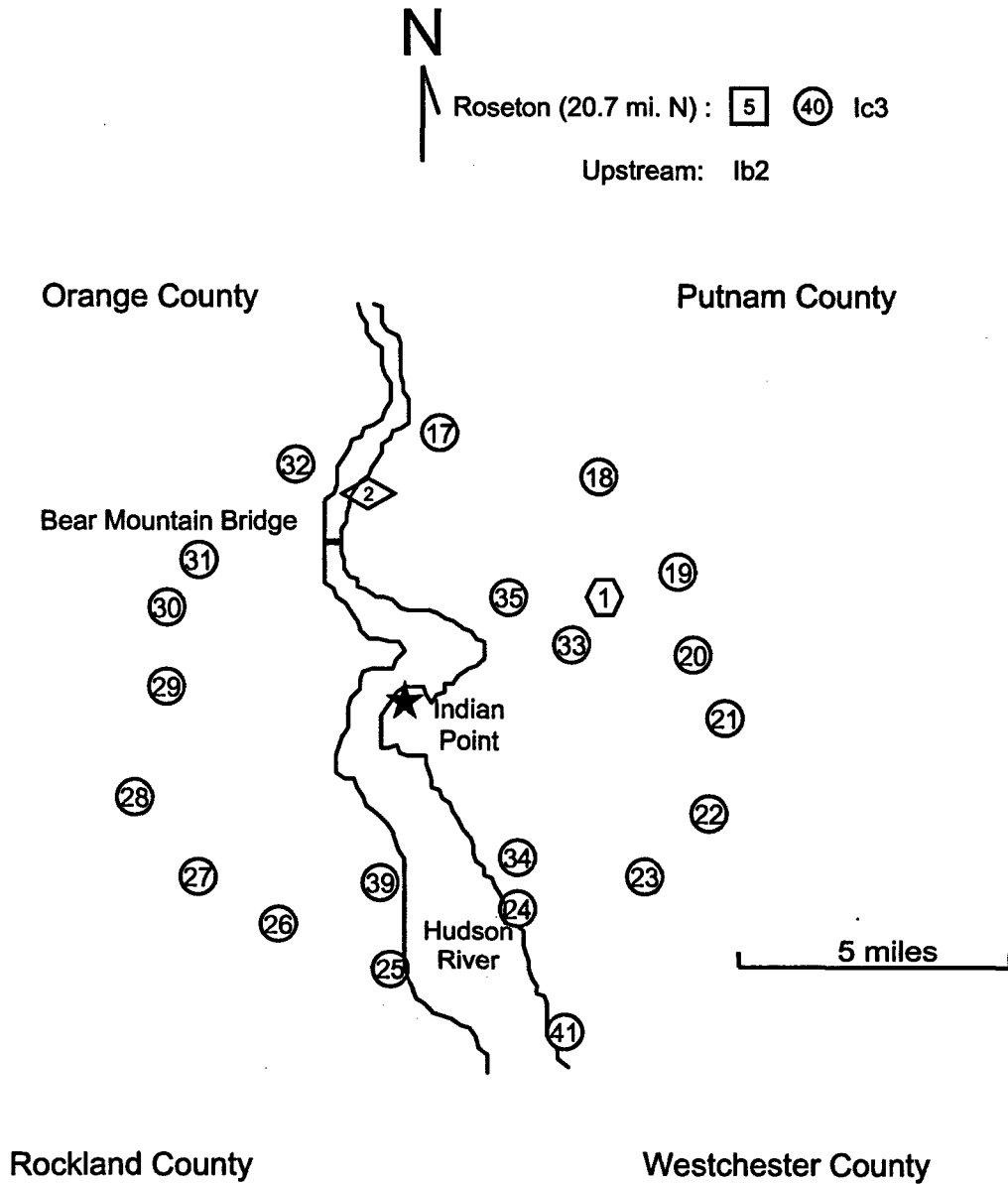


FIGURE A-2

**SAMPLING LOCATIONS
Within 10 Miles of Indian Point**



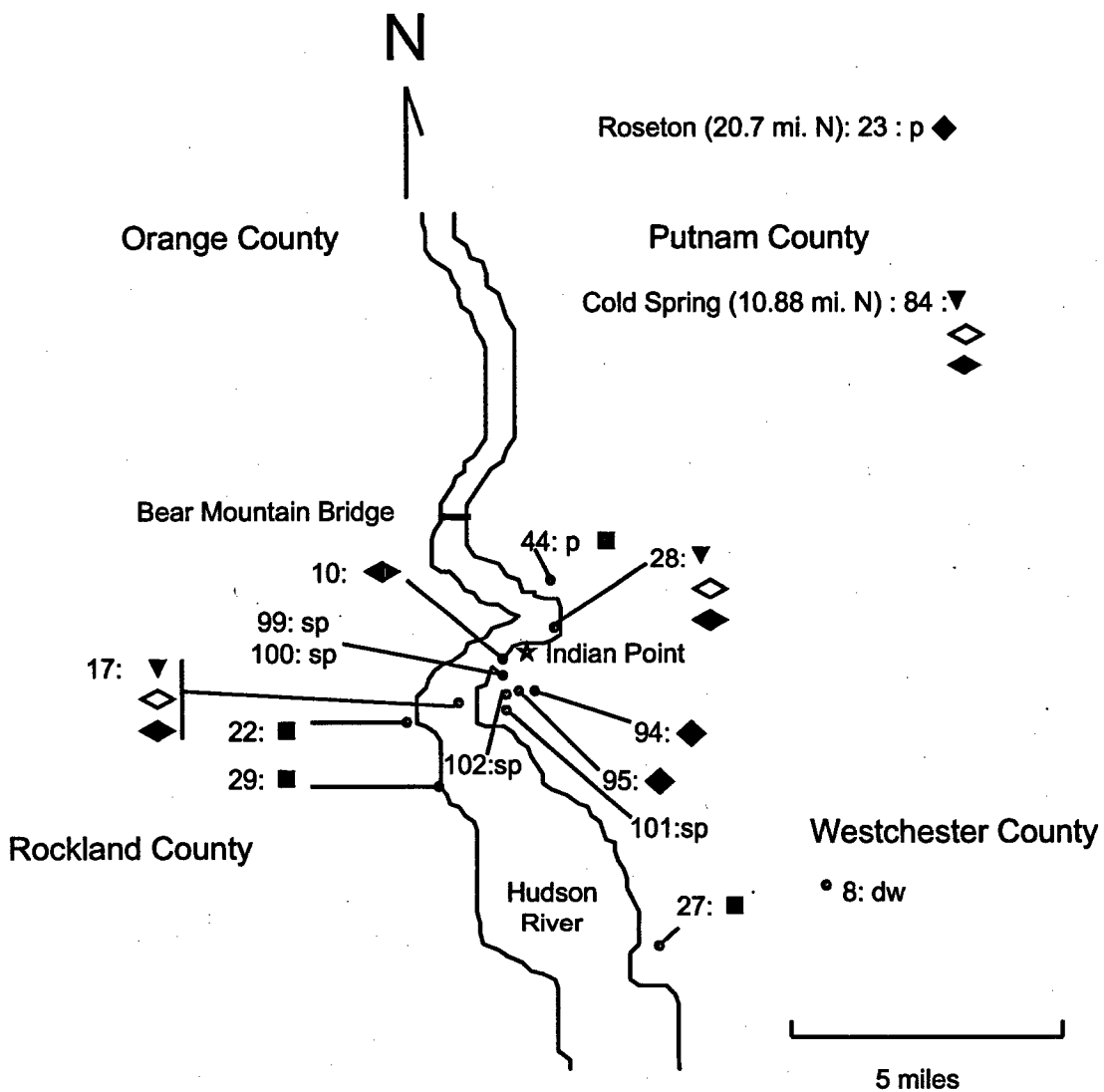
Key:

- - Direct Radiation Sample Location DR#
- - Air Particulate & Radioiodine A#
- ◇ - HR Shoreline Sediment Wc#
- ⬡ - Waterborne: Drinking Wb#

- lc3 - Broadleaf Vegetation
- lb2 - Fish and Invertebrates
(where available upstream)

FIGURE A-3

SAMPLING LOCATIONS
Non-RECS Sampling Locations



Key:

- - Air Particulate & Radioiodine
- ▼ - Aquatic Vegetation
- ◆ - HR Bottom Sediment
- p - Precipitation

- ◇ - HR Shoreline Sediment
- ◆ - Soil
- sp - Special Water
- dw - Drinking Water

TABLE A-2

**LOWER LIMIT OF DETECTION (LLD) REQUIREMENTS
FOR ENVIRONMENTAL SAMPLE ANALYSIS ^{(a) (b)}**

ANALYSIS	WATER (pCi/L)	AIRBORNE PARTICULATES OR GASES (pCi/m³)	FISH (pCi/kg, wet)	MILK (pCi/L)	FOOD PRODUCTS (pCi/kg, wet)	SEDIMENT (pCi/kg, wet)
Gross β	4	0.01				
H-3	2000 ^(c)					
Mn-54	15		130			
Fe-59	30		260			
Co-58	15		130			
Co-60	15		130			
Zn-65	30		260			
Zr-Nb-95	15					
I-131	1 ^(d)	0.07		1	60	
Cs-134	15	0.05	130	15	60	150
Cs-137	18	0.06	150	18	80	180
Ba-La-140	15			15		

^(a) This list does not mean that only these nuclides are to be considered. Other identifiable peaks shall also be analyzed and reported in the Annual Radiological Environmental Operating Report.

^(b) Required detection capabilities for thermoluminescent dosimeters used for environmental measurements are given in Regulatory Guide 4.13 (Reference 27).

^(c) LLD for drinking water samples. If no drinking water pathway exists, a value of 3000 pCi/L may be used.

^(d) LLD for drinking water samples. If no drinking water pathway exists, a value of 15 pCi/L may be used.

TABLE A-3

**REPORTING LEVELS FOR RADIOACTIVITY CONCENTRATIONS
IN ENVIRONMENTAL SAMPLES**

ANALYSIS	WATER (pCi/L)	AIRBORNE PARTICULATES OR GASES (pCi/m³)	FISH (pCi/kg, wet)	MILK (pCi/L)	FOOD PRODUCTS (pCi/kg, wet)
H-3	20000 ^(a)				
Mn-54	1000		30000		
Fe-59	400		10000		
Co-58	1000		30000		
Co-60	300		10000		
Zn-65	300		20000		
Zr-Nb-95	400				
I-131	2 ^(b)	0.9		3	100
Cs-134	30	10	1000	60	1000
Cs-137	50	20	2000	70	2000
Ba-La-140	200			300	

^(a) For drinking water samples. This is the 40 CFR Part 141 value. If no drinking water pathway exists, a value of 30,000 pCi/L may be used.

^(b) If no drinking water pathway exists, a value of 20 pCi/L may be used.

APPENDIX B

RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM RESULTS
SUMMARY

APPENDIX B

B.1 2005 Annual Radiological Environmental Monitoring Program Summary

The results of the 2005 radiological environmental sampling program are presented in Tables B-2 through B-16. Table B-2 is a summary of the ODCM samples and Table B-16 is a summary of the Non-RECS samples. The format of these summary tables conforms to the reporting requirements of the ODCM, NRC Regulatory Guide 4.8 (Reference 4), and NRC Branch Technical Position to Regulatory Guide 4.8 (Reference 14). In addition, the data obtained from the analysis of all the individual ODCM samples are provided in Tables B-3 through B-15.

REMP samples were analyzed by various counting methods as appropriate. The methods are; gross beta, gamma spectroscopy analysis, liquid scintillation, and TLD processing. Gamma spectroscopy analysis was performed for the following radionuclides; Be-7, K-40, Mn-54, Co-58, Co-60, Fe-59, Zn-65, Zr-95, Nb-95, Ru-103, Ru-106, I-131, Cs-134, Cs-137, Ba/La-140, Ce-141, Ce-144, Ra-226 and Ac/Th-228. Radiochemical (I-131) and tritium analyses were performed for specific media and locations as required in the ODCM.

B.2 Land Use Census

In accordance with Sections 4.11.B of the ODCM, a land use census was conducted to identify the nearest milch animal and the nearest residence. The results of the milch animal and land use censuses are presented in Tables B-17 and B-18, respectively. In lieu of identifying and sampling the nearest garden of greater than 50m², at least three kinds of broad leaf vegetation were sampled near the site boundary in two sectors and at a designated control location (results are presented in Table B-14).

B.3 Sampling Deviations

During 2005, environmental sampling was performed for six media types required by ODCM, five other media types and direct radiation. A total of 1347 were obtained. Of the scheduled samples, 97.9% were collected and analyzed for the program. Sampling deviations are summarized in Table B-1; discussions of the reasons for the deviations are provided in Table B-1a for air samples, B-1b for TLDs, and B-1c for other environmental media.

B.4 Analytical Deviations

There were no analytical deviations for 2005.

B.5 Special Reports

No special reports were required under the REMP.

TABLE B-1
SUMMARY OF SAMPLING DEVIATIONS
2005

MEDIA	TOTAL SCHEDULED SAMPLES	NUMBER OF DEVIATIONS*	SAMPLING EFFICIENCY %	REASON FOR DEVIATION
MEDIA				
PARTICULATES IN AIR	477	12	97.5	See Table B-1a
CHARCOAL FILTER	477	12	97.5	See Table B-1a
TLD	164	0	100.0	
HUDSON RIVER WATER	32	2	93.8	See Table B-1c
DRINKING WATER	48	1	97.9	See Table B-1c
SHORELINE SOIL	10	0	100.0	
BROAD LEAF VEGETATION	54	0	100.0	
FISH & INVERTEBRATES	14	0	100.0	
SUBTOTALS	1276	27	97.9	
NON-ODCM MEDIA				
AQUATIC VEGETATION	10	1	90.0	See Table B-1c
HUDSON RIVER BOTTOM SEDIMENT	10	0	100.0	
SOIL	3	0	100.0	
PRECIPITATION	8	0	100.0	
SPECIAL WATER SAMPLES	40	1	97.5	See Table B-1c
SUBTOTALS	71	2	97.2	See Table B-1c
OVERALL TOTALS	1347	29	97.8	

TOTAL NUMBER OF ANALYSES REPORTED = 1318

* Samples not collected or unable to be analyzed.

TABLE B-1a / B-1b/B-1c

TABLE B-1a 2005 Air Sampling Deviations		
STATION	WEEK	PROBLEM / ACTIONS TO PREVENT RECURRENCE
lovet power plant	week 4	The volume on the sample was low due to power outage at the site The time meter indicates 2 and 1/2 days. CR-IP2-2005-00358
GRASSY POINT	Week 11	The air sampler was not running on Monday. The breaker was Tripped some time early Saturday morning. We lost 51 hours of Sample this week. The power was restored at 0900 Monday
Algonquin	Week 14	We found that the power too the air sampler was out and by the hour meter it was off from 0630 on 4/2/5. There was a black out test that morning and the breaker did not reset. The power was restored and the sampler started at 1300 on 4/7/5. CR 2005-0136
Met tower	Week 18	The air sampler had lost power some time during the week for 26 hours The flow was good and the power was normal when we changed out the sample. CR 2005-01681
Algonquin	Week 20	The GFI was tripped and by the hour meter it had tripped at 1430 on Friday 5/13/5 I reset the GFI and it started up. CR 2005 1915
Algonquin	Week 26	We found the door on Algonquin air sample station open and the pump was not running. Attempts to restart the pump tripped the GFI. The pump ran for 107.5 hours out of 144 hours. We replaced the pump and wrote CR 2005-02660
Algonquin	Week 28	The air sample at Algonquin was found not running with the GFI tripped. The sample ran for 82 hours from 8:40 AM Tuesday 7/5/5 until Friday at 6:40 PM. We reset the GFI and the air sample was left running. Wrote CR-IP2-2005-02892
Algonquin	Week 37	The air sample at Algonquin was found not running with the GFI tripped. The sample ran for 82.5 hours from 8:45 AM Tuesday 9/6/5 until Friday at 7:15 PM. We reset the GFI and the air sample was left running. On 9/14/5 NEM replaced the GFI with a new one a
Lovett	week 45	The air sample at Lovett Power Plant was not running. There was no power to the air sample. We lost 72 hours of sample. I got the operator to reset the breaker. The plant is in an outage. Wrote C.R.-IP2-2005-04537
Roseton	Week 45	The air sample at Roseton was not running. The power was out at the location. We had about 48 hours of sample. Power was not restored to that location so we had to move the air sample to a different location on the Roseton site.
Lovett	Week 46	The air sample lost 42 hours some time during the week. It was running when NEM collected the sample.
NYU	week 50	The air sample was not running. The pump was seized and we also had a problem with the power. We replaced the pump and rebuilt the Air sample station. wo IP2-05-12035

TABLE B-1a / B-1b/B-1c

TABLE B-1b 2005 TLD Deviations		
STATION	QUARTER	PROBLEM / ACTIONS TO PREVENT RECURRENCE
None	NONE	NONE

TABLE B-1c 2005 Other Media Deviations		
STATION	SAMPLE SCHEDULE	PROBLEM / ACTIONS TO PREVENT RECURRENCE
Hudson River Intake	Week 1	There was no water in the sample collection bucket. CR-IP2-2005-00084 NEM took a grab sample on 1/7/5 Replaced sampler on 1/12/5
Hudson River Intake	Week 3	There was no water in the sample collection container. The sample tube was frozen. NEM took a grab sample and relocated the heat trace tube. All this week the weather was well below freezing. CR-IP2-2005-00308
DRINKING WATERS	week 6	The drinking waters was not counted for I-131. The submittal forms did not request it to be counted for I-131 The lab tried to count for I-131 and they counted for 55 hrs but could not get LLD
Verplank/Cold Spring	week 24	Unable two get aquatic vegetation it is not growing yet. CR 2005 2456
5 th street well	Week 37	We were uable to get a sample from the well. It has been a very dry summer an the well seems to be dry. CR IP3-2005-04400
Hudson River Discharge	Week 43	The composite water sample hose for the site discharge canal was found to be located inside the canal structure instead of the Hudson River-canal mixing zone as stated in the REMP program description. Sample hose was relocated back to its previous location IAW REMP technical bases. CR-IP2-2005-4319

TABLE B-2*
ODCM ANNUAL SUMMARY - 2005

MEDIUM (UNITS) SEE TABLE	TYPE AND TOTAL NUMBER OF ANALYSIS PERFORMED	LLD (c,d)	LOCATION (b) OF HIGHEST ANNUAL MEAN:		NUMBER OF NONROUTINE REPORTS	
			INDICATOR LOCATIONS: MEAN (a) RANGE	LOCATIONS AND DESIGNATION MEAN (a) RANGE		CONTROL LOCATION: MEAN (a) RANGE
DIRECT RADIATION (mR / standard quarter) B-3	TLD Reads 164	N/A	14.0 (160/160) / 9.6 - 22.5	#76 West Shore Drive North 1.21 Mi. (276°) DR13 18.9 (4/4) / 17.2 - 20.2	15.9 (4/4) / 13.2 - 20.3	0
AIR PARTICULATES AND RADIOIODINE (pCi/m ³) B-6, B-7, B-8	GB (477)		0.015 (424/424) / 0.003 - 0.033	#4 Algonquin Gas Line (Onsite) 0.28 Mi. (234°) 0.016 (53/53) / 0.004-0.029	0.016 (53/53) / 0.029	0.003- 0
	I-131 (467)	0.07	<Lc	<Lc	<Lc	0
	GSA (36) Cs-134	0.05	<Lc	<Lc	<Lc	0
	Cs-137	0.06	<Lc	<Lc	<Lc	0
SURFACE HUDSON RIVER WATER (pCi/L) B-9, B-10	H-3 (8)	3000	<Lc	<Lc	<Lc	0
	GSA (24)					
	Mn-54	15	<Lc	<Lc	<Lc	0
	Co-58	15	<Lc	<Lc	<Lc	0
	Fe-59	30	<Lc	<Lc	<Lc	0
	Co-60	15	<Lc	<Lc	<Lc	0
	Zn-65	30	<Lc	<Lc	<Lc	0
	Zr/Nb-95	15	<Lc	<Lc	<Lc	0
	I-131	15	<Lc	<Lc	<Lc	0
	Cs-134	15	<Lc	<Lc	<Lc	0
	Cs-137	18	<Lc	<Lc	<Lc	0
Ba/La-140	15	<Lc	<Lc	<Lc	0	
DRINKING WATER (pCi/L) B-11, B-12	GB (12)	4	2.39 (12/12) / 1.11 - 3.54	Camp Field Reservoir 3.4 Mi (051°) 2.39 (12/12) / 1.11 - 3.54	N/A	0
	H-3 (4)	2000	<Lc	<Lc	N/A	0
	GSA (12)					
	Mn-54	15	<Lc	<Lc	N/A	0
	Co-58	15	<Lc	<Lc	N/A	0
	Fe-59	30	<Lc	<Lc	N/A	0
	Co-60	15	<Lc	<Lc	N/A	0
Zn-65	30	<Lc	<Lc	N/A	0	

TABLE B-2*
ODCM ANNUAL SUMMARY - 2005

MEDIUM (UNITS) SEE TABLE	TYPE AND TOTAL NUMBER OF ANALYSIS PERFORMED	LLD (c,d)	LOCATION (b) OF HIGHEST ANNUAL MEAN:		NUMBER OF NONROUTINE REPORTS	
			INDICATOR LOCATIONS: MEAN (a) RANGE	LOCATIONS AND DESIGNATION MEAN (a) RANGE		CONTROL LOCATION: MEAN (a) RANGE
DRINKING WATER (CONT)	Zr/Nb-95	15	<Lc	<Lc	N/A	0
	I-131	15	<Lc	<Lc	N/A	0
	Cs-134	15	<Lc	<Lc	N/A	0
	Cs-137	18	<Lc	<Lc	N/A	0
	Ba/La-140	15	<Lc	<Lc	N/A	0
SHORELINE SOIL (pCi/kg - dry) B-13	<u>GSA (4)</u>					
	Cs-134	150	<Lc	<Lc	<Lc	0
	Cs-137	180	<Lc	#50 Manitou Inlet 4.48 MI. (347.5°) 174 (1/2) / 174 - 174	174 (1/2) / 174 - 174	0
BROADLEAF VEGETATION (pCi/kg - wet) B-14	<u>GSA (54)</u>					
	I-131	60	<Lc	<Lc	<Lc	0
	Co-60	N/A	<Lc	<Lc	<Lc	0
	Cs-134	60	<Lc	<Lc	<Lc	0
	Cs-137	80	<Lc	<Lc	<Lc	0
FISH AND INVERTEBRATES (pCi/kg - wet) B-15	<u>GSA (14)</u>					
	Mn-54	130	<Lc	<Lc	<Lc	0
	Co-58	130	<Lc	<Lc	<Lc	0
	Fe-59	260	<Lc	<Lc	<Lc	0
	Co-60	130	<Lc	<Lc	<Lc	0
	Zn-65	260	<Lc	<Lc	<Lc	0
	Cs-134	130	<Lc	<Lc	<Lc	0
	Cs-137	150	<Lc	<Lc	<Lc	0

TABLE B-3

2005 DIRECT RADIATION, QUARTERLY DATA
(mR per STANDARD QUARTER)

Station ID	Sector	1ST Quarter	2ND Quarter	3RD Quarter	4TH Quarter	AVG	Yearly
DR-01	N	14.0 ± 0.7	14.2 ± 0.9	17.4 ± 0.9	15.7 ± 0.8	15.3	61
DR-02	NNE	14.2 ± 0.9	12.6 ± 0.8	14.4 ± 0.8	16.0 ± 1.1	14.3	57
DR-03	NE	12.4 ± 0.6	10.4 ± 0.8	12.6 ± 0.8	13.3 ± 1.0	12.2	49
DR-04	ENE	13.2 ± 0.8	11.6 ± 1.0	14.5 ± 1.1	14.4 ± 0.6	13.4	54
DR-05	ENE	13.0 ± 0.9	11.5 ± 0.8	14.5 ± 0.7	15.6 ± 0.9	13.6	55
DR-06	ESE	12.8 ± 1.0	11.8 ± 0.9	14.1 ± 0.7	15.0 ± 0.7	13.5	54
DR-07	SE	14.5 ± 0.7	13.9 ± 1.0	16.9 ± 0.9	17.1 ± 0.9	15.6	62
DR-08	SSE	11.7 ± 0.7	11.1 ± 0.8	13.9 ± 0.8	13.8 ± 0.6	12.6	51
DR-09	S	12.3 ± 1.0	12.0 ± 1.3	14.3 ± 0.9	15.1 ± 1.1	13.4	54
DR-10	SSW	13.7 ± 1.2	12.9 ± 0.8	15.9 ± 1.0	16.1 ± 0.8	14.6	59
DR-11	SW	10.3 ± 0.6	9.6 ± 0.8	11.5 ± 0.7	13.2 ± 0.7	11.2	45
DR-12	WSW	16.0 ± 0.8	15.2 ± 1.3	18.3 ± 0.8	17.3 ± 0.9	16.7	67
DR-13	WSW	18.5 ± 1.6	17.2 ± 1.0	20.2 ± 1.1	20.0 ± 0.8	18.9	76
DR-14	WNW	12.2 ± 0.8	11.6 ± 0.8	14.3 ± 0.9	13.6 ± 0.8	12.9	52
DR-15	NW	11.9 ± 0.8	11.6 ± 0.8	14.3 ± 0.7	13.9 ± 0.5	12.9	52
DR-16	NNW	13.1 ± 0.7	12.9 ± 0.9	16.6 ± 1.1	15.3 ± 0.8	14.5	58
DR-17	N	13.8 ± 1.0	13.6 ± 0.9	16.4 ± 0.8	15.5 ± 0.6	14.8	59
DR-18	NNE	13.7 ± 0.9	12.2 ± 0.9	15.6 ± 0.7	16.0 ± 0.6	14.4	57
DR-19	NE	14.8 ± 0.8	12.9 ± 1.2	16.2 ± 0.9	16.2 ± 0.8	15.0	60
DR-20	ENE	13.2 ± 0.8	11.4 ± 0.8	14.4 ± 0.9	14.6 ± 0.8	13.4	54
DR-21	E	12.2 ± 0.8	12.0 ± 0.9	14.5 ± 0.7	15.6 ± 0.7	13.6	54
DR-22	ESE	10.4 ± 0.6	9.6 ± 0.9	12.1 ± 0.7	12.8 ± 0.7	11.2	45
DR-23	SE	12.2 ± 0.7	11.7 ± 1.3	14.6 ± 0.7	16.0 ± 1.5	13.6	55
DR-24	SSE	12.8 ± 0.8	12.6 ± 1.0	16.0 ± 0.9	16.2 ± 0.7	14.4	58
DR-25	S	11.4 ± 0.8	10.6 ± 0.9	13.8 ± 0.6	13.0 ± 0.5	12.2	49
DR-26	SSW	12.4 ± 0.7	12.2 ± 1.0	14.4 ± 0.8	13.9 ± 0.6	13.2	53
DR-27	SW	12.2 ± 0.7	12.2 ± 0.9	14.8 ± 0.8	13.9 ± 0.8	13.3	53
DR-28	NW	15.2 ± 1.0	15.5 ± 1.0	22.5 ± 1.7	19.3 ± 0.9	18.1	73
DR-29	W	12.5 ± 0.8	12.5 ± 0.9	16.3 ± 0.9	14.5 ± 0.6	14.0	56
DR-30	SNS	13.0 ± 0.8	13.9 ± 1.1	16.4 ± 0.7	14.5 ± 0.6	14.5	58
DR-31	WSW	15.6 ± 0.8	16.0 ± 1.1	20.6 ± 1.1	17.8 ± 1.1	17.5	70
DR-32	NNW	12.2 ± 0.8	11.2 ± 0.8	14.5 ± 0.8	13.1 ± 0.6	12.7	51
DR-33	NE	13.8 ± 0.7	11.8 ± 0.8	14.7 ± 1.0	14.9 ± 0.7	13.8	55
DR-34	SE	11.8 ± 0.7	11.3 ± 0.9	13.6 ± 0.7	13.8 ± 0.8	12.6	50
DR-35	NNE	13.2 ± 0.7	12.1 ± 0.9	15.1 ± 0.7	15.9 ± 0.9	14.1	56
DR-36	NE	15.0 ± 0.7	12.6 ± 0.9	15.2 ± 0.7	15.6 ± 0.8	14.6	58
DR-37	SSW	12.3 ± 0.9	11.9 ± 0.8	14.2 ± 0.7	14.1 ± 0.6	13.1	53
DR-38	S	12.3 ± 0.9	11.9 ± 0.9	13.9 ± 0.7	14.4 ± 0.8	13.1	52
DR-39	SSW	13.4 ± 1.0	13.9 ± 1.0	15.6 ± 0.7	14.5 ± 0.7	14.4	58
DR-40**	N	13.2 ± 0.8	15.0 ± 1.0	20.3 ± 1.0	15.2 ± 0.9	15.9	64
DR-41	SSE	12.4 ± 0.9	11.3 ± 0.8	14.2 ± 0.6	14.4 ± 0.6	13.1	52
AVERAGE		13.1 ± 0.8	12.5 ± 0.9	15.5 ± 0.8	15.2 ± 0.8	14.1	56.2

* Data not available

** Control Location

TABLE B-4

**DIRECT RADIATION,
1999 THROUGH 2005 DATA
(mR per Standard Quarter)**

Station ID	Mean (1999-2004)	Standard Deviation (1999-2004)	Minimum Value (1999-2004)	Maximum Value (1999-2004)	2005 Average
DR-01	15.7	1.5	13.2	20.7	15.3
DR-02	15.5	2.8	12.3	23.3	14.3
DR-03	12.0	1.2	9.3	14.4	12.2
DR-04	13.5	1.5	11.1	16.3	13.4
DR-05	13.5	1.2	11.4	15.6	13.6
DR-06	13.3	1.3	10.8	16.3	13.5
DR-07	16.0	1.9	13.2	21.7	15.6
DR-08	13.0	1.3	11.1	16.3	12.6
DR-09	12.9	2.8	0.1	16.7	13.4
DR-10	13.7	2.4	5.3	16.8	14.6
DR-11	11.3	1.1	9.5	14.2	11.2
DR-12	16.8	1.5	14.5	19.8	16.7
DR-13	18.7	1.4	16.2	20.9	18.9
DR-14	13.2	1.2	11.1	15.9	12.9
DR-15	13.5	1.6	11.4	19.0	12.9
DR-16	14.7	1.6	11.4	18.4	14.5
DR-17	15.0	1.3	12.3	17.7	14.8
DR-18	14.0	1.4	10.8	16.0	14.4
DR-19	14.8	1.5	12.3	18.2	15.0
DR-20	13.6	1.4	11.4	16.1	13.4
DR-21	13.6	1.2	11.7	16.0	13.6
DR-22	11.4	1.2	9.6	14.1	11.2
DR-23	13.9	1.5	11.4	17.1	13.6
DR-24	14.0	1.5	10.8	16.2	14.4
DR-25	12.3	1.1	9.9	14.9	12.2
DR-26	13.6	1.2	11.7	17.0	13.2
DR-27	13.6	1.2	10.2	15.6	13.3
DR-28	15.6	2.1	12.2	22.5	18.1
DR-29	16.5	2.6	9.0	21.9	14.0
DR-30	15.8	2.5	9.9	23.8	14.5
DR-31	17.9	2.6	12.3	24.6	17.5
DR-32	13.1	1.7	9.9	17.7	12.7
DR-33	10.7	2.5	7.2	15.6	13.8
DR-34	13.3	1.7	9.9	17.6	12.6
DR-35	14.2	1.7	11.1	18.0	14.1
DR-36	15.4	2.5	12.3	25.5	14.6
DR-37	13.7	1.3	11.7	16.2	13.1
DR-38	13.0	1.4	11.1	17.9	13.1
DR-39	15.6	1.5	12.9	19.4	14.4
DR-40**	15.2	1.9	12.6	20.3	15.9
DR-41	13.2	1.8	10.8	19.4	13.1
Average	14.2				14.1

* Data not available

** Control Location

TABLE B-5**2005 DIRECT RADIATION
INNER AND OUTER RINGS
(mR per Standard Quarter)**

Inner Ring ID	Outer Ring ID	Sector	Inner Ring Annual Average	Outer Ring Annual Average
DR-01	DR-17	N	15.3	14.8
DR-02	DR-18	NNE	14.3	14.4
DR-03	DR-19	NE	12.2	15.0
DR-04	DR-20	ENE	13.4	13.4
DR-05	DR-21	E	13.6	13.6
DR-06	DR-22	ESE	13.5	11.2
DR-07	DR-23	SE	15.6	13.6
DR-08	DR-24	SSE	12.6	14.4
DR-09	DR-25	S	13.4	12.2
DR-10	DR-26	SSW	14.6	13.2
DR-11	DR-27	SW	11.2	13.3
DR-12	DR-28	WSW	16.7	18.1
DR-13	DR-29	W	18.9	14.0
DR-14	DR-30	WNW	12.9	14.5
DR-15	DR-31	NW	12.9	17.5
DR-16	DR-32	NNW	14.5	12.7
Average			14.1	14.1

TABLE B-6

GROSS BETA ACTIVITY IN AIRBORNE PARTICULATE SAMPLES-2005

(pCi/m³ ± 1 sigma)

STATION #

Week #	End Date	4	5	94	95	23**
1	1/4/2005	0.027 ± 0.002	0.025 ± 0.002	0.02 ± 0.002	0.02 ± 0.002	0.021 ± 0.002
2	1/11/2005	0.013 ± 0.001	0.01 ± 0.001	0.01 ± 0.001	0.011 ± 0.001	0.015 ± 0.002
3	1/18/2005	0.016 ± 0.002	0.014 ± 0.002	0.018 ± 0.002	0.014 ± 0.001	0.013 ± 0.001
4	1/25/2005	0.014 ± 0.002	0.018 ± 0.002	0.016 ± 0.002	0.018 ± 0.002	0.02 ± 0.002
5	2/1/2005	0.014 ± 0.002	0.012 ± 0.002	0.014 ± 0.001	0.015 ± 0.002	0.015 ± 0.001
6	2/8/2005	0.027 ± 0.002	0.021 ± 0.002	0.023 ± 0.002	0.024 ± 0.002	0.023 ± 0.002
7	2/15/2005	0.019 ± 0.002	0.019 ± 0.002	0.016 ± 0.002	0.018 ± 0.002	0.019 ± 0.002
8	2/22/2005	0.015 ± 0.002	0.013 ± 0.002	0.014 ± 0.001	0.013 ± 0.002	0.011 ± 0.001
9	2/28/2005	0.015 ± 0.002	0.017 ± 0.002	0.012 ± 0.002	0.014 ± 0.002	0.012 ± 0.002
10	3/8/2005	0.016 ± 0.001	0.014 ± 0.001	0.017 ± 0.001	0.013 ± 0.001	0.014 ± 0.001
11	3/14/2005	0.014 ± 0.002	0.013 ± 0.002	0.011 ± 0.001	0.012 ± 0.002	0.015 ± 0.001
12	3/22/2005	0.018 ± 0.002	0.015 ± 0.002	0.014 ± 0.001	0.013 ± 0.001	0.014 ± 0.002
13	3/29/2005	0.01 ± 0.001	0.01 ± 0.001	0.009 ± 0.001	0.011 ± 0.001	0.01 ± 0.001
14	4/5/2005	0.005 ± 0.001	0.005 ± 0.001	0.005 ± 0.001	0.005 ± 0.001	0.004 ± 0.001
15	4/12/2005	0.012 ± 0.002	0.014 ± 0.001	0.013 ± 0.001	0.011 ± 0.001	0.016 ± 0.001
16	4/19/2005	0.024 ± 0.002	0.022 ± 0.002	0.028 ± 0.002	0.023 ± 0.002	0.013 ± 0.001
17	4/26/2005	0.018 ± 0.002	0.015 ± 0.001	0.014 ± 0.001	0.011 ± 0.001	0.013 ± 0.001
18	5/3/2005	0.012 ± 0.001	0.013 ± 0.001	0.012 ± 0.001	0.014 ± 0.001	0.008 ± 0.001
19	5/10/2005	0.017 ± 0.001	0.011 ± 0.001	0.009 ± 0.001	0.008 ± 0.001	0.012 ± 0.001
20	5/17/2005	0.014 ± 0.002	0.015 ± 0.001	0.015 ± 0.001	0.017 ± 0.001	0.015 ± 0.001
21	5/24/2005	0.013 ± 0.001	0.011 ± 0.001	0.012 ± 0.001	0.01 ± 0.001	0.015 ± 0.001
22	5/31/2005	0.009 ± 0.001	0.01 ± 0.001	0.009 ± 0.001	0.009 ± 0.001	0.009 ± 0.001
23	6/7/2005	0.024 ± 0.002	0.024 ± 0.002	0.026 ± 0.002	0.022 ± 0.002	0.02 ± 0.002
24	6/14/2005	0.024 ± 0.002	0.024 ± 0.002	0.025 ± 0.002	0.022 ± 0.002	0.02 ± 0.002
25	6/21/2005	0.012 ± 0.001	0.012 ± 0.001	0.01 ± 0.001	0.008 ± 0.001	0.011 ± 0.001
26	6/27/2005	0.017 ± 0.002	0.021 ± 0.002	0.021 ± 0.002	0.02 ± 0.002	0.023 ± 0.002

* Sample deviation.

** Control location.

TABLE B-6

GROSS BETA ACTIVITY IN AIRBORNE PARTICULATE SAMPLES-2005

(pCi/m³ ± 1 sigma)

STATION #

Week #	End Date	4	5	94	95	23**
27	7/5/2005	0.019 ± 0.001	0.018 ± 0.001	0.017 ± 0.001	0.014 ± 0.001	0.018 ± 0.001
28	7/12/2005	0.016 ± 0.002	0.025 ± 0.002	0.019 ± 0.001	0.019 ± 0.002	0.016 ± 0.002
29	7/19/2005	0.016 ± 0.001	0.009 ± 0.001	0.011 ± 0.001	0.012 ± 0.001	0.017 ± 0.002
30	7/26/2005	0.017 ± 0.001	0.017 ± 0.001	0.017 ± 0.001	0.017 ± 0.001	0.021 ± 0.002
31	8/2/2005	0.021 ± 0.002	0.02 ± 0.002	0.018 ± 0.001	0.019 ± 0.002	0.019 ± 0.002
32	8/9/2005	0.027 ± 0.002	0.028 ± 0.002	0.025 ± 0.002	0.026 ± 0.002	0.029 ± 0.002
33	8/16/2005	0.023 ± 0.002	0.023 ± 0.002	0.021 ± 0.002	0.02 ± 0.002	0.024 ± 0.002
34	8/23/2005	0.014 ± 0.001	0.017 ± 0.002	0.018 ± 0.001	0.015 ± 0.001	0.016 ± 0.002
35	8/30/2005	0.014 ± 0.001	0.007 ± 0.001	0.011 ± 0.001	0.012 ± 0.001	0.014 ± 0.001
36	9/6/2005	0.014 ± 0.001	0.012 ± 0.001	0.015 ± 0.001	0.014 ± 0.001	0.016 ± 0.001
37	9/13/2005	0.021 ± 0.002	0.023 ± 0.002	0.023 ± 0.002	0.022 ± 0.002	0.027 ± 0.002
38	9/20/2005	0.021 ± 0.002	0.022 ± 0.002	0.021 ± 0.002	0.017 ± 0.001	0.027 ± 0.002
39	9/27/2005	0.024 ± 0.002	0.023 ± 0.002	0.02 ± 0.002	0.024 ± 0.002	0.028 ± 0.002
40	10/4/2005	0.018 ± 0.002	0.015 ± 0.001	0.018 ± 0.001	0.016 ± 0.001	0.02 ± 0.002
41	10/11/2005	0.013 ± 0.001	0.013 ± 0.001	0.009 ± 0.001	0.011 ± 0.001	0.013 ± 0.001
42	10/18/2005	0.004 ± 0.001	0.005 ± 0.001	0.005 ± 0.001	0.004 ± 0.001	0.003 ± 0.001
43	10/25/2005	0.008 ± 0.001	0.01 ± 0.001	0.009 ± 0.001	0.009 ± 0.001	0.012 ± 0.001
44	11/1/2005	0.012 ± 0.001	0.012 ± 0.001	0.01 ± 0.001	0.012 ± 0.001	0.008 ± 0.001
45	11/8/2005	0.02 ± 0.002	0.02 ± 0.002	0.019 ± 0.002	0.021 ± 0.002	0.024 ± 0.002
46	11/15/2005	0.015 ± 0.001	0.012 ± 0.001	0.016 ± 0.001	0.013 ± 0.001	0.019 ± 0.002
47	11/21/2005	0.014 ± 0.001	0.014 ± 0.001	0.014 ± 0.001	0.014 ± 0.001	0.015 ± 0.001
48	11/29/2005	0.012 ± 0.001	0.012 ± 0.001	0.013 ± 0.001	0.01 ± 0.001	0.013 ± 0.001
49	12/5/2005	0.012 ± 0.001	0.009 ± 0.001	0.009 ± 0.001	0.009 ± 0.001	0.012 ± 0.001
50	12/13/2005	0.022 ± 0.001	0.018 ± 0.003	0.02 ± 0.001	0.022 ± 0.001	0.024 ± 0.002
51	12/20/2005	0.015 ± 0.001	0.015 ± 0.003	0.013 ± 0.001	0.014 ± 0.001	0.016 ± 0.001
52	12/27/2005	0.029 ± 0.002	0.033 ± 0.002	0.028 ± 0.002	0.027 ± 0.002	0.029 ± 0.002
53	1/4/2006	0.012 ± 0.001	0.012 ± 0.001	0.013 ± 0.001	0.008 ± 0.001	0.011 ± 0.001

* Sample deviation.

** Control location.

TABLE B-6

GROSS BETA ACTIVITY IN AIRBORNE PARTICULATE SAMPLES-2005

(pCi/m³ ± 1 sigma)

STATION #

Week #	End Date	22	27	29	44
1	1/3/2005	0.019 ± 0.001	0.024 ± 0.002	0.021 ± 0.001	0.025 ± 0.002
2	1/10/2005	0.013 ± 0.001	0.012 ± 0.001	0.012 ± 0.001	0.012 ± 0.001
3	1/18/2005	0.013 ± 0.001	0.016 ± 0.002	0.015 ± 0.001	0.015 ± 0.001
4	1/24/2005	0.02 ± 0.002	0.016 ± 0.002	0.019 ± 0.001	0.018 ± 0.002
5	2/1/2005	0.013 ± 0.001	0.014 ± 0.002	0.014 ± 0.001	0.015 ± 0.001
6	2/7/2005	0.02 ± 0.002	0.021 ± 0.002	0.019 ± 0.002	0.022 ± 0.002
7	2/14/2005	0.016 ± 0.001	0.015 ± 0.002	0.017 ± 0.001	0.017 ± 0.002
8	2/22/2005	0.015 ± 0.001	0.012 ± 0.001	0.01 ± 0.001	0.014 ± 0.001
9	2/28/2005	0.015 ± 0.002	0.015 ± 0.002	0.013 ± 0.001	0.014 ± 0.002
10	3/7/2005	0.016 ± 0.001	0.015 ± 0.001	0.014 ± 0.001	0.013 ± 0.001
11	3/14/2005	0.014 ± 0.001	0.013 ± 0.002	0.015 ± 0.002	0.016 ± 0.002
12	3/21/2005	0.017 ± 0.001	0.012 ± 0.001	0.014 ± 0.001	0.012 ± 0.001
13	3/28/2005	0.011 ± 0.001	0.009 ± 0.001	0.009 ± 0.001	0.012 ± 0.001
14	4/4/2005	0.006 ± 0.001	0.006 ± 0.001	0.004 ± 0.001	0.004 ± 0.001
15	4/11/2005	0.011 ± 0.001	0.012 ± 0.001	0.011 ± 0.001	0.01 ± 0.001
16	4/18/2005	0.014 ± 0.001	0.021 ± 0.002	0.013 ± 0.001	0.013 ± 0.001
17	4/25/2005	0.013 ± 0.001	0.012 ± 0.001	0.01 ± 0.001	0.01 ± 0.001
18	5/2/2005	0.008 ± 0.001	0.011 ± 0.001	0.007 ± 0.001	0.006 ± 0.001
19	5/9/2005	0.009 ± 0.001	0.011 ± 0.001	0.005 ± 0.001	0.007 ± 0.001
20	5/16/2005	0.014 ± 0.001	0.016 ± 0.001	0.013 ± 0.001	0.012 ± 0.001
21	5/23/2005	0.014 ± 0.001	0.011 ± 0.001	0.011 ± 0.001	0.01 ± 0.001
22	5/31/2005	0.009 ± 0.001	0.006 ± 0.001	0.008 ± 0.001	0.008 ± 0.001
23	6/6/2005	0.02 ± 0.001	0.0247 ± 0.002	0.019 ± 0.001	0.018 ± 0.001
24	6/13/2005	0.02 ± 0.001	0.025 ± 0.002	0.019 ± 0.001	0.018 ± 0.001
25	6/20/2005	0.007 ± 0.001	0.009 ± 0.001	0.007 ± 0.001	0.006 ± 0.001
26	6/27/2005	0.018 ± 0.001	0.022 ± 0.002	0.02 ± 0.001	0.016 ± 0.001

* Sample deviation.

** Control location.

TABLE B-6

GROSS BETA ACTIVITY IN AIRBORNE PARTICULATE SAMPLES-2005

(pCi/m³ ± 1 sigma)

STATION #

Week #	End Date	22	27	29	44
27	7/5/2005	0.013 ± 0.001	0.014 ± 0.001	0.015 ± 0.001	0.012 ± 0.001
28	7/11/2005	0.011 ± 0.001	0.022 ± 0.002	0.011 ± 0.001	0.013 ± 0.001
29	7/18/2005	0.013 ± 0.001	0.013 ± 0.001	0.015 ± 0.001	0.015 ± 0.001
30	7/25/2005	0.017 ± 0.001	0.019 ± 0.002	0.017 ± 0.001	0.012 ± 0.001
31	8/1/2005	0.015 ± 0.001	0.018 ± 0.001	0.016 ± 0.001	0.018 ± 0.001
32	8/8/2005	0.026 ± 0.002	0.027 ± 0.002	0.023 ± 0.001	0.025 ± 0.002
33	8/15/2005	0.023 ± 0.002	0.021 ± 0.002	0.021 ± 0.001	0.025 ± 0.002
34	8/23/2005	0.017 ± 0.001	0.02 ± 0.002	0.019 ± 0.001	0.015 ± 0.001
35	8/29/2005	0.012 ± 0.001	0.011 ± 0.001	0.011 ± 0.001	0.011 ± 0.001
36	9/6/2005	0.012 ± 0.001	0.014 ± 0.001	0.012 ± 0.001	0.014 ± 0.001
37	9/12/2005	0.018 ± 0.001	0.023 ± 0.002	0.021 ± 0.001	0.019 ± 0.002
38	9/19/2005	0.025 ± 0.001	0.019 ± 0.001	0.019 ± 0.001	0.022 ± 0.002
39	9/26/2005	0.024 ± 0.001	0.023 ± 0.002	0.025 ± 0.001	0.024 ± 0.002
40	10/3/2005	0.016 ± 0.001	0.017 ± 0.001	0.013 ± 0.001	0.015 ± 0.001
41	10/11/2005	0.009 ± 0.001	0.012 ± 0.001	0.01 ± 0.001	0.012 ± 0.001
42	10/17/2005	0.004 ± 0.001	0.004 ± 0.001	0.005 ± 0.001	0.003 ± 0.001
43	10/24/2005	0.01 ± 0.001	0.012 ± 0.001	0.01 ± 0.001	0.009 ± 0.001
44	10/31/2005	0.008 ± 0.001	0.01 ± 0.001	0.008 ± 0.001	0.006 ± 0.001
45	11/7/2005	0.017 ± 0.002	0.021 ± 0.002	0.021 ± 0.001	0.023 ± 0.002
46	11/15/2005	0.014 ± 0.001	0.015 ± 0.001	0.013 ± 0.001	0.017 ± 0.001
47	11/21/2005	0.014 ± 0.001	0.016 ± 0.002	0.014 ± 0.001	0.005 ± 0.001
48	11/28/2005	0.011 ± 0.001	0.012 ± 0.001	0.01 ± 0.001	0.012 ± 0.001
49	12/6/2005	0.011 ± 0.001	0.011 ± 0.001	0.012 ± 0.001	0.011 ± 0.001
50	12/12/2005	0.021 ± 0.001	0.023 ± 0.001	0.021 ± 0.001	0.023 ± 0.002
51	12/19/2005	0.015 ± 0.001	0.012 ± 0.001	0.012 ± 0.001	0.013 ± 0.001
52	12/26/2005	0.024 ± 0.001	0.0275 ± 0.002	0.024 ± 0.001	0.027 ± 0.002
53	1/3/2006	0.01 ± 0.001	0.0122 ± 0.001	0.011 ± 0.001	0.012 ± 0.001

* Sample deviation.

** Control location.

TABLE B-7
CONCENTRATIONS OF GAMMA EMITTERS IN QUARTERLY COMPOSITES
OF AIR PARTICULATE SAMPLES - 2004**
(RESULTS IN UNITS OF 1 0-3 pCi/m³ ± 1 SIGMA)

1ST QUARTER 2005

ISOTOPE	MIN. REQ. CL*	ALGONQUIN STA-4	NYU TOWER STA-5	CROTON PT STA-27	TRAINING BLDG STA-94	MET TOWER STA-95
Be-7		128.6±17.35	114±13.67	119.8±13.15	100.2±12.9	126.8±13.51
K-40		<7.82	<5.01	<5.88	41.36±9.76	<9.2
Mn-54		<0.57	<0.66	<0.45	<0.57	<0.42
Co-58		<1.25	<6.01	<0.51	<0.85	<0.62
Fe-59		<4.26	<2.73	<2.45	<4.1	<2.51
Co-60		<0.84	<0.76	<0.39	<1.04	<0.49
Zn-65		<1.77	<1.34	<0.79	<0.96	<0.87
Zr-95		<2.55	<1.42	<0.90	<1.8	<0.92
Nb-95		<1.57	<1.23	<1.95	<0.99	<1.13
Ru-103		<1.64	<1.21	<0.93	<1.28	<0.99
Ru-106		<6.98	<5.08	<2.5	<7.54	<6.59
I-131		<12.73	<10.77	<11.8	<10.78	<11.15
Cs-134	(25.0)*	<0.78	<0.95	<0.54	<0.57	<0.84
Cs-137	(30.0)*	<0.75	<0.54	<0.4	<0.57	<0.38
BaLa-140		<12.5	<9.14	<6.19	<6.94	<6.90
Ce-141		<1.72	<1.35	<1.04	<1.64	<1.16
TiCe-144		<2.48	<2.09	<1.34	<3.09	<2.19
Ra-226		<8.81	<8.12	<7.41	<9.51	<6.25
AcTh-228		<2.09	<2.36	<2.4	<1.71	<2.03

BOLD PRINT INDICATES REPORTED LLD VALUES

* Indicates naturally occurring.

** "Less than" values expressed as Critical Level (Lc), unless otherwise noted.

*** Reported as sample LLD.

TABLE B-7
CONCENTRATIONS OF GAMMA EMITTERS IN QUARTERLY COMPOSITES
OF AIR PARTICULATE SAMPLES - 2004**
(RESULTS IN UNITS OF 1 0-3 pCi/m3 ± 1 SIGMA)

1ST QUARTER 2005

ISOTOPE	MIN. REQ. CL*	LOVETT STA-22	ROSETON STA-23	GRASSY PT STA-29	PEEKSKILL STA-44
Be-7		103.3±13.94	107.8±12.92	117.3±11.42	110±14.09
K-40		<6.2	<4.68	<4.39	<8.9
Mn-54		<0.45	<0.62	<0.24	<0.49
Co-58		<1	<0.57	<0.36	<0.52
Fe-59		<3.43	<2.59	<1.72	<3.54
Co-60		<0.67	<0.71	<0.41	<0.69
Zn-65		<1.41	<1.26	<0.6	<2
Zr-95		<2.04	<1.34	<0.64	<1.2
Nb-95		<1.27	<1.17	<0.56	<1.05
Ru-103		<1.33	<1.15	<0.71	<1.47
Ru-106		<5.55	<4.75	<2.65	<6.43
I-131		<11	<10.95	<8.36	<11.48
Cs-134	(25.0)*	<0.62	<0.88	<0.4	<0.85
Cs-137	(30.0)*	<0.59	<0.51	<0.24	<0.42
BaLa-140		<10.46	<9	<4.90	<7.65
Ce-141		<1.39	<1.29	<1.04	<1.81
TiCe-144		<1.97	<1.95	<1.26	<3.23
Ra-226		<6.98	<7.58	<3.92	<6.8
AcTh-228		<1.66	<2.21	<0.8	<2.82

BOLD PRINT INDICATES REPORTED LLD VALUES

* Indicates naturally occurring.

** "Less than" values expressed as Critical Level (Lc), unless otherwise noted.

*** Reported as sample LLD.

TABLE B-7
CONCENTRATIONS OF GAMMA EMITTERS IN QUARTERLY COMPOSITES
OF AIR PARTICULATE SAMPLES - 2004**
(RESULTS IN UNITS OF 1 0-3 pCi/m3 ± 1 SIGMA)

2ND QUARTER 2005

ISOTOPE	MIN. REQ. CL*	ALGONQUIN STA-4	NYU TOWER STA-5	CROTON PT STA-27	U3TRNBLDG STA-94	MET TOWER STA-95
Be-7		77.88±14.17	102.6±12.99	111.7±13.43	107.8±15.57	76.22±11.2
K-40		<9.82	<4.64	51.25±10.46	<9.37	<5.27
Mn-54		<0.83	<0.71	<0.7	<0.48	<0.35
Co-58		<1.96	<0.71	<0.49	<0.86	<1.1
Fe-59		<4.19	<2.53	<2.3	<3.44	<2.44
Co-60		<1.13	<0.43	<0.99	<0.79	<0.53
Zn-65		<1.91	<1.75	<1.42	<1.70	<1.48
Zr-95		<2.43	<0.89	<2.13	<1.50	<0.87
Nb-95		<1.51	<0.73	<1.15	<1.23	<1.43
Ru-103		<9.88	<0.81	<0.87	<1.56	<0.79
Ru-106		<5.21	<3.91	<4.6	<7.39	<3.14
I-131		<8.5	<2.81	<6.94	<6.98	<6.15
Cs-134	(25.0)*	<0.74	<0.95	<0.7	<0.78	<0.51
Cs-137	(30.0)*	<0.98	<0.52	<0.52	<0.69	<0.29
BaLa-140		<9.82	<5.02	<5.37	<8.83	<4.49
Ce-141		<1.26	<0.97	<1.43	<1.35	<0.85
TiCe-144		<2.86	<1.68	<2.91	<1.35	<1.81
Ra-226		<9.97	<7.02	<12.58	<10.02	<5.31
AcTh-228		<2.37	<0.0139	<1.28	<2.26	<1.17

BOLD PRINT INDICATES REPORTED LLD VALUES

* Indicates naturally occurring.

** "Less than" values expressed as Critical Level (Lc), unless otherwise noted.

*** Reported as sample LLD.

TABLE B-7
CONCENTRATIONS OF GAMMA EMITTERS IN QUARTERLY COMPOSITES
OF AIR PARTICULATE SAMPLES - 2004**
(RESULTS IN UNITS OF 1 0-3 pCi/m³ ± 1 SIGMA)

2ND QUARTER 2005

ISOTOPE	MIN. REQ. CL*	LOVETT STA-22	ROSETON STA-23	GRASSY PT STA-29	PEEKSKILL STA-44
Be-7		111.8±12.77	101.6±16.52	118±10.78	89.49±12.25
K-40		<5.96	<8.56	<3.72	<5.77
Mn-54		<0.48	<0.51	<0.42	<0.7
Co-58		<0.56	<1.22	<0.6	<1.21
Fe-59		<1.85	<3.67	<1.6	<4.63
Co-60		<0.56	<0.84	<0.42	<0.58
Zn-65		<1.14	<2.36	<1.04	<1.01
Zr-95		<0.91	<1.5	<1.06	<1.81
Nb-95		<1.2	<1.32	<0.72	<1.77
Ru-103		<0.7	<1.49	<0.56	<0.87
Ru-106		<3.68	<4.54	<4.26	<6.51
I-131		<3.97	<11.47	<4.39	<4.97
Cs-134	(25.0)*	<0.69	<0.64	<0.51	<0.61
Cs-137	(30.0)*	<0.42	<0.43	<0.18	<0.52
BaLa-140		<4.34	<9.49	<4.52	<5.25
Ce-141		<1.28	<1.03	<0.83	<1.39
TiCe-144		<2.18	<1.30	<1.09	<2.73
Ra-226		<7.63	<6.14	<3.42	<8.89
AcTh-228		<1.78	<2.92	<0.82	<1.49

BOLD PRINT INDICATES REPORTED LLD VALUES

* Indicates naturally occurring.

** "Less than" values expressed as Critical Level (Lc), unless otherwise noted.

*** Reported as sample LLD.

TABLE B-7
CONCENTRATIONS OF GAMMA EMITTERS IN QUARTERLY COMPOSITES
OF AIR PARTICULATE SAMPLES - 2004**
(RESULTS IN UNITS OF 1 0-3 pCi/m³ ± 1 SIGMA)

QTR. /YEAR 3rd 2005

ISOTOPE	MIN. REQ. CL*	ALGONQUIN STA-4	NYU TOWER STA-5	CROTON PT STA-27	U3TRNBLDG STA-94	MET TOWER STA-95
Be-7		125.2±11.7	112.9±13.16	107.5±9.71	98±9.85	115.8±12.2
K-40		<5.07	<6.62	<3.34	30.47±7.54	36.06±8.5
Mn-54		<0.24	<0.43	<0.28	<0.71	<0.69
Co-58		<0.91	<0.97	<0.49	<0.8	<0.49
Fe-59		<2.17	<3.64	<1.86	<3.67	<2.47
Co-60		<0.62	<1.12	<0.4	<0.65	<0.54
Zn-65		<1.6	<1.57	<1.29	<1.29	<1.00
Zr-95		<1.13	<1	<1.13	<0.92	<0.78
Nb-95		<1.22	<0.87	<0.85	<0.75	<0.64
Ru-103		<1.03	<1.11	<0.86	<0.98	<0.79
Ru-106		<5.53	<6.09	<3.74	<5.53	<5.89
I-131		<5.9	<5.34	<3.44	<4.22	<5.86
Cs-134	(25.0)*	<0.6	<0.35	<0.64	<0.57	<0.7
Cs-137	(30.0)*	<0.37	<0.62	<0.3	<0.34	<0.49
BaLa-140		<3.2	<5.44	<3.83	<3.19	<4.85
Ce-141		<1.25	<0.83	<0.69	<1.04	<1.06
TiCe-144		<2.12	<2.05	<1.33	<1.97	<2.25
Ra-226		<7.5	<4.12	<4.81	<7.82	<9.71
AcTh-228		<2.03	<2.39	<0.74	<2.07	<2.55

BOLD PRINT INDICATES REPORTED LLD VALUES

* Indicates naturally occurring.

** "Less than" values expressed as Critical Level (Lc), unless otherwise noted.

*** Reported as sample LLD.

TABLE B-7
CONCENTRATIONS OF GAMMA EMITTERS IN QUARTERLY COMPOSITES
OF AIR PARTICULATE SAMPLES - 2004**
(RESULTS IN UNITS OF 1 0-3 pCi/m3 ± 1 SIGMA)

QTR. /YEAR 3rd 2005

ISOTOPE	MIN. REQ. CL*	LOVETT STA-22	ROSETON STA-23	GRASSY PT STA-29	PEEKSKILL STA-44
Be-7		82.15±8.66	113.3±10.92	101.1±10.63	103.3±9.86
K-40		< 3.05	<5.9	<5.65	<3.1
Mn-54		<0.31	<0.52	<0.34	<0.35
Co-58		<0.34	<0.81	<0.34	<0.5
Fe-59		<1.97	<2.55	<1.83	<1.35
Co-60		<0.24	<0.34	<0.68	<0.5
Zn-65		<1.49	<1.36	<1.1	<1.02
Zr-95		<0.73	<1.07	< 0.75	<0.47
Nb-95		<1.04	<0.96	<0.82	<0.78
Ru-103		<0.69	<0.47	<0.61	<0.88
Ru-106		<2.39	<3.03	<3.03	<4.67
I-131		<3.95	<5.79	<4.96	<4.95
Cs-134	(25.0)*	<0.58	<0.77	<0.43	<0.68
Cs-137	(30.0)*	<0.31	<0.28	<0.31	<0.4
BaLa-140		<4.89	<4.49	<5.65	<2.88
Ce-141		<0.93	<1.13	<0.63	<1.06
TiCe-144		<1.37	<2.34	<1.05	<1.47
Ra-226		<4.96	<7.33	<4.8	<6.16
AcTh-228		<1.16	<0.86	<1.37	<1.68

BOLD PRINT INDICATES REPORTED LLD VALUES

* Indicates naturally occurring.

** "Less than" values expressed as Critical Level (Lc), unless otherwise noted.

*** Reported as sample LLD.

TABLE B-7
CONCENTRATIONS OF GAMMA EMITTERS IN QUARTERLY COMPOSITES
OF AIR PARTICULATE SAMPLES - 2004**
(RESULTS IN UNITS OF 10⁻³ pCi/m³ ± 1 SIGMA)

REPORTING UNITS IN: pCi/m³(x10⁻³)

4TH QTR 2005

ISOTOPE	MIN. REQ. CL*	ALGONQUIN STA-4	NYU TOWER STA-5	CROTON PT STA-27	U3TRNBLDG STA-94	MET TOWER STA-95
Be-7		85.46±13.12	55.5±10.25	68.25±10.23	53.49±9.52	60.47±8.54
K-40		<6.91	<5.95	<7.03	<5.01	<4.57
Mn-54		<0.48	<0.33	<0.49	<0.62	<0.28
Co-58		<1.19	<0.82	<1	<0.58	<0.52
Fe-59		<4.31	<2.83	<3.14	<3.13	<2.65
Co-60		<0.74	<0.83	<0.57	<0.46	<0.39
Zn-65		<1.40	<2.08	<0.82	<1.31	<1.13
Zr-95		<1.11	<1.72	<1.15	<0.90	<0.65
Nb-95		<1.3	<0.83	<0.84	<1.2	<0.68
Ru-103		<0.98	<1.04	<0.58	<0.50	<0.58
Ru-106		<5.18	<7.4	<5.84	<6.21	<5.17
I-131		<5	<8.01	<4.7	<5.3	<5.4
Cs-134	(25.0)*	<0.39	<0.46	<0.49	<0.55	<0.62
Cs-137	(30.0)*	<0.59	<0.53	<0.34	<0.52	<0.24
BaLa-140		<7.15	<4.87	<5.47	<4.81	<4.35
Ce-141		<1.33	<1.43	<1.21	<0.98	<1.13
TiCe-144		<2.37	<2.13	<1.77	<1.66	<1.57
Ra-226		<6	<7.46	<9.21	<4.52	<5.39
AcTh-228		<1.88	<2.27	<1.8	<1.15	<2.28

BOLD PRINT INDICATES REPORTED LLD VALUES

* Indicates naturally occurring.

** "Less than" values expressed as Critical Level (Lc), unless otherwise noted.

*** Reported as sample LLD.

TABLE B-7
CONCENTRATIONS OF GAMMA EMITTERS IN QUARTERLY COMPOSITES
OF AIR PARTICULATE SAMPLES - 2004**
(RESULTS IN UNITS OF 1 0-3 pCi/m³ ± 1 SIGMA)

4TH QTR 2005

ISOTOPE	MIN. REQ. CL*	LOVETT STA-22	ROSETON STA-23	GRASSY PT STA-29	PEEKSKILL STA-44
Be-7		67.64±9.41	55.16±11.82	59.09±6.52	55.6±9.7
K-40		31.63±7.53	<10.1	<2.36	<5.74
Mn-54		<0.65	<0.49	<0.3	<0.4
Co-58		<0.8	<1.23	<0.31	<0.57
Fe-59		<2.55	<3.65	<1.2	<2.24
Co-60		<0.85	<0.77	<0.31	<0.47
Zn-65		<1.17	<2.77	<0.83	<1.42
Zr-95		<0.63	<1.62	<0.64	<1.15
Nb-95		<0.91	<1.34	<0.53	<0.59
Ru-103		<0.88	<0.82	<0.58	<0.82
Ru-106		<5.51	<8.46	<4.02	<6.92
I-131		<4.91	<4.84	<2.77	<5.58
Cs-134	(25.0)*	<0.52	<0.71	<0.34	<0.75
Cs-137	(30.0)*	<0.39	<0.5	<0.35	<0.34
BaLa-140		<3.7	<8.15	<3.07	<4.35
Ce-141		<1.36	<1.11	<0.6	<0.99
TiCe-144		<2.24	<2.34	<1.49	<1.98
Ra-226		<6.43	<6.21	<4.85	<4.72
AcTh-228		<2.2	<2.58	<1.6	<2.08

BOLD PRINT INDICATES REPORTED LLD VALUES

- * Indicates naturally occurring.
- ** "Less than" values expressed as Critical Level (Lc), unless otherwise noted.
- *** Reported as sample LLD.

TABLE B-8
I-131 ACTIVITY IN CHARCOAL CARTRIDGE SAMPLES - 2005*

(pCi/m3 ± 1 sigma)

Week #	End Date	4	5	94	95	23	22	27	29	44
1	1/4/2005	< 0.016	< 0.022	< 0.011	< 0.022	< 0.019	< 0.021	< 0.017	< 0.017	< 0.022
2	1/11/2005	< 0.02	< 0.017	< 0.02	< 0.028	< 0.021	< 0.019	< 0.023	< 0.015	< 0.016
3	1/18/2005	< 0.021	< 0.011	< 0.022	< 0.021	< 0.016	< 0.015	< 0.013	< 0.013	< 0.02
4	1/26/2005	< 0.016	< 0.022	< 0.022	< 0.017	< 0.023	< 0.041	< 0.022	< 0.017	< 0.031
5	2/1/2005	< 0.018	< 0.022	< 0.023	< 0.018	< 0.02	< 0.014	< 0.016	< 0.015	< 0.018
6	2/8/2005	< 0.018	< 0.023	< 0.024	< 0.024	< 0.029	< 0.02	< 0.022	< 0.017	< 0.028
7	2/15/2005	< 0.022	< 0.031	< 0.014	< 0.023	< 0.022	< 0.021	< 0.024	< 0.027	< 0.035
8	2/22/2005	< 0.022	< 0.019	< 0.02	< 0.021	< 0.021	< 0.014	< 0.018	< 0.014	< 0.023
9	2/28/2005	< 0.026	< 0.021	< 0.024	< 0.025	< 0.022	< 0.021	< 0.025	< 0.017	< 0.025
10	3/8/2005	< 0.035	< 0.021	< 0.018	< 0.014	< 0.026	< 0.019	< 0.015	< 0.023	< 0.024
11	3/14/2005	< 0.026	< 0.023	< 0.028	< 0.021	< 0.022	< 0.013	< 0.02	< 0.029	< 0.021
12	3/22/2005	< 0.03	< 0.036	< 0.037	< 0.032	< 0.029	< 0.037	< 0.018	< 0.006	< 0.032
13	3/29/2005	< 0.048	< 0.023	< 0.016	< 0.038	< 0.038	< 0.035	< 0.032	< 0.026	< 0.032
14	4/5/2005	< 0.04	< 0.009	< 0.026	< 0.029	< 0.029	< 0.021	< 0.03	< 0.019	< 0.027
15	4/12/2005	< 0.041	< 0.021	< 0.007	< 0.022	< 0.034	< 0.017	< 0.035	< 0.023	< 0.024
16	4/19/2005	< 0.034	< 0.026	< 0.035	< 0.027	< 0.026	< 0.026	< 0.022	< 0.022	< 0.024
17	4/26/2005	< 0.029	< 0.018	< 0.026	< 0.018	< 0.026	< 0.017	< 0.014	< 0.012	< 0.024
18	5/3/2005	< 0.023	< 0.021	< 0.012	< 0.032	< 0.023	< 0.025	< 0.038	< 0.014	< 0.019
19	5/10/2005	< 0.025	< 0.024	< 0.027	< 0.022	< 0.01	< 0.022	< 0.026	< 0.019	< 0.034
20	5/17/2005	< 0.033	< 0.032	< 0.028	< 0.021	< 0.008	< 0.011	< 0.026	< 0.013	< 0.024
21	5/24/2005	< 0.029	< 0.023	< 0.024	< 0.021	< 0.045	< 0.02	< 0.028	< 0.022	< 0.028
22	5/31/2005	< 0.029	< 0.032	< 0.008	< 0.024	< 0.029	< 0.022	< 0.029	< 0.015	< 0.028
23	6/6/2005	< 0.022	< 0.025	< 0.022	< 0.024	< 0.031	< 0.0168	< 0.0162	< 0.0127	< 0.0229
24	6/14/2005	< 0.034	< 0.029	< 0.031	< 0.034	< 0.031	< 0.021	< 0.022	< 0.025	< 0.009
25	6/21/2005	< 0.029	< 0.042	< 0.019	< 0.009	< 0.031	< 0.021	< 0.033	< 0.018	< 0.031
26	6/27/2005	< 0.036	< 0.03	< 0.035	< 0.035	< 0.025	< 0.028	< 0.01	< 0.016	< 0.036
27	7/5/2005	< 0.032	< 0.025	< 0.029	< 0.019	< 0.022	< 0.022	< 0.027	< 0.026	< 0.021
28	7/12/2005	< 0.029	< 0.032	< 0.025	< 0.026	< 0.028	< 0.031	< 0.036	< 0.021	< 0.027
29	7/19/2005	< 0.034	< 0.027	< 0.025	< 0.028	< 0.039	< 0.027	< 0.025	< 0.031	< 0.025
30	7/26/2005	< 0.017	< 0.03	< 0.006	< 0.026	< 0.03	< 0.028	< 0.043	< 0.022	< 0.031
31	8/2/2005	< 0.017	< 0.025	< 0.022	< 0.032	< 0.025	< 0.028	< 0.022	< 0.018	< 0.053
32	8/9/2005	< 0.026	< 0.024	< 0.028	< 0.019	< 0.03	< 0.02	< 0.018	< 0.024	< 0.025
33	8/16/2005	< 0.029	< 0.02	< 0.02	< 0.006	< 0.032	< 0.003	< 0.021	< 0.017	< 0.019
34	8/23/2005	< 0.028	< 0.02	< 0.021	< 0.024	< 0.022	< 0.021	< 0.025	< 0.025	< 0.018
35	8/30/2005	< 0.014	< 0.02	< 0.018	< 0.025	< 0.025	< 0.014	< 0.021	< 0.017	< 0.029
36	9/6/2005	< 0.02	< 0.016	< 0.021	< 0.018	< 0.024	< 0.013	< 0.015	< 0.014	< 0.02
37	9/13/2005	< 0.043	< 0.024	< 0.005	< 0.026	< 0.049	< 0.039	< 0.037	< 0.021	< 0.031
38	9/20/2005	< 0.034	< 0.009	< 0.027	< 0.047	< 0.034	< 0.014	< 0.022	< 0.022	< 0.024
39	9/27/2005	< 0.026	< 0.024	< 0.031	< 0.021	< 0.044	< 0.025	< 0.027	< 0.016	< 0.027
40	10/4/2005	< 0.04	< 0.025	< 0.027	< 0.042	< 0.029	< 0.018	< 0.028	< 0.018	< 0.033
41	10/11/2005	< 0.027	< 0.023	< 0.017	< 0.04	< 0.024	< 0.022	< 0.024	< 0.019	< 0.029
42	10/18/2005	< 0.024	< 0.024	< 0.024	< 0.04	< 0.027	< 0.023	< 0.031	< 0.02	< 0.039
43	10/25/2005	< 0.024	< 0.016	< 0.013	< 0.034	< 0.026	< 0.023	< 0.043	< 0.034	< 0.025
44	11/1/2005	< 0.033	< 0.023	< 0.021	< 0.043	< 0.022	< 0.015	< 0.005	< 0.022	< 0.022
45	11/8/2005	< 0.028	< 0.023	< 0.019	< 0.027	< 0.035	< 0.052	< 0.03	< 0.019	< 0.033
46	11/15/2005	< 0.03	< 0.022	< 0.008	< 0.022	< 0.03	< 0.034	< 0.024	< 0.015	< 0.027
47	11/21/2005	< 0.027	< 0.028	< 0.021	< 0.032	< 0.023	< 0.025	< 0.033	< 0.019	< 0.034
48	11/29/2005	< 0.007	< 0.023	< 0.021	< 0.012	< 0.034	< 0.023	< 0.021	< 0.026	< 0.026
49	12/5/2005	< 0.023	< 0.033	< 0.022	< 0.037	< 0.026	< 0.024	< 0.036	< 0.015	< 0.018
50	12/13/2005	< 0.025	< 0.07	< 0.019	< 0.035	< 0.047	< 0.018	< 0.018	< 0.035	< 0.024
51	12/20/2005	< 0.045	< 0.059	< 0.013	< 0.033	< 0.026	< 0.041	< 0.025	< 0.031	< 0.03
52	12/27/2005	< 0.031	< 0.034	< 0.035	< 0.04	< 0.028	< 0.02	< 0.021	< 0.016	< 0.028
53	1/4/2006	< 0.021	< 0.0446	< 0.0423	< 0.0311	< 0.0224	< 0.0217	< 0.0325	< 0.0066	< 0.03

* "Less than" values expressed as sample Critical Level (L_c) unless otherwise noted.

TABLE B-9

CONCENTRATIONS OF GAMMA EMMITERS IN HUDSON RIVER WATER SAMPLES** - 2005
(pCi/L ± 1 SIGMA)

#9 PLANT INLET (HUDSON RIVER INTAKE)

Radionuclide	January	February	March	April	May	June
Be-7*	<11.35	<11.49	<16.18	<15.47	<12.36	<13.08
K-40*	199.5±13.48	210.9±17.03	172±21.99	400±22.24	375.9±17.82	167.4±15.4
Mn-54	<1.09	<1.31	<1.56	<1.55	<1.25	<1.28
Co-58	<1.24	<1.57	<2.2	<1.72	<1.36	<1.6
Fe-59	<3.61	<4.71	<5.68	<4.88	<3.87	<4.61
Co-60	<1.09	<1.55	<2	<1.59	<1.14	<1.38
Zn-65	<2.44	<3.21	<4.17	<2.48	<1.84	<2.89
Zr-95	<2.26	<2.84	<3.83	<2.73	<2.43	<2.92
Nb-95	<1.53	<1.85	<2.06	<1.87	<1.66	<1.94
Ru-103	<1.6	<0.99	<2.47	<2.21	<1.67	<1.92
Ru-106	<9.9	<13.31	<16.06	<17.85	<13.57	<16.21
I-131	<6.35	<5.57	<6.45	<7.01	<4.81	<5.47
Cs-134	<1.02	<1.24	<1.42	<1.73	<1.31	<1.5
Cs-137	<0.95	<1.22	<1.73	<1.56	<1.28	<1.2
Ba/La-140	<3.93	<4.68	<6.53	<6.35	<3.62	<4.12
Ce-141	<2.66	<2.4	<3.14	<3.56	<2.8	<2.85
Ce-144	<7.38	<6.97	<10.1	<11	<8.41	<9.15
Ra-226*	71.56±20.36	193.8±20.99	144.5±28.04	102.3±27.89	94.14±21.15	44.03±22.35
Ac/Th-228*	<3.31	6.97±3.24	<6.78	<5.18	9.79±3.09	<4.43

#10 DISCHARGE CANAL (MIXING ZONE)

Radionuclide	January	February	March	April	May	June
Be-7*	<12.23	<6.78	<14.44	<14.87	<9.04	<11.1
K-40*	387.3±18.61	287.7±8.93	192.6±17.87	206.3±23.86	286.8±11.57	124.1±14.01
Mn-54	<1.21	<0.73	<1.45	<1.53	<0.9	<1.05
Co-58	<1.39	<0.81	<1.54	<1.98	<1.09	<1.48
Fe-59	<4.17	<2.17	<4.15	<4.99	<2.87	<3.55
Co-60	<1.34	<0.66	<1.3	<2	<0.89	<1.24
Zn-65	<1.9	<0.91	<2.82	<4.48	<1.09	<2.69
Zr-95	<2.29	<1.42	<2.62	<3.68	<1.95	<2.03
Nb-95	<1.7	<0.99	<2.02	<2.96	<1.3	<1.77
Ru-103	<1.01	<1.03	<1.98	<2.5	<1.35	<1.82
Ru-106	<12.85	<7.38	<12.42	<17.3	<9.6	<13.24
I-131	<6.96	<3.31	<6.08	<7.85	<4.11	<5.38
Cs-134	<0.88	<0.48	<1.43	<1.57	<0.61	<0.8
Cs-137	<1.25	<0.66	<1.36	<1.7	<0.91	<1.09
Ba/La-140	<5.42	<1.93	<5.22	<7.16	<2.69	<4.29
Ce-141	<3.02	<1.82	<3.24	<3.26	<2.38	<2.33
Ce-144	<8.40	<5.86	<10.4	<7.68	<7.6	<7.15
Ra-226*	85.02±22.28	86.43±12.8	75.17±27.49	188.7±27.37	74.66±15.88	122.8±19.28
Ac/Th-228*	10.16±3.36	11.62±1.85	<4.41	9.25±4.38	15.81±2.65	<4.21

* Indicates naturally occurring.

** "Less than" values expressed as Critical Level (L_c).

TABLE B-9

CONCENTRATIONS OF GAMMA EMMITERS IN HUDSON RIVER WATER SAMPLES - 2005**
(pCi/L \pm 1 SIGMA)

#9 PLANT INLET (HUDSON RIVER INTAKE)

Radionuclide	July	August	September	October	November	December
Be-7*	<12.75	<13.78	<13.74	<14.19	<14.64	<11.49
K-40*	390.6 \pm 18.6	171.2 \pm 16.08	234.1 \pm 19.65	162.7 \pm 16.18	135.7 \pm 15.56	361.5 \pm 14.63
Mn-54	<1.36	<1.34	<1.49	<1.4	<1.4	<1.14
Co-58	<1.44	<1.45	<1.55	<1.64	<1.79	<1.21
Fe-59	<4.52	<4.15	<5.42	<4.5	<4.37	<3.48
Co-60	<1.36	<1.36	<1.64	<1.49	<1.41	<1.04
Zn-65	<3.05	<3.01	<3.5	<1.82	<3.43	<2.75
Zr-95	<2.37	<2.45	<2.82	<2.52	<2.49	<2.26
Nb-95	<1.59	<1.81	<2.17	<1.82	<2.08	<1.5
Ru-103	<1.93	<2.06	<2.04	<2.04	<1.99	<1.69
Ru-106	<13.46	<14.17	<15.3	<15.54	<15.95	<10.12
I-131	<6	<5.74	<7.08	<6.14	<6.95	<5.52
Cs-134	<0.92	<1.63	<1.49	<1.66	<1.51	<0.71
Cs-137	<1.22	<1.3	<1.31	<1.49	<1.51	<0.99
Ba/La-140	<4.3	<4.37	<5.78	<4.56	<5.87	<3.95
Ce-141	<2.88	<2.88	<3.06	<3.57	<2.49	<2.65
Ce-144	<8.67	<9.21	<92.1	<11.2	<10.9	<7.68
Ra-226*	102 \pm 21.26	77.01 \pm 21.87	81.91 \pm 22.64	41.53 \pm 24.28	61.56 \pm 22.49	114.5 \pm 16.9
Ac/Th-228*	16.59 \pm 3.57	<5.1	8.31 \pm 3.78	15.65 \pm 4.23	<5.16	10.13 \pm 3.01

#10 DISCHARGE CANAL (MIXING ZONE)

Radionuclide	July	August	September	October	November	December
Be-7*	<14.6	<8.94	<14.63	<12.48	<12.43	<10.67
K-40*	252.4 \pm 20.37	122.8 \pm 11.26	230.7 \pm 18.67	197.7 \pm 17.12	105.1 \pm 14.03	149 \pm 10.99
Mn-54	<1.48	<0.95	<1.54	<1.33	<1.08	<0.97
Co-58	<1.83	<1.17	<1.36	<1.39	<1.47	<1.27
Fe-59	<5.97	<3.24	<4.8	<4.08	<4.12	<3.03
Co-60	<1.86	<1.05	<1.46	<1.34	<1.17	<0.98
Zn-65	<2.35	<2.18	<3.34	<1.88	<3.09	<2.58
Zr-95	<3.21	<2.19	<2.93	<2.66	<2.46	<1.87
Nb-95	<2.35	<1.45	<1.85	<2.04	<1.67	<1.57
Ru-103	<2.07	<1.59	<2.16	<1.98	<1.69	<1.52
Ru-106	<13.83	<10.18	<16.38	<12.26	<13.93	<10.43
I-131	<7.11	<6.41	<6.31	<5.63	<5.72	<5.13
Cs-134	<1.33	<0.89	<1.8	<1.38	<1.27	<0.77
Cs-137	<1.37	<0.82	<1.27	<1.18	<1.24	<0.98
Ba/La-140	<5.58	<3.6	<4.57	<3.59	<4.55	<3.87
Ce-141	<2.92	<2.05	<3.61	<3.17	<2.86	<2.64
Ce-144	<8.69	<5.82	<10.8	<9.38	<7.69	<7.73
Ra-226*	130.1 \pm 22.7	124 \pm 16.84	83.18 \pm 25.47	<33.15	126.6 \pm 24.65	66.94 \pm 16.1
Ac/Th-228*	10.17 \pm 4.11	<3.47	<4.49	<4.25	6.92 \pm 3.38	5.46 \pm 2.47

* Indicates naturally occurring.

** "Less than" values expressed as Critical Level (L_c).

TABLE B-10

**CONCENTRATION OF TRITIUM IN HUDSON RIVER WATER SAMPLES*- 2005
(QUARTERLY COMPOSITES)**

(pCi/L \pm 1 sigma)

#9 PLANT INLET (HUDSON RIVER INTAKE)

(Control Location)

Radionuclide	1ST Quarter	2ND Quarter	3RD Quarter	4TH Quarter
TRITIUM 2004	<413	<424	<421	<471

#10 DISCHARGE CANAL (MIXING ZONE)

Radionuclide	1ST Quarter	2ND Quarter	3RD Quarter	4TH Quarter
TRITIUM 2004	618 \pm 130	<424	<421	<471

* "Less than" values expressed as Critical Level (L_c). B-25

TABLE B-11
GROSS BETA ACTIVITY AND CONCENTRATIONS OF
GAMMA EMITTERS IN DRINKING WATER SAMPLES - 2005
INDIAN POINT SUMMARY SHEET

SAMPLE TYPE: Drinking Water REPORTING UNITS IN: pCi/L ± 1 sigma MONTH / YEAR: JANUARY 2005

ISOTOPE	MIN. REQ. CL*	CAMP FIELD RES.	NEW CROTON RES.	AMICUS RES.	5TH STREET WELL
Gross Beta	LLD = 4.0	2.452 ± 0.449	3.306 ± 0.476	6.458 ± 0.583	4.413 ± 0.505
Be-7		<28.52	<14.2	<28.33	<26.83
K-40		216.1±40.33	142.8±25.94	160.8±29.99	412.4±46.1
Mn-54	(7.5*)	<3.27	<1.87	<2.94	<3.68
Co-58	(7.5*)	<3	<2.05	<3.33	<3.84
Fe-59	(15*)	<6.3	<6.08	<7.17	<9.97
Co-60	(7.5*)	<3.43	<2.29	<2.73	<2.92
Zn-65	(15*)	<7.76	<5.35	<3.88	<6.54
Zr-95	(7.5*)	<5.46	<4.71	<5.59	<6.47
Nb-95	(7.5*)	<2.78	<2.43	<2.38	<2.47
Ru-103		<2.43	<2.86	<3.38	<3.7
Ru-106		<34.48	<24.74	<30.55	<40.39
I-131	(0.5*)	<0.19	<.183	<.212	<.262
Cs-134	(7.5*)	<3.35	<2.61	<3.63	<2.7
Cs-137	(9.0*)	<3.14	<2.11	<2.07	<4.08
Ba/La-140	(7.5*)	<2.17	<4.01	<4.1	<4.41
Ce-141		<4.38	<3.62	<6.01	<6.43
Ce-144		<19.2	<15.9	<26.5	<27.2
Ra-226		175.1±51.58	<47.48	<92.14	<78.06
Ac-228		<9.93	<8.82	<13.09	<12.05
H-3					

Results reported as < are CL values

TABLE B-11
GROSS BETA ACTIVITY AND CONCENTRATIONS OF
GAMMA EMITTERS IN DRINKING WATER SAMPLES - 2005

INDIAN POINT SUMMARY SHEET

SAMPLE TYPE: Drinking Water REPORTING UNITS IN: pCi/L ± 1 sigma

FEBRUARY 2005

ISOTOPE	MIN. REQ. CL*	CAMP FIELD RES.	NEW CROTON RES.	AMICUS RES.	5TH STREET WELL
Gross Beta	LLD = 4.0	2.71 ± 0.48	3.09 ± 0.49	2.23 ± 0.46	7.88 ± 0.63
Be-7		<26.66	<19.47	<17.29	<19.77
K-40		193±36.6	183.3±31.4	154±26.98	<25.28
Mn-54	(7.5*)	<2.75	<2.5	<2.17	<2.62
Co-58	(7.5*)	<2.98	<2.7	<2.28	<2.5
Fe-59	(15*)	<8.9	<5.46	<3.83	<6.31
Co-60	(7.5*)	<3.83	<1.66	<2.02	<3.05
Zn-65	(15*)	<8.13	<3.52	<4.39	<2.43
Zr-95	(7.5*)	<3.98	<3.76	<4.6	<4.16
Nb-95	(7.5*)	<2.66	<2.29	<2.68	<2
Ru-103		<3.1	<2.62	<2.6	<2.64
Ru-106		<27.13	<18.51	<27.08	<21.07
I-131	(0.5*)	<0.76	<0.71	<0.64	<0.77
Cs-134	(7.5*)	<3.19	<2.37	<2.48	<2.62
Cs-137	(9.0*)	<2.64	<2.06	<2.32	<2.77
Ba/La-140	(7.5*)	<2.65	<2.73	<2.04	<3.42
Ce-141		<4.98	<3.66	<3.69	<4.23
Ce-144		<16.90	<15.90	<16.80	<18.20
Ra-226		129.6±54.52	<53.83	125.8±45.72	<62.35
Ac-228		<11.64	<6.66	<10.56	<10.04
H-3					

Results reported as < are CL values

I-131 CL's not met due to sample decay time. Deviation forms on file.

TABLE B-11
GROSS BETA ACTIVITY AND CONCENTRATIONS OF
GAMMA EMITTERS IN DRINKING WATER SAMPLES - 2005
INDIAN POINT SUMMARY SHEET

SAMPLE TYPE: Drinking Water REPORTING UNITS IN: pCi/L ± 1 sigma

March-05

ISOTOPE	MIN. REQ. CL*	CAMP FIELD RES.	NEW CROTON RES.	AMICUS RES.	5TH STREET WELL
Gross Beta	LLD = 4.0	1.18 ± 0.40	2.62 ± 0.51	2.40 ± 0.49	4.69 ± 0.55
Be-7		<30.24	<22.62	<32.58	<31.04
K-40		<39.41	<39.08	414.5±56.59	260.2±41.09
Mn-54	(7.5*)	<2.69	<3.79	<3.88	<3.69
Co-58	(7.5*)	<2.82	<1.89	<4.33	<4.46
Fe-59	(15*)	<8.05	<4.37	<10.66	<9.65
Co-60	(7.5*)	<3.15	<1.64	<2.8	<3.84
Zn-65	(15*)	<8.16	<5.22	<11.17	<4.17
Zr-95	(7.5*)	<6.2	<3.24	<5.58	<6.64
Nb-95	(7.5*)	<3.25	<3.45	<4.02	<3.33
Ru-103		<3.15	<4.42	<3.99	<4.05
Ru-106		<37.08	<27.65	<37.12	<40.3
I-131	(0.5*)	<0.30	<0.30	<0.31	<0.36
Cs-134	(7.5*)	<3.92	<3.19	<2.41	<2.93
Cs-137	(9.0*)	<3.62	<1.61	<4.52	<3.46
Ba/La-140	(7.5*)	<3.05	<6.11	<6.02	<2.59
Ce-141		<5.3	<4.33	<6.17	<7.89
Ce-144		<19.10	<19.10	<28.80	<33.40
Ra-226		<76.37	105.5±60.65	<82.43	<101.7
Ac-228		<9.37	<10.54	<14.34	<12.75
H-3					

Results reported as < are CL values

TABLE B-11
GROSS BETA ACTIVITY AND CONCENTRATIONS OF
GAMMA EMITTERS IN DRINKING WATER SAMPLES - 2005
INDIAN POINT SUMMARY SHEET

SAMPLE TYPE: Drinking Water REPORTING UNITS IN: pCi/L ± 1 sigma

Apr-05

ISOTOPE	MIN. REQ. CL*	CAMP FIELD RES.	NEW CROTON RES.	AMICUS RES.	5TH STREET WELL
Gross Beta	LLD = 4.0	1.11 ± 0.50	2.51 ± 0.57	5.61 ± 0.63	5.83 ± 0.62
Be-7		<30.35	<25.7	<33.6	<34.52
K-40		311.6±41.67	<34.83	163±39.31	486.4±57.53
Mn-54	(7.5*)	<3.15	<3.53	<3.72	<4.75
Co-58	(7.5*)	<3.15	<2.98	<3.94	<4.89
Fe-59	(15*)	<8.26	<4.36	<8.62	<11.98
Co-60	(7.5*)	<3.37	<3.26	<4.27	<5.14
Zn-65	(15*)	<8.43	<5.2	<4.37	<5.95
Zr-95	(7.5*)	<4.69	<3.95	<6.2	<5.77
Nb-95	(7.5*)	<3.36	<3.67	<2.09	<3.77
Ru-103		<3.27	<3.82	<3.84	<4.82
Ru-106		<32.43	<29.78	<31.41	<39.36
I-131	(0.5*)	<0.28	<0.22	<0.22	<0.20
Cs-134	(7.5*)	<2.28	<3.73	<4.99	<3.18
Cs-137	(9.0*)	<2.5	<2.27	<4.08	<4.15
Ba/La-140	(7.5*)	<2.98	<2.48	<4.86	<5.81
Ce-141		<5.67	<5.38	<7.09	<7.3
Ce-144		<26.20	<22.00	<29.30	<33.20
Ra-226		<80.2	<76.46	<116.6	159.7±81.12
Ac-228		<9.97	<16.29	<14.87	<16.21
H-3					

Results reported as < are CL values

TABLE B-11
GROSS BETA ACTIVITY AND CONCENTRATIONS OF
GAMMA EMITTERS IN DRINKING WATER SAMPLES - 2005
INDIAN POINT SUMMARY SHEET

SAMPLE TYPE: Drinking Water REPORTING UNITS IN: pCi/L ± 1 sigma

May-05

ISOTOPE	MIN. REQ. CL*	CAMP FIELD RES.	NEW CROTON RES.	AMICUS RES.	5TH STREET WELL
Gross Beta	LLD = 4.0	2.55 ± 0.46	2.80 ± 0.44	2.49 ± 0.45	7.70 ± 0.58
Be-7		<24.62	<20.89	<24.07	<30.27
K-40		264.4±39.15	222.9±29.82	347.2±57.4	189.9±36.57
Mn-54	(7.5*)	<3.24	<2.39	<4.25	<3.16
Co-58	(7.5*)	<3.43	<2.05	<3.79	<3.58
Fe-59	(15*)	<7.04	<5.2	<7.81	<10.3
Co-60	(7.5*)	<3.2	<2.35	<4.33	<3.95
Zn-65	(15*)	<7.45	<6.59	<12.9	<3.51
Zr-95	(7.5*)	<5.58	<4.72	<5.59	<6.49
Nb-95	(7.5*)	<3.53	<2.94	<3.99	<2.45
Ru-103		<3.49	<2.43	<3.69	<3.45
Ru-106		<30.13	<28.06	<32.86	<39.01
I-131	(0.5*)	<0.28	<0.21	<0.23	<0.20
Cs-134	(7.5*)	<2.51	<3.3	<5.18	<3.49
Cs-137	(9.0*)	<2.94	<3.09	<4.88	<3.93
Ba/La-140	(7.5*)	<4.93	<3.6	<3.03	<3.71
Ce-141		<5.62	<4.77	<6.88	<6.29
Ce-144		<26.30	<20.80	<29.00	<26.60
Ra-226		132.3±54.67	193.2±51.22	<87.28	<101.1
Ac-228		<10.84	<6.94	<13.71	<11.39
H-3					

Results reported as < are CL values. Bold numbers are LLD values.

TABLE B-11
GROSS BETA ACTIVITY AND CONCENTRATIONS OF
GAMMA EMITTERS IN DRINKING WATER SAMPLES - 2005
INDIAN POINT SUMMARY SHEET

SAMPLE TYPE: Drinking Water REPORTING UNITS IN: pCi/L ± 1 sigma

Jun-05

ISOTOPE	MIN. REQ. CL*	CAMP FIELD RES.	NEW CROTON RES.	AMICUS RES.	5TH STREET WELL
Gross Beta	LLD = 4.0	2.08 ± 0.49	2.89 ± 0.51	2.37 ± 0.47	5.85 ± 0.60
Be-7		<27.67	<19.11	<23.61	<29.96
K-40		<34.85	416.9±45.92	262.7±39.8	257.7±38.23
Mn-54	(7.5*)	<4.66	<3.23	<3.46	<3.33
Co-58	(7.5*)	<3.28	<2.52	<3.17	<4.59
Fe-59	(15*)	<8.52	<8.17	<7.01	<7.46
Co-60	(7.5*)	<3.26	<2.75	<2.82	<3.52
Zn-65	(15*)	<8.51	<9.32	<5.9	<3.87
Zr-95	(7.5*)	<5.11	<5.51	<5.48	<5.57
Nb-95	(7.5*)	<3.68	<2.9	<3.91	<2.58
Ru-103		<4.07	<2.84	<3.75	<3.49
Ru-106		<29.82	<37.43	<27.87	<33.78
I-131	(0.5*)	<0.50	<0.46	<0.40	<0.45
Cs-134	(7.5*)	<3.56	<3.48	<1.99	<2.35
Cs-137	(9.0*)	<2.54	<3.39	<2.5	<3.38
Ba/La-140	(7.5*)	<4.99	<2.96	<4.9	<4.23
Ce-141		<4.83	<4.83	<6.34	<7.31
Ce-144		<20.60	<19.80	<24.00	<31.10
Ra-226		<84.06	134.4±51.28	<82.87	<95.72
Ac-228		<15.61	<10.71	<10.01	<13.41
H-3					

Results reported as < are CL values

TABLE B-11
GROSS BETA ACTIVITY AND CONCENTRATIONS OF
GAMMA EMITTERS IN DRINKING WATER SAMPLES - 2005

INDIAN POINT SUMMARY SHEET

SAMPLE TYPE: Drinking Water REPORTING UNITS IN: pCi/L ± 1 sigma

Jul-05

ISOTOPE	MIN. REQ. CL*	CAMP FIELD RES.	NEW CROTON RES.	AMICUS RES.	5TH STREET WELL
Gross Beta	LLD = 4.0	2.57 ± 0.54	2.53 ± 0.52	7.10 ± 0.65	6.99 ± 0.64
Be-7		<26.14	<20.66	<28.47	<22.63
K-40		181.9±44.43	137.3±28.96	191.3±33.97	155.3±31.99
Mn-54	(7.5*)	<3.73	<2.74	<2.98	<3.16
Co-58	(7.5*)	<1.99	<2.12	<3.04	<2.84
Fe-59	(15*)	<8.95	<6.56	<6.51	<9.02
Co-60	(7.5*)	<2.91	<2.82	<4.07	<3.28
Zn-65	(15*)	<5.63	<4.79	<4.35	<3.7
Zr-95	(7.5*)	<4.78	<5.39	<4.66	<4.58
Nb-95	(7.5*)	<1.93	<2.75	<1.84	<2.29
Ru-103		<3.61	<2.93	<3.53	<2.71
Ru-106		<37.23	<24.48	<31.18	<23.31
I-131	(0.5*)	<0.67	<0.60	<0.41	<0.36
Cs-134	(7.5*)	<2.7	<3.02	<3.55	<2.99
Cs-137	(9.0*)	<2.74	<2.87	<3.34	<3.27
Ba/La-140	(7.5*)	<3.68	<3.29	<3.01	<3.73
Ce-141		<5.45	<4.2	<5.63	<4.8
Ce-144		<20.90	<17.80	<23.40	<21.90
Ra-226		110.6±62.23	93.67±46.92	<94.11	<71.86
Ac-228		<11.14	<8.31	<11.92	<13.57
H-3					

Results reported as < are CL values

TABLE B-11
GROSS BETA ACTIVITY AND CONCENTRATIONS OF
GAMMA EMITTERS IN DRINKING WATER SAMPLES - 2005
INDIAN POINT SUMMARY SHEET

SAMPLE TYPE: Drinking Water REPORTING UNITS IN: pCi/L ± 1 sigma

Aug-05

ISOTOPE	MIN. REQ. CL*	CAMP FIELD RES.	NEW CROTON RES.	AMICUS RES.	5TH STREET WELL
Gross Beta	LLD = 4.0	2.99 ± 0.53	1.58 ± 0.47	2.42 ± 0.50	7.34 ± 0.64
Be-7		<18.02	<18.58	<17.17	<25.95
K-40		140.6±27.63	262.5±35.81	<19.58	386.9±46.51
Mn-54	(7.5*)	<2.24	<2.15	<2.32	<3.56
Co-58	(7.5*)	<2.55	<2.73	<1.34	<3.22
Fe-59	(15*)	<6.97	<3.99	<7.26	<9.04
Co-60	(7.5*)	<2.44	<2.79	<3.06	<3.88
Zn-65	(15*)	<5.05	<5.26	<4.77	<5.17
Zr-95	(7.5*)	<4.35	<5.78	<4.13	<5.9
Nb-95	(7.5*)	<2.75	<2.66	<2.16	<4.09
Ru-103		<2.54	<2.5	<2.67	<3.25
Ru-106		<26.55	<27.58	<18.75	<30.06
I-131	(0.5*)	<0.232	<0.227	<0.214	<0.205
Cs-134	(7.5*)	<1.78	<2.11	<2.39	<2.43
Cs-137	(9.0*)	<2.61	<2.93	<2.21	<4.01
Ba/La-140	(7.5*)	<3.74	<3.89	<3.52	<4.88
Ce-141		<3.71	<3.9	<3.15	<5.87
Ce-144		<1.08	<0.962	<0.872	<0.684
Ra-226		<59.75	<57.5	151±40.92	<83.73
Ac-228		<7.29	<10.24	<8.52	<11.9
H-3					

Results reported as < are CL values

TABLE B-11
GROSS BETA ACTIVITY AND CONCENTRATIONS OF
GAMMA EMITTERS IN DRINKING WATER SAMPLES - 2005
INDIAN POINT SUMMARY SHEET

SAMPLE TYPE: Drinking Water REPORTING UNITS IN: pCi/L ± 1 sigma

Sep-05

ISOTOPE	MIN. REQ. CL*	CAMP FIELD RES.	NEW CROTON RES.	AMICUS RES.	5TH STREET WELL
Gross Beta	LLD = 4.0	3.06 ± 0.45	2.40 ± 0.44	3.97 ± 0.48	Sample not available. See deviation Table B-1c
Be-7		<32.19	<19.26	<29.02	
K-40		145.1±50.42	<38.46	365±56.38	
Mn-54	(7.5*)	<3.39	<3.36	<3.74	
Co-58	(7.5*)	<3.38	<2.79	<3.61	
Fe-59	(15*)	<8.14	<6.08	<6.28	
Co-60	(7.5*)	<3.5	<1.97	<4.26	
Zn-65	(15*)	<7.83	<6.63	<9.32	
Zr-95	(7.5*)	<4.7	<5.51	<6.07	
Nb-95	(7.5*)	<4.02	<3.62	<3.24	
Ru-103		<4.04	<3.3	<3.4	
Ru-106		<30.72	<27.21	<41.75	
I-131	(0.5*)	<0.19	<0.20	<0.19	
Cs-134	(7.5*)	<4.08	<2.35	<2.27	
Cs-137	(9.0*)	<4.2	<2.5	<3.65	
Ba/La-140	(7.5*)	<3.62	<4.23	<5.4	
Ce-141		<6.25	<4.08	<5.83	
Ce-144		<23.20	<16.50	<23.90	
Ra-226		<90.05	112.8±48.97	<76.57	
Ac-228		<15.48	<6.56	<11.4	
H-3					

Results reported as < are CL values

TABLE B-11
GROSS BETA ACTIVITY AND CONCENTRATIONS OF
GAMMA EMITTERS IN DRINKING WATER SAMPLES - 2005
INDIAN POINT SUMMARY SHEET

SAMPLE TYPE: Drinking Water REPORTING UNITS IN: pCi/L ± 1 sigma

Oct-05

ISOTOPE	MIN. REQ. CL*	CAMP FIELD RES.	NEW GROTON RES.	AMICUS RES.	5TH STREET WELL
Gross Beta	LLD = 4.0	3.54 ± 0.48	2.18 ± 0.42	9.94 ± 0.66	8.78 ± 0.66
Be-7		<22.36	<22.01	<31.19	<37.63
K-40		196.7±45.27	189.7±32.09	115.8±32.55	128.9±36.69
Mn-54	(7.5*)	<3.53	<2.67	<3.72	<3.27
Co-58	(7.5*)	<4.17	<2.6	<4.11	<3.53
Fe-59	(15*)	<9.17	<6.96	<8.9	<8.03
Co-60	(7.5*)	<4.24	<2.86	<3.62	<3.45
Zn-65	(15*)	<8.06	<5.67	<5.71	<5.51
Zr-95	(7.5*)	<3.88	<4.18	<5.6	<6.6
Nb-95	(7.5*)	<4.07	<2.66	<2.54	<2.37
Ru-103		<3.55	<3.17	<3.68	<3.6
Ru-106		<34.65	<28.39	<31.84	<37.4
I-131	(0.5*)	<0.31	<0.29	<0.29	<0.31
Cs-134	(7.5*)	<4.33	<3.2	<2.37	<2.97
Cs-137	(9.0*)	<3.24	<2.37	<3.78	<4.4
Ba/La-140	(7.5*)	<4.02	<2.76	<3.75	<4.07
Ce-141		<5.76	<4.57	<7.31	<6.44
Ce-144		<18.90	<16.50	<30.80	<26.00
Ra-226		<76.38	<54.17	<102.5	<89.44
Ac-228		<12.95	<9.96	<12.41	<11.94
H-3		NA	NA	NA	<431

Results reported as < are CL values

TABLE B-11
GROSS BETA ACTIVITY AND CONCENTRATIONS OF
GAMMA EMITTERS IN DRINKING WATER SAMPLES - 2005
INDIAN POINT SUMMARY SHEET

SAMPLE TYPE: Drinking Water

REPORTING UNITS IN: pCi/L ± 1 sigma

MONTH / YEAR: NOV 2005

ISOTOPE	MIN. REQ. CL*	CAMP FIELD RES.	NEW CROTON RES.	AMICUS RES.	5TH STREET WELL
Gross Beta	LLD = 4.0	2.37 ± 0.45	2.36 ± 0.44	2.97 ± 0.46	9.81 ± 0.66
Be-7		<26.18	<19.87	<19.69	<22.3
K-40		182.6±34.16	146.4±30.21	128.6±26.46	93±25.12
Mn-54	(7.5*)	<3.22	<2.19	<2.58	<2.8
Co-58	(7.5*)	<2.83	<2.28	<2.31	<2.66
Fe-59	(15*)	<6.39	<7.79	<5.89	<5.36
Co-60	(7.5*)	<2.93	<3.04	<3.35	<3.19
Zn-65	(15*)	<8.1	<4.92	<5.74	<3.24
Zr-95	(7.5*)	<3.43	<4.76	<3.69	<4.53
Nb-95	(7.5*)	<2.5	<2.42	<2.18	<1.73
Ru-103		<3.63	<3.31	<3.02	<2.83
Ru-106		<29.36	<29.65	<28.14	<27.03
I-131	(0.5*)	<0.25	<0.22	<0.24	<0.23
Cs-134	(7.5*)	<2.34	<2.42	<2.37	<1.73
Cs-137	(9.0*)	<2.96	<2.91	<3.04	<3.01
Ba/La-140	(7.5*)	<3.92	<3.08	<3.12	<4.08
Ce-141		<5.3	<4.47	<3.43	<5.64
Ce-144		<21.5	<18.3	<15.8	<23.2
Ra-226		<58.73	<63.96	147±45.26	<65.43
Ac-228		<10.89	<9.14	<9.02	<9.82
H-3		NA	NA	NA	<476

Results reported as < are CL values

TABLE B-11
GROSS BETA ACTIVITY AND CONCENTRATIONS OF
GAMMA EMITTERS IN DRINKING WATER SAMPLES - 2005
INDIAN POINT SUMMARY SHEET

SAMPLE TYPE: Drinking Water REPORTING UNITS IN: pCi/L ± 1 sigma

Dec-05

ISOTOPE	MIN. REQ. CL*	CAMP FIELD RES.	NEW CROTON RES.	AMICUS RES.	5TH STREET WELL
Gross Beta	LLD = 4.0	2.09 ± 0.51	3.25 ± 0.55	2.17 ± 0.52	8.29 ± 0.72
Be-7		<21.23	<21.47	<18.35	<26.04
K-40		153±30.32	130.9±27.35	<22.59	128.6±29.43
Mn-54	(7.5*)	<3.23	<2.09	<1.59	<2.87
Co-58	(7.5*)	<2.28	<2.57	<2.41	<2.61
Fe-59	(15*)	<5.01	<6.87	<6.61	<8.71
Co-60	(7.5*)	<3.86	<2.96	<2.99	<2.53
Zn-65	(15*)	<7.58	<7.59	<6.18	<3.55
Zr-95	(7.5*)	<3.75	<4.69	<3.85	<5.18
Nb-95	(7.5*)	<3.07	<2.84	<2.8	<2.57
Ru-103		<3.01	<2.64	<2.95	<2.94
Ru-106		<24.84	<31.19	<27.68	<30.23
I-131	(0.5*)	<0.20	<0.21	<0.26	<0.19
Cs-134	(7.5*)	<2.16	<4.3	<2.66	<2.76
Cs-137	(9.0*)	<2.67	<2.76	<3.01	<3.23
Ba/La-140	(7.5*)	<3.07	<3.94	<4.09	<2.99
Ce-141		<4.54	<4.38	<4.22	<5.51
Ce-144		<19.60	<19.00	<16.90	<22.40
Ra-226		90.8±44.14	<58.05	<58.91	<68.39
Ac-228		<9.81	<8.41	<8.98	<9.03
H-3		NA	NA	NA	NA

Results reported as < are CL values

TABLE B-12

**CONCENTRATION OF TRITIUM IN DRINKING WATER SAMPLES*- 2005
(QUARTERLY COMPOSITES)**

(pCi/L \pm 1 sigma)

CAMP FIELD RESERVOIR				
Radionuclide	1ST Quarter	2ND Quarter	3RD Quarter	4TH Quarter
TRITIUM	<421	<409	<406	<464

NEW CROTON RESERVOIR				
Radionuclide	1ST Quarter	2ND Quarter	3RD Quarter	4TH Quarter
TRITIUM	<421	<409	<406	<464

5th STREET WELL				
Radionuclide	1ST Quarter	2ND Quarter	3RD Quarter	4TH Quarter
TRITIUM	<421	<409	<409	<464

* "Less than" values expressed as Critical Level (L_c).

TABLE B-13

SHORELINE SOIL SAMPLES**-2005

(pCi/Kg ,dry \pm 1 sigma)

Jun-05

ISOTOPE	MIN. REQ. CL*	OFF VERPLANK IP-05-295	LENTS COVE IP-05-297	MANITOU INLET IP-05-298	WHITE BEACH IP-05-296	COLD SPRING IP-05-299
Be-7		<196.7	2613 \pm 508.3	<315.5	<204.1	<204.1
K-40		16110 \pm 781.7	8313 \pm 860.1	14800 \pm 863.7	10410 \pm 608.1	10410 \pm 608.1
Mn-54		<29.41	<46.07	<30.8	<18.73	<18.73
Co-58		<28.12	<57.66	<35.45	<25.84	<25.84
Fe-59		<107.3	<134.8	<76.79	<87.91	<87.91
Co-60		<35.01	<62.66	<25.85	<24.54	<24.54
Zn-65		<72.12	<103.6	<49.07	<69.98	<69.98
Zr-95		<59.27	<105.7	<57.08	<40.03	<40.03
Nb-95		<29.9	<57.7	<34.29	<24.74	<24.74
Ru-103		<25.64	<70.71	<32.41	<21.8	<21.8
Ru-106		<204.5	<680	<281	<226.8	<226.8
I-131		<62.22	<152.3	<74.22	<42.37	<42.37
Cs-134	(75*)	<30.85	<67.54	<30.27	<13.66	<13.66
Cs-137	(90*)	149.5 \pm 23.1 **	<59.53	173.5 \pm 26.1 **	<20.58	<20.58
BaLa-140		<53	<158.4	<66.2	<50.93	<50.93
Ce-141		<39.12	<98.11	<58.07	<35.84	<35.84
Ce-144		<143.00	<306.00	<176.00	<124.00	<164.00
Ra-226		1166 \pm 394.6	4374 \pm 865.3	2398 \pm 629.8	638.4 \pm 348.6	638.4 \pm 348.6
AcTh-228		513.6 \pm 94.51	994.2 \pm 232.3	679.6 \pm 128.3	<71.64	<71.64

September-05

ISOTOPE	MIN. REQ. CL*	OFF VERPLANK IP-05-569	LENTS COVE IP-05-572	MANITOU INLET IP-05-568	WHITE BEACH IP-05-571	COLD SPRING IP-05-570
Be-7		<191.1	<384.5	727.7 \pm 478.7	<122.2	<194.00
K-40		16000 \pm 725.3	12370 \pm 1183	13140 \pm 1248	9015 \pm 446.7	38700 \pm 936
Mn-54		<25.26	<30.19	<69.71	<15.19	<26.80
Co-58		<24.05	<39.63	<75.04	<16.65	<28.30
Fe-59		<77.7	<199.1	<197.2	<53.73	<94.30
Co-60		<23.76	<60.29	<68.06	<13.85	<64.60
Zn-65		<34.53	<170.2	<216.6	<44.81	<47.80
Zr-95		<38.48	<103.3	<150.2	<26.39	<49.30
Nb-95		<31.58	<49.88	<89.46	<18.31	<31.30
Ru-103		<21.71	<52.65	<95.7	<15.5	<25.00
Ru-106		<157	<428.5	<692.4	<187.2	<274.00
I-131		<37.99	<103.9	<195.6	<26.3	<43.00
Cs-134	(75*)	<22.87	<50.4	<54.55	<19.67	<27.60
Cs-137	(90*)	143.8 \pm 24.69	<34.96	<77.33	<13.85	36.3 \pm 17.4
BaLa-140		<39.45	<106.7	<219.4	<20.62	<59.80
Ce-141		<32.99	<62.03	<125.7	<27.64	<39.00
Ce-144		<127.00	<183.00	<407.00	<90.50	<145.00
Ra-226		640.1 \pm 348.4	<716.7	5381 \pm 1199	797.4 \pm 261	1180 \pm 386
AcTh-228		614 \pm 80.01	730.8 \pm 171.6	1569 \pm 274.6	<52.15	427 \pm 87.1

Results reported as < are CL values

*Posted CL's correspond to LLD's listed in TS-5.104 (Rev.5)

** Cs-137 Value represent average of two counts.

* Indicates naturally occurring.

** "Less than" values expressed as Critical Level (L_c).

*** Indicates the average of the positive sample results reported for samples with recounts performed.

TABLE B-14

CONCENTRATIONS OF GAMMA EMITTERS IN BROAD LEAF VEGETATION* - 2005**
(pCi/Kg, wet ± 1 sigma)

#23 Roseton**

May

Radionuclide	BURDOCK	Common Mullein	RAGWEED
Be-7*	584.9±143.9	438.3±131.2	534 ± 133
K-40*	7117±480.5	4705±460.6	8619±563.9
Mn-54	<17.45	<16.23	<16.32
Co-58	<12.37	<21.04	<17.12
Fe-59	<60.09	<50.63	<52.51
Co-60	<23.46	<16.61	<8.41
Zn-65	<46.87	<43.12	<51.78
Zr-95	<29.65	<22.65	<32.99
Nb-95	<18.24	<22.55	<22.15
Ru-103	<13.82	<17.18	<14.53
Ru-106	<109.1	<204.1	<203.1
I-131	<15.8	<23.71	<18.59
Cs-134	<23.09	<21.55	<22.98
Cs-137	<19.61	<17.43	<15.89
Ba/La-140	<28.85	<25.6	<19.41
Ce-141	<21.45	<22.1	<23.29
Ce-144	<78.8	<98.7	<90.6
Ra-226*	<282.9	<312.8	<300
Ac/Th-228*	<68.75	<53.12	<77.03

June

Radionuclide	RAGWEED	BURDOCK	MULLEIN
Be-7*	266.3±113.5	804.1±90.44	533.2±110.6
K-40*	8400±555.5	7868±359.2	6453±439.1
Mn-54	<15.34	<11.04	<17.85
Co-58	<13.32	<11.43	<13.89
Fe-59	<67.1	<36.54	<42.59
Co-60	<18.39	<13.26	<6.82
Zn-65	<40.62	<29.8	<40.58
Zr-95	<34.46	<18.27	<24.21
Nb-95	<20.52	<9.4	<17.97
Ru-103	<18.55	<9.52	<16.66
Ru-106	<172.8	<88.05	<185.5
I-131	<13.59	<11.98	<15.85
Cs-134	<21.23	<11.41	<19.77
Cs-137	<19.44	<10.27	<20.15
Ba/La-140	<19.34	<5.33	<12.86
Ce-141	<20.43	<12.64	<20.34
Ce-144	<77.9	<53.7	<75.4
Ra-226*	<308.5	<178.1	<314.2
Ac/Th-228*	<89.37	<35	<72.8

July

Radionuclide	RAGWEED	MULLEN	CATALPA
Be-7*	1189±157.8	747.2±89.32	506.1±81.53
K-40*	7234±521.2	4945±292.6	3744±249.6
Mn-54	<12.17	<9.23	<9.61
Co-58	<12.2	<11.18	<8.44
Fe-59	<19.45	<28.56	<21.03
Co-60	<18.44	<8.06	<6.89
Zn-65	<42.74	<26.4	<26.1
Zr-95	<33.34	<15.78	<14.9
Nb-95	<18.44	<10.6	<11.5
Ru-103	<16.79	<8.26	<8.43
Ru-106	<173.4	<76	<86.02
I-131	<18.97	<10.53	<11.13
Cs-134	<20.2	<11.77	<9.81
Cs-137	<16.17	<9.54	<8.32
Ba/La-140	<11.25	<10.79	<7.53
Ce-141	<21.24	<11.39	<11.29
Ce-144	<77.3	<53.7	<46.7
Ra-226*	<329.9	<177.9	350.1±148.6
Ac/Th-228*	<65.47	<34.08	<35.14

Aug

Radionuclide	RAGWEED	BURDOCK	CATALPA
Be-7*	937.6±61.61	679.8±53.06	605.6±37.89
K-40*	6857±204.1	5816±200.2	3182±112.1
Mn-54	<6.59	<6.1	<4.49
Co-58	<6.2	<6.5	<4.06
Fe-59	<22.29	<20.44	<13.01
Co-60	<6.81	<7.04	<4.93
Zn-65	<17.78	<21.05	<10.29
Zr-95	<12.81	<9.9	<7.52
Nb-95	<6.85	<6.32	<4.7
Ru-103	<7.17	<5.32	<3.8
Ru-106	<69.73	<44.17	<40.46
I-131	<8.16	<7.16	<5.29
Cs-134	<8.46	<4.88	<5.36
Cs-137	<6.38	<5.37	<3.58
Ba/La-140	<8.55	<8.18	<4.86
Ce-141	<8.18	<5.83	<3.72
Ce-144	<33.4	<26.1	<19.1
Ra-226*	333.5±100.7	322.7±75.45	349.7±65.13
Ac/Th-228*	62±22.8	<26.86	<16.36

* Indicates naturally occurring.

** Indicates control location.

*** "Less than" values expressed as Critical Level (L_c).

TABLE B-14

CONCENTRATIONS OF GAMMA EMITTERS IN BROAD LEAF VEGETATION* - 2005**

(pCi/Kg, wet ± 1 sigma)

#23 Roseton (continued)**

September				October			
Radionuclide	RAGWEED	MULLEN	GOLDEN ROD	Radionuclide	GOLDEN ROD	RAGWEED	MULLEN
Be-7*	979.4±125.6	283.4±71.37	789.7±147.9	Be-7*	1277±132.7	1504±171.1	391.3±94.11
K-40*	8960±447.9	7392±329.2	9684±595.8	K-40*	8046±441.1	7100±527.3	6441±389.9
Mn-54	<17.81	<10.95	<19.53	Mn-54	<13.94	<14.25	<12.18
Co-58	<15.93	<11.82	<20.39	Co-58	<11.99	<18.08	<12.65
Fe-59	<51.09	<28.78	<46.19	Fe-59	<42.22	<41.61	<34.59
Co-60	<15.44	<12.02	<20.9	Co-60	<13.98	<26.81	<11.95
Zn-65	<37.14	<27.66	<44.59	Zn-65	<43.44	<51.66	<43.72
Zr-95	<22.17	<22.32	<32.2	Zr-95	<22.05	<32.87	<24.22
Nb-95	<18.54	<11.77	<16.38	Nb-95	<12.77	<18.04	<11.96
Ru-103	<14.66	<10.55	<14.3	Ru-103	<13.91	<12.09	<10.3
Ru-106	<126.4	<114.7	<201	Ru-106	<146.3	<163.1	<133.7
I-131	<18.41	<13.07	<23.24	I-131	<16.67	<21.25	<15.64
Cs-134	<15.75	<9.9	<15.13	Cs-134	<16.94	<21.84	<9.85
Cs-137	<15.14	<8.74	<18.08	Cs-137	<15.2	<16.53	<15.2
Ba/La-140	<20.93	<16.13	<31.81	Ba/La-140	<15.2	<20.83	<15.02
Ce-141	<15.2	<12.36	<23.62	Ce-141	<20.62	<21.36	<15.55
Ce-144	<62.40	<50.80	<84.70	Ce-144	<79.6	<91.3	<62.1
Ra-226*	388.8±176.8	296±147.2	<343.1	Ra-226*	<274.7	<339	<240.4
Ac/Th-228*	<57.18	<44.99	<85.91	Ac/Th-228*	<50.19	<70.11	<52.77

* Indicates naturally occurring.

** Indicates control location.

*** "Less than" values expressed as Critical Level (L_c).

TABLE B-14

CONCENTRATIONS OF GAMMA EMITTERS IN BROAD LEAF VEGETATION* - 2005**
(pCi/Kg, wet ± 1 sigma)

#94 IPEC Training Center

May

Radionuclide	JAPANESE KNOTWEED	POKEWEED	RAGWEED
Be-7*	<67.19	886.8±113.6	526 ± 88.5
K-40*	5733±258.8	5583±348.1	9054±421.8
Mn-54	<10.1	<10.68	<11.64
Co-58	<10.81	<14.19	<11.93
Fe-59	<28.63	<37.97	<45.06
Co-60	<9.91	<13.66	<14.09
Zn-65	<22.74	<40.09	<29.81
Zr-95	<16.92	<17.06	<22.01
Nb-95	<10.85	<14.99	<12.15
Ru-103	<9.55	<8.74	<10.81
Ru-106	<103.9	<97.24	<130.9
I-131	<11.53	<13.74	<13.35
Cs-134	<7.26	<13.64	<17.28
Cs-137	<8.55	<9.84	<13.24
Ba/La-140	<11.05	<11.33	<11.89
Ce-141	<12.57	<13.85	<14.26
Ce-144	<59	<66	<70
Ra-226*	276.9±138.2	<192	<252
Ac/Th-228*	<41.02	<40.4	<50.11

June

Radionuclide	BURDOCK	GRAPE LEAVES	RAGWEED
Be-7*	805.1±103.1	<134	432.2±79.64
K-40*	6567±368.5	5389±373.4	9602±350
Mn-54	<12.73	<12.39	<13.07
Co-58	<8.31	<15.12	<10.29
Fe-59	<30.21	<34.69	<32.42
Co-60	<12.11	<12.92	<13.91
Zn-65	<37.4	<48.3	<34.14
Zr-95	<19.99	<24.42	<18.69
Nb-95	<14.34	<11.95	<10.23
Ru-103	<11.62	<14.11	<10.55
Ru-106	<128.9	<136.3	<122
I-131	<11.3	<14.44	<13.08
Cs-134	<14.79	<17.28	<7.83
Cs-137	<9.85	<11.82	<13.61
Ba/La-140	<17.41	<13.96	<11.42
Ce-141	<12.47	<17.05	<16.76
Ce-144	<48.2	<65	<68.9
Ra-226*	545.3±169.7	482.1±226.2	<222.7
Ac/Th-228*	<43.44	<53.66	<44.56

July

Radionuclide	RAGWEED	GRAPE LEAVES	MULLEN
Be-7*	280.3±124.5	278.9±75.85	534±109.1
K-40*	7706±570.8	3279±239.2	4600±334.6
Mn-54	<14.6	<8.57	<15.41
Co-58	<18.33	<9.45	<12.71
Fe-59	<70.15	<25.38	<50.04
Co-60	<24.68	<10.16	<14.75
Zn-65	<70.91	<12.03	<28.65
Zr-95	<28.9	<19.99	<24.15
Nb-95	<10.8	<13.54	<15.8
Ru-103	<16.21	<9.98	<13.96
Ru-106	<137.1	<91.42	<125.5
I-131	<16.6	<10.49	<9.43
Cs-134	<14.14	<10.03	<15.73
Cs-137	<15.86	<9.84	<14.52
Ba/La-140	<30.79	<13.58	<17.87
Ce-141	<18.61	<11.12	<16.87
Ce-144	<61	<40.9	<72.8
Ra-226*	<308.8	300.3±121.3	<260.6
Ac/Th-228*	<66.13	<36.46	<56.48

Aug

Radionuclide	RAGWEED	GRAPE LEAVES	BURDOCK
Be-7*	1087±75.54	1344±61.27	1320±74.02
K-40*	8356±245	3154±122.9	8202±250.8
Mn-54	<6.42	<4.45	<7.19
Co-58	<10.01	<4.96	<8.7
Fe-59	<26.43	<14.82	<28.82
Co-60	<9.96	<5.22	<8.92
Zn-65	<23.25	<12.13	<24.85
Zr-95	<15.25	<8.92	<13.01
Nb-95	<8.76	<6.04	<8.98
Ru-103	<8.48	<5.13	<6.23
Ru-106	<76.46	<50.87	<71.89
I-131	<11.27	<8.97	<10.76
Cs-134	<9.57	<6.78	<5.79
Cs-137	<7.79	<4.9	<6.25
Ba/La-140	<10.9	<7.2	<11.4
Ce-141	<11.44	<7.35	<7.37
Ce-144	<41.3	<26.9	<29.4
Ra-226*	<146	179±73.65	292.4±82.38
Ac/Th-228*	<28.03	<19.9	<32.56

* Indicates naturally occurring.

** Indicates control location.

*** "Less than" values expressed as Critical Level (L_c).

TABLE B-14

CONCENTRATIONS OF GAMMA EMITTERS IN BROAD LEAF VEGETATION* - 2005**
(pCi/Kg, wet ± 1 sigma)

#94 IPEC Training Center (continued)

September				October			
Radionuclide	GOLDEN ROD	RAGWEED	POKEWEED	Radionuclide	RAGWEED	GRAPE LEAVES	POKEWEED
Be-7*	1147±134	1463±152	247.8±64.54	Be-7*	1489±172.5	969.6±127.3	<106.3
K-40*	6686±407.4	5813±392.8	4734±280.7	K-40*	7786±487.5	3873±344.3	6275±494.3
Mn-54	<12.49	<14.01	<8.55	Mn-54	<17.59	<13	<13.17
Co-58	<17.08	<15.71	<10.1	Co-58	<17.41	<14.06	<16.28
Fe-59	<38.03	<36.5	<19.42	Fe-59	<65.24	<41.45	<50.84
Co-60	<18.05	<16.57	<12.49	Co-60	<21.84	<16.19	<14.58
Zn-65	<39.55	<52.64	<33.64	Zn-65	<62.51	<38.57	<60.2
Zr-95	<21.32	<29.29	<11.27	Zr-95	<37.68	<18.04	<35.24
Nb-95	<15	<20.98	<7.35	Nb-95	<22.09	<11.4	<15.64
Ru-103	<12.38	<15.36	<8.15	Ru-103	<17.96	<13.59	<13.9
Ru-106	<163.1	<156.2	<77.67	Ru-106	<155.4	<151	<140.4
I-131	<15.14	<18.56	<9.04	I-131	<18.55	<10.29	<12.82
Cs-134	<16.55	<20.64	<6.47	Cs-134	<23.09	<19.3	<11.44
Cs-137	<16.48	<16.14	<7.91	Cs-137	<16.56	<14.18	<16.53
Ba/La-140	<16.89	<23.27	<13.65	Ba/La-140	<21.08	<13.67	<23.59
Ce-141	<19.16	<19.72	<9.23	Ce-141	<25.14	<15.47	<17.57
Ce-144	<85.20	<82.50	<33.40	Ce-144	<88.1	<85	<67
Ra-226*	<330.2	<317.7	<134.6	Ra-226*	<314.7	<276.8	<244.9
Ac/Th-228*	<44.19	<45.87	<36.16	Ac/Th-228*	<79.94	<47.88	<55.84

* Indicates naturally occurring.

** Indicates control location.

*** "Less than" values expressed as Critical Level (L_c).

TABLE B-14

CONCENTRATIONS OF GAMMA EMITTERS IN BROAD LEAF VEGETATION* - 2005**

(pCi/Kg, wet ± 1 sigma)

#95 Meteorological Tower

May

Radionuclide	CROWN VETCH	RAGWEED	BITTER SWEET
Be-7*	<111.4	318.5±74.71	344 ± 178
K-40*	4064±438.6	6831±335.1	5556±317.1
Mn-54	<13.99	<10.29	<10.52
Co-58	<9.48	<9.78	<11.13
Fe-59	<46.86	<30.83	<32.54
Co-60	<19.31	<10.27	<11.64
Zn-65	<45.76	<26.45	<36.24
Zr-95	<25.28	<14.59	<21.02
Nb-95	<17.07	<10.52	<9.4
Ru-103	<11.86	<7.99	<8.88
Ru-106	<193.4	<77.87	<100.3
I-131	<14.52	<10.16	<9.88
Cs-134	<12.25	<11.03	<7.85
Cs-137	<12.23	<9.37	<11.72
Ba/La-140	<20.15	<9.12	<16.78
Ce-141	<13.75	<9.5	<14.36
Ce-144	<64.2	<45	<61.7
Ra-226*	<236	<174.6	344.1±178.3
Ac/Th-228*	<41.91	<37.3	<43.25

June

Radionuclide	RAGWEED	BITTER SWEET	GRAPE LEAVES
Be-7*	354.3±116.1	277.4±84.05	242.4±90.25
K-40*	7670±525.4	4424±325.9	4013±308.3
Mn-54	<18.72	<9.15	<13.69
Co-58	<17.14	<12.9	<13.27
Fe-59	<66.03	<30.87	<34
Co-60	<23.66	<16.25	<13.53
Zn-65	<42.58	<33.26	<32.79
Zr-95	<31.54	<17.9	<25.88
Nb-95	<14.97	<16.54	<12.78
Ru-103	<15.78	<9.17	<11.81
Ru-106	<145.2	<115.1	<124
I-131	<15.37	<14.15	<15.71
Cs-134	<20.35	<13.49	<15.55
Cs-137	<13.19	<10.32	<12.55
Ba/La-140	<17.63	<15.35	<12.12
Ce-141	<19.87	<15.7	<15.66
Ce-144	<82.1	<71.5	<64.6
Ra-226*	<278.7	<230.4	338.4±178.1
Ac/Th-228*	<49.46	<50.46	<40.55

July

Radionuclide	RAGWEED	BITTER SWEET	GRAPE LEAVES
Be-7*	344.1±115.5	<100.2	<167.3
K-40*	7572±501.9	4734±350.5	5074±495.9
Mn-54	<19.21	<13.25	<18.35
Co-58	<17.13	<15.63	<15.43
Fe-59	<66.22	<44.68	<48.9
Co-60	<19.46	<10.53	<25.81
Zn-65	<48.1	<28.91	<36.71
Zr-95	<24.35	<20.08	<23.36
Nb-95	<12.98	<16.68	<25.8
Ru-103	<16.12	<14.23	<18.47
Ru-106	<194.3	<142.3	<193.9
I-131	<18.43	<14.83	<18.67
Cs-134	<13.5	<15.6	<21.92
Cs-137	<13.9	<12.6	<17.62
Ba/La-140	<13.14	<20.32	<23.49
Ce-141	<20.62	<14.5	<23.79
Ce-144	<87.9	<68.4	<79.6
Ra-226*	<323.5	<220.2	<321.1
Ac/Th-228*	<71.99	<45.55	<78.18

Aug

Radionuclide	RAGWEED	COMMON MULLEIN	GRAPE LEAVES
Be-7*	832.3±67.02	1306±83.37	282.6±43.47
K-40*	5613±198.6	9779±278.6	3397±146.5
Mn-54	<7.75	<9.68	<4.78
Co-58	<8.23	<9.87	<4.57
Fe-59	<23.86	<29.38	<19.05
Co-60	<8.3	<11.49	<4.8
Zn-65	<18.8	<21.82	<13.65
Zr-95	<13.62	<17.67	<8.27
Nb-95	<8.64	<9.88	<6.71
Ru-103	<6.28	<8.41	<5.57
Ru-106	<70.23	<77.58	<43.76
I-131	<11.13	<12.85	<8.46
Cs-134	<8.74	<10.48	<5.94
Cs-137	<6.74	<8.54	<4.63
Ba/La-140	<11.54	<12.51	<8.17
Ce-141	<10.13	<9.78	<7.54
Ce-144	<39.4	<36.8	<28.2
Ra-226*	263.5±102.8	779.5±117.2	215.8±70.61
Ac/Th-228*	<24.46	<36.34	<21.7

* Indicates naturally occurring.

** Indicates control location.

*** "Less than" values expressed as Critical Level (L_c).

TABLE B-14

CONCENTRATIONS OF GAMMA EMITTERS IN BROAD LEAF VEGETATION* - 2005**

(pCi/Kg, wet ± 1 sigma)

#95 Meteorological Tower (continued)

Sept			
Radionuclide	GRAPE LEAVES	GOLDEN ROD	RAGWEED
Be-7*	454.2±106.8	516.8±111.5	1244±146.2
K-40*	4451±380.6	6472±408.9	8363±480.9
Mn-54	<15.08	<17.21	<19.26
Co-58	<15.69	<15.02	<20.87
Fe-59	<48.17	<37.31	<43.13
Co-60	<13.81	<19.15	<11.58
Zn-65	<37.3	<41.85	<49.84
Zr-95	<27.64	<27.43	<28.43
Nb-95	<10.72	<13.4	<15.93
Ru-103	<13.29	<16.23	<15.72
Ru-106	<133.4	<157.6	<189.5
I-131	<11.52	<21.59	<18.6
Cs-134	<14.91	<23.24	<15.38
Cs-137	<14.73	<15.95	<17.92
Ba/La-140	<21.93	<23.11	<22.69
Ce-141	<18.36	<19.23	<21.82
Ce-144	<76.20	<82.90	<102.00
Ra-226*	<287.2	<288.5	529.1±286.8
Ac/Th-228*	<58.12	<62.7	<83.35

October			
Radionuclide	RAGWEED	GRAPE LEAVES	BITTER SWEET
Be-7*	1216±156.2	489.5±113.1	492.8±125.6
K-40*	9400±567.5	3810±351.1	3127±374.2
Mn-54	<17.13	<16.64	<25.35
Co-58	<18.31	<14.26	<23.43
Fe-59	<57.86	<51.01	<49.33
Co-60	<14.58	<19.39	<23.18
Zn-65	<39.99	<27.05	<27.22
Zr-95	<31.69	<24.19	<30.63
Nb-95	<16.82	<18.94	<24.49
Ru-103	<16.49	<14.23	<14.53
Ru-106	<195.1	<153.5	<177.8
I-131	<14.28	<15.98	<17.8
Cs-134	<7.8	<24.67	<25.77
Cs-137	<17.83	<14.41	<18.83
Ba/La-140	<17.28	<11.17	<21.51
Ce-141	<20.31	<21.34	<24.05
Ce-144	<87.7	<99.8	<111
Ra-226*	573.2±252.7	<319	<387.9
Ac/Th-228*	<60.63	<60.35	<74.15

* Indicates naturally occurring.

** Indicates control location.

*** "Less than" values expressed as Critical Level (L_c).

2005 TABLE B-15
CONCENTRATIONS OF GAMMA EMITTERS IN FISH AND INVERTEBRATE SAMPLES
 (pCi/Kg, wet ± 1 sigma)

#23 Roeston (control)				
Radionuclide	CAT FISH	STRIPED BASS	WHITE PERCH	
Be-7	<212.8	<249.6	<240.1	
K-40	4825±550.4	5672±417.3	4448±449.3	
Mn-54	<24.22	<21.5	<20.59	
Co-58	<10.06	<29.67	<25.57	
Fe-59	<76.39	<103	<77.5	
Co-60	<19.1	<22.82	<23.1	
Zn-65	<72.21	<48.55	<31.15	
Zr-95	<57.26	<50.92	<41.82	
Nb-95	<33.18	<37.28	<25.24	
Ru-103	<26.81	<33.72	<26.39	
Ru-106	<268.2	<181.8	<174.9	
I-131	<90.23	<423.6	<74.65	
Cs-134	<27.97	<20.58	<22.62	
Cs-137	<27.77	<16.72	<19.58	
Ba/La-140	<60.64	<189.6	<37.21	
Ce-141	<45.13	<46.57	<35.58	
Ce-144	<120	<116	<133	
Ra-226	<428.2	<340.1	<455.7	
Ac-228	<93.91	<71.44	<72.36	
DATE	15-Jun-05	24-May-05	15-Jun-05	

Radionuclide	CAT FISH	WHITE PERCH	AMER. EEL	BLUE CRAB
Be-7	<281	<173.2	<206.8	<202.4
K-40	4724±470.8	3666±298.6	3428±303	3025±411.4
Mn-54	<22.17	<16.45	<14.55	<19.86
Co-58	<27.61	<16.06	<23.58	<29.04
Fe-59	<92.64	<46.01	<67.94	<64.14
Co-60	<23.15	<15.41	<13.4	<24.23
Zn-65	<62.46	<34.63	<36.04	<67.2
Zr-95	<53.18	<26.79	<32.46	<65.63
Nb-95	<36.21	<21.94	<33.25	<49.88
Ru-103	<40.57	<22.16	<28.06	<38.45
Ru-106	<219.3	<146.9	<190.3	<210.6
I-131	<479.5	<155.5	<379.5	<427.4
Cs-134	<19.33	<13.02	<14.09	<19.49
Cs-137	<16.72	<18.18	<14.56	<13.66
Ba/La-140	<167.9	<55.31	<127.9	<201.5
Ce-141	<55.89	<33.85	<38.8	<36.99
Ce-144	<117	<79.6	<84.5	<82.2
Ra-226	645.5±321	<248.9	466.8±194.1	786.1±264.1
Ac-228	<101.9	<37.92	<68.96	<50.88
DATE	2-Aug-05	12-Aug-05	2-Aug-05	2-Aug-05

* Indicates naturally occurring.

2005 TABLE B-15
CONCENTRATIONS OF GAMMA EMITTERS IN FISH AND INVERTEBRATE SAMPLES
 (pCi/Kg, wet ± 1 sigma)

#25 Downstream (Hudson River)				
(indicator)				
Radionuclide	CAT FISH	AMER. EEL	WHITE PERCH	
Be-7	<204.1	<170.4	<147.4	
K-40	3851±520.1	5303±473.8	3624±370.9	
Mn-54	<22.52	<28.01	<22.6	
Co-58	<21.95	<28.89	<19.32	
Fe-59	<101.5	<64.12	<56.01	
Co-60	<25.78	<24.93	<13.32	
Zn-65	<47.87	<70.44	<40.87	
Zr-95	<46.11	<40.83	<31.15	
Nb-95	<26.72	<24.81	<27.7	
Ru-103	<25.14	<24.54	<20.1	
Ru-106	<295.1	<180.3	<227.4	
I-131	<61.32	<63.8	<50.86	
Cs-134	<23.87	<24.7	<19.5	
Cs-137	<30.62	<32.08	<20.66	
Ba/La-140	<51.6	<54.54	<30.21	
Ce-141	<34.8	<32.37	<28.33	
Ce-144	<123	<114	<88.3	
Ra-226	<422.3	<422.2	808±281.7	
Ac-228	<59.72	<61.8	<76.08	
DATE	16-Jun-05	17-Jun-05	17-Jun-05	

Radionuclide	CAT FISH	WHITE PERCH	BLUE CRAB	AMER. EEL
Be-7	<136	<200.3	<195.7	<206.7
K-40	3397±273.6	6130±404.2	5005±467.1	3917±371.6
Mn-54	<11.98	<20.86	<19.66	<20.4
Co-58	<22.92	<25.79	<30.99	<22.98
Fe-59	<65.66	<86.85	<65.85	<63.58
Co-60	<13.31	<20.79	<29.79	<19.88
Zn-65	<33	<25.67	<56.69	<48.82
Zr-95	<29.88	<40.14	<52.15	<38.43
Nb-95	<21.04	<33.11	<28.61	<29.53
Ru-103	<21.54	<28.89	<35.68	<28.07
Ru-106	<161.9	<226.6	<276.3	<250.2
I-131	<242.5	<330	<222.2	<138.3
Cs-134	<15.24	<21.32	<16.46	<19.84
Cs-137	<15.65	<15.96	<20.84	<19.05
Ba/La-140	<119.2	<94.55	<186.6	<71.64
Ce-141	<32	<45.77	<53.36	<38.66
Ce-144	<40.6	<87.8	<117	<103
Ra-226	399.5±186.3	500.2±244.1	435.5±280.9	710.8±319.1
Ac-228	<42.62	<83.5	<93.48	<62.65
DATE	4-Aug-05	4-Aug-05	11-Aug-05	17-Aug-05

* Indicates naturally occurring.

TABLE B-16

ANNUAL SUMMARY, NON-RECS SAMPLE RESULTS 2005

SAMPLE MEDIUM (UNITS)	NUCLIDE DETECTED	LLD	INDICATOR LOCATIONS					CONTROL LOCATIONS					HISTORICAL AVG VALUE*	
			AVG. OF POSITIVE SAMPLES	HIGHEST POSITIVE SAMPLE	LOWEST POSITIVE SAMPLE	NO. OF POSITIVE SAMPLES	TOTAL NO. OF SAMPLES	AVG. OF POSITIVE SAMPLES	HIGHEST POSITIVE SAMPLE	LOWEST POSITIVE SAMPLE	NO. OF POSITIVE SAMPLES	TOTAL NO. OF SAMPLES	INDICATOR	CONTROL
AQUATIC VEGETATION (pCi/kg - WET)	Co-60	NONE	<Lc	<Lc	<Lc	0	5	<Lc	<Lc	<Lc	<Lc	5	22.8	<Lc
	I-131	100	<Lc	<Lc	<Lc	0	5	<Lc	<Lc	<Lc	<Lc	5	92	24.2
	Cs-134	100	<Lc	<Lc	<Lc	0	5	<Lc	<Lc	<Lc	<Lc	5	<Lc	<Lc
	Cs-137	100	17	17	17	1	5	<Lc	<Lc	<Lc	<Lc	5	27.7	72.7
BOTTOM SEDIMENT (pCi/kg - DRY)	Co-60	NONE	<Lc	<Lc	<Lc	0	6	<Lc	<Lc	<Lc	<Lc	2	82	<Lc
	Cs-134	150	<Lc	<Lc	<Lc	0	6	<Lc	<Lc	<Lc	<Lc	2	48.4	44.7
	Cs-137	180	426	737	278	6	6	<Lc	<Lc	<Lc	<Lc	2	489.4	107.9
SOIL (pCi/kg - DRY)	Co-60	NONE	<Lc	<Lc	<Lc	0	2	<Lc	<Lc	<Lc	<Lc	1	<Lc	<Lc
	Cs-134	150	<Lc	<Lc	<Lc	0	2	<Lc	<Lc	<Lc	<Lc	1	<Lc	<Lc
	Cs-137	180	15	15	15	1	2	<Lc	<Lc	<Lc	<Lc	1	129	86.6
PRECIPITATION (pCi/L)	H-3	2000	<Lc	<Lc	<Lc	0	3	<Lc	<Lc	<Lc	0	3	261	411
	Co-60	15	<Lc	<Lc	<Lc	0	4	<Lc	<Lc	<Lc	0	4	<Lc	<Lc
	Cs-134	15	<Lc	<Lc	<Lc	0	4	<Lc	<Lc	<Lc	0	4	<Lc	<Lc
	Cs-137	18	<Lc	<Lc	<Lc	0	4	<Lc	<Lc	<Lc	0	4	<Lc	<Lc
SPECIAL WATER (pCi/L)	H-3	2000	<Lc	<Lc	<Lc	0	15	NA	NA	NA	NA	NA	213	NA
	Co-60	15	<Lc	<Lc	<Lc	0	37	NA	NA	NA	NA	NA	<Lc	<Lc
	Cs-134	15	<Lc	<Lc	<Lc	0	37	NA	NA	NA	NA	NA	<Lc	<Lc
	Cs-137	18	<Lc	<Lc	<Lc	0	37	NA	NA	NA	NA	NA	<Lc	<Lc
	Sr-90	NONE	<Lc	<Lc	<Lc	0	4	NA	NA	NA	NA	NA	NA	NA

* Average of positive values for 1995 - 2004
 ** Detected at control location 1999, AND 2001.

NA - Data not available.
 Lc - Critical Level, which is less than the required Lower Limit of Detection (LLD), unless otherwise noted.

**TABLE B-17
MILCH ANIMAL CENSUS
2004**

**THERE ARE NO ANIMALS PRODUCING MILK FOR HUMAN
CONSUMPTION WITHIN FIVE MILES OF INDIAN POINT.**

TABLE B-18

Table B-18 Land Use Census 2005

A comprehensive survey of the of the 5 mile (8 kilometer) area surrounding the Indian Point Site was conducted during the 2005 Spring, Summer and Fall months in accordance with the Indian ODCM

Methodology:

Visual inspections were made of the 5-mile area around the Indian Point Site during routine sample collections and emergency plan equipment inspections in the area throughout the year.

Obtained information from the New York Agricultural Statistic Service on milching animals within the 5-mile area surrounding Indian Point Energy Center.

An extensive land survey was conducted of the 5-mile area in an attempt to identify new residential areas, commercial developments and to identify milch animals in pasture. Previous locations were visited and verified by dispatching Nuclear Environmental Technicians to the various locations.

Note: This was done while performing quarterly environmental badge change out and field inspections through out the 4 surrounding counties.

- Orange County was surveyed during through the summer and fall.
- Rockland County was surveyed during summer and fall.
- Putnam County was surveyed during the and summer and fall.
- Westchester County was surveyed during the summer and summer and fall.

Note: An aerial survey was not conducted of the 5-mile area this year.

Results:

The 2005 land use census indicated there were new residences that were closer in proximity to IPEC. NEM performed a complete nearest residence survey with updated distances. The new survey information is being updated in the ODCM. and is attached to this document.
No milch animals were observed during this reporting period within the 5-mile zone or listed in the New York Anricultural Statistic Service

TABLE B-18

**INDIAN POINT ENERGY CENTER
UNRESTRICTED AREA BOUNDARY
AND NEAREST RESIDENCES 2005**

sector	Compass Point	Distance to site Boundary from Unit 2 Plant Vent (In meters)	Distance to site Boundary from Unit 3 Plant Vent (In meters)	Distance to nearest resident, from Unit 1 superheater in meters	Address of nearest resident, Dec 2004 Census
1	N	RIVER	RIVER	1788.1	41 River Road Tomkins Cove
2	NNE	RIVER	RIVER	3111.3	Chateau Rive Apts. John St. Peekskill
3	NE	550	636	1907.3	122 Lower South St. Peekskill
4	ENE	600	775	1478.2	1018 Lower South St. Peekskill
5	E	662	785	1370.9	1103 Lower South St. Peekskill
6	ESE	569	622	715.2	461 Broadway Buchanan
7	SE	553	564	1168.2	223 First St. Buchanan
8	SSE	569	551	1239.7	5 Pheasant's Run Buchanan
9	S	700	566	1132.5	320 Broadway Verplanck
10	SSW	755	480	1573.5	240 Eleventh St. Verplanck
11	SW	544	350	3015.9	29 Church St. Tomkins Cove
12	WSW	RIVER	RIVER	2169.6	9 West Shore Dr. Tomkins Cove
13	W	RIVER	RIVER	1918.7	712 Rt. 9W Tomkins Cove
14	WNW	RIVER	RIVER	1752.4	770 Rt. 9W Tomkins Cove
15	NW	RIVER	RIVER	1692.7	807 Rt. 9W Tomkins Cove
16	NNW	RIVER	RIVER	1609.3	4 River Rd. Tomkins Cove

APPENDIX C

HISTORICAL TRENDS

APPENDIX C

The past ten years of historical data for various radionuclides and media are presented both in tabular form and in graphical form to facilitate the comparison of 2005 data with historical values. Although other samples were taken and analyzed, values were only tabulated and plotted where positive indications were present.

Averaging only the positive values in these tables can result in a biased high value, especially, when the radionuclide is detected in only one or two quarters for the year. This bias can be seen in Table and Figure C-6 where the values reflected for 2004 are from a single sample of broadleaf vegetation that indicated Cs-137. Also in Table and Figure C-7 where the values reflected for the historical average are based upon the one positive sample of Cs-137 in fish and invertebrates in 1995.

TABLE C-1**DIRECT RADIATION ANNUAL SUMMARY
1995 - 2005**

Average Quarterly Dose (mR/Quarter)			
Year	Inner Ring	Outer Ring	Control Location
1995	15.0	15.0	17.0
1996	14.0	14.0	16.0
1997	15.0	15.0	18.0
1998	14.0	15.0	16.0
1999	15.0	15.0	16.0
2000	14.0	15.0	16.0
2001	15.0	15.0	17.0
2002	15.0	15.0	14.0
2003	14.3	13.9	14.7
2004	13.0	13.0	14.0
2005	14.1	14.1	15.9
Historical Average 1995-2004	14.4	14.6	15.9

FIGURE C-1
DIRECT RADIATION
1995 to 2005

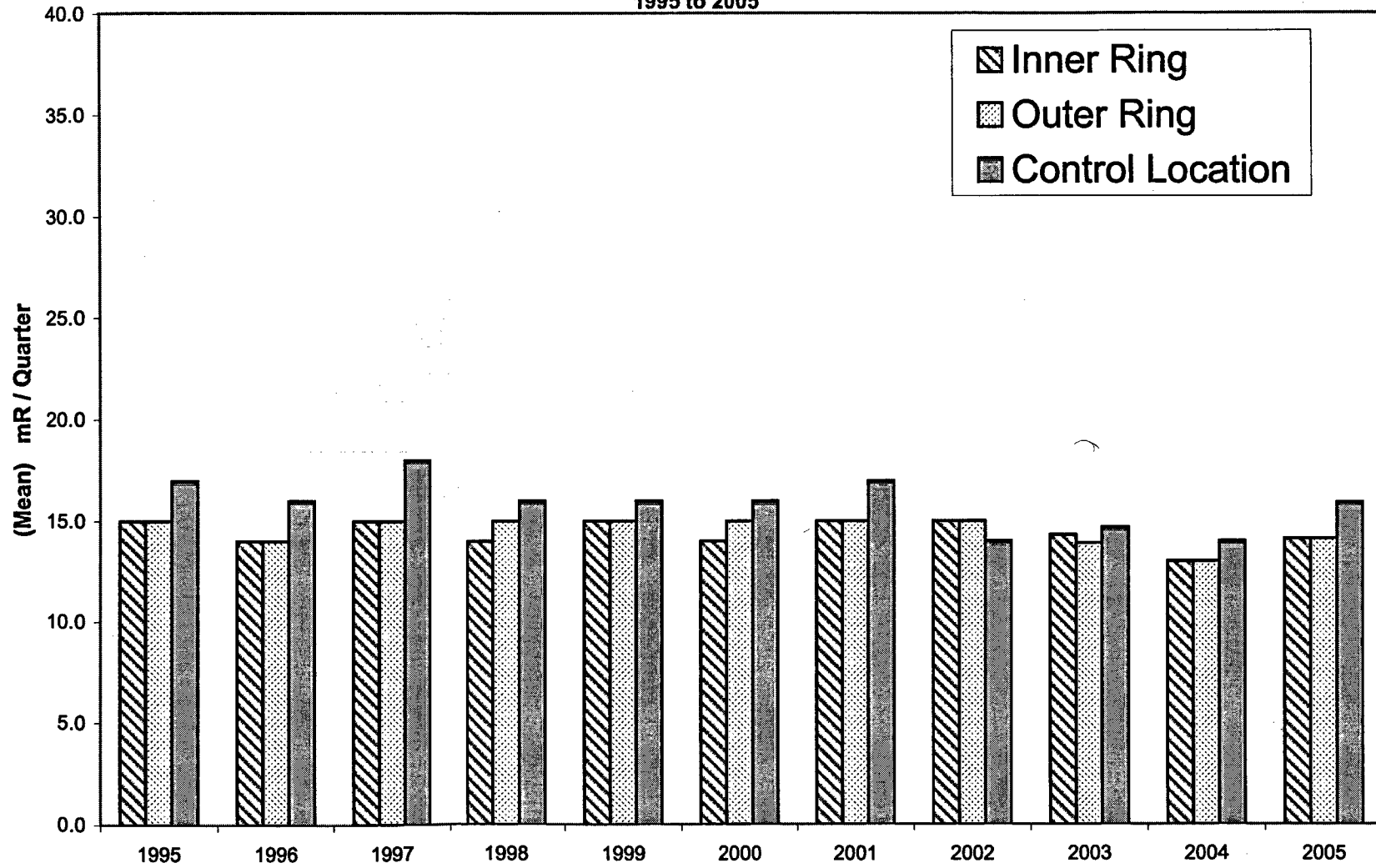


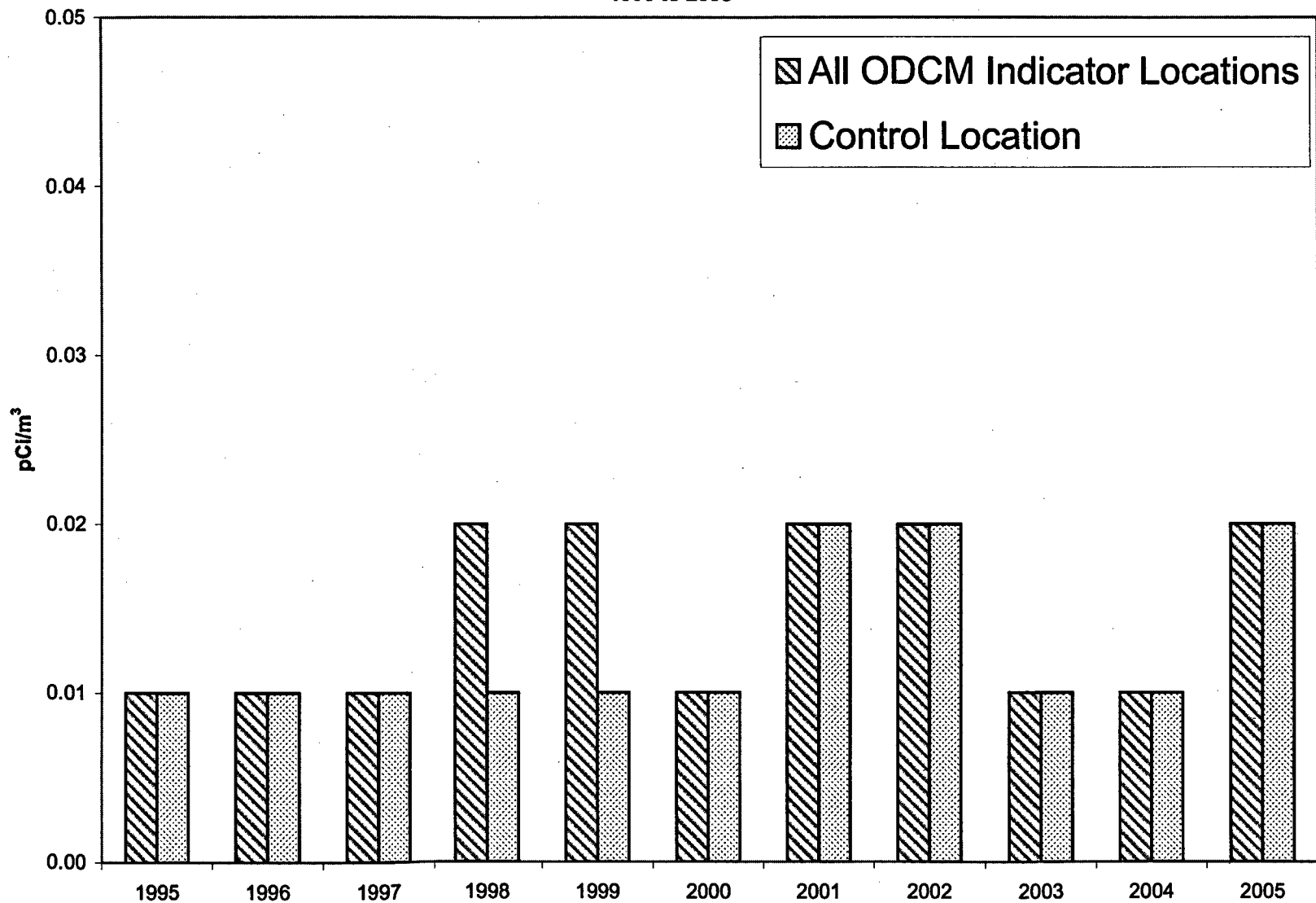
TABLE C-2

**RADIONUCLIDES IN AIR
1995 - 2005
(pCi/m³)**

Year	Gross Beta		Cs-137	
	All ODCM Indicator Locations	Control Location	All ODCM Indicator Locations	Control Location
1995	0.01	0.01	< L _c	< L _c
1996	0.01	0.01	< L _c	< L _c
1997	0.01	0.01	< L _c	< L _c
1998	0.02	0.01	< L _c	< L _c
1999	0.02	0.01	< L _c	< L _c
2000	0.01	0.01	< L _c	< L _c
2001	0.02	0.02	< L _c	< L _c
2002	0.02	0.02	< L _c	< L _c
2003	0.01	0.01	< L _c	< L _c
2004	0.01	0.01	< L _c	< L _c
2005	0.02	0.02	< L_c	< L_c
Historical Average 1995-2004	0.01	0.01	< L _c	< L _c

Critical Level (L_c) is less than the ODCM required LLD.
<L_c indicates no positive values above sample critical level.

FIGURE C-2
RADIONUCLIDES IN AIR - GROSS BETA
1995 to 2005



* Includes ODCM and non-ODCM indicator locations.

Gross Beta ODCM required LLD = 0.01 pCi/m³

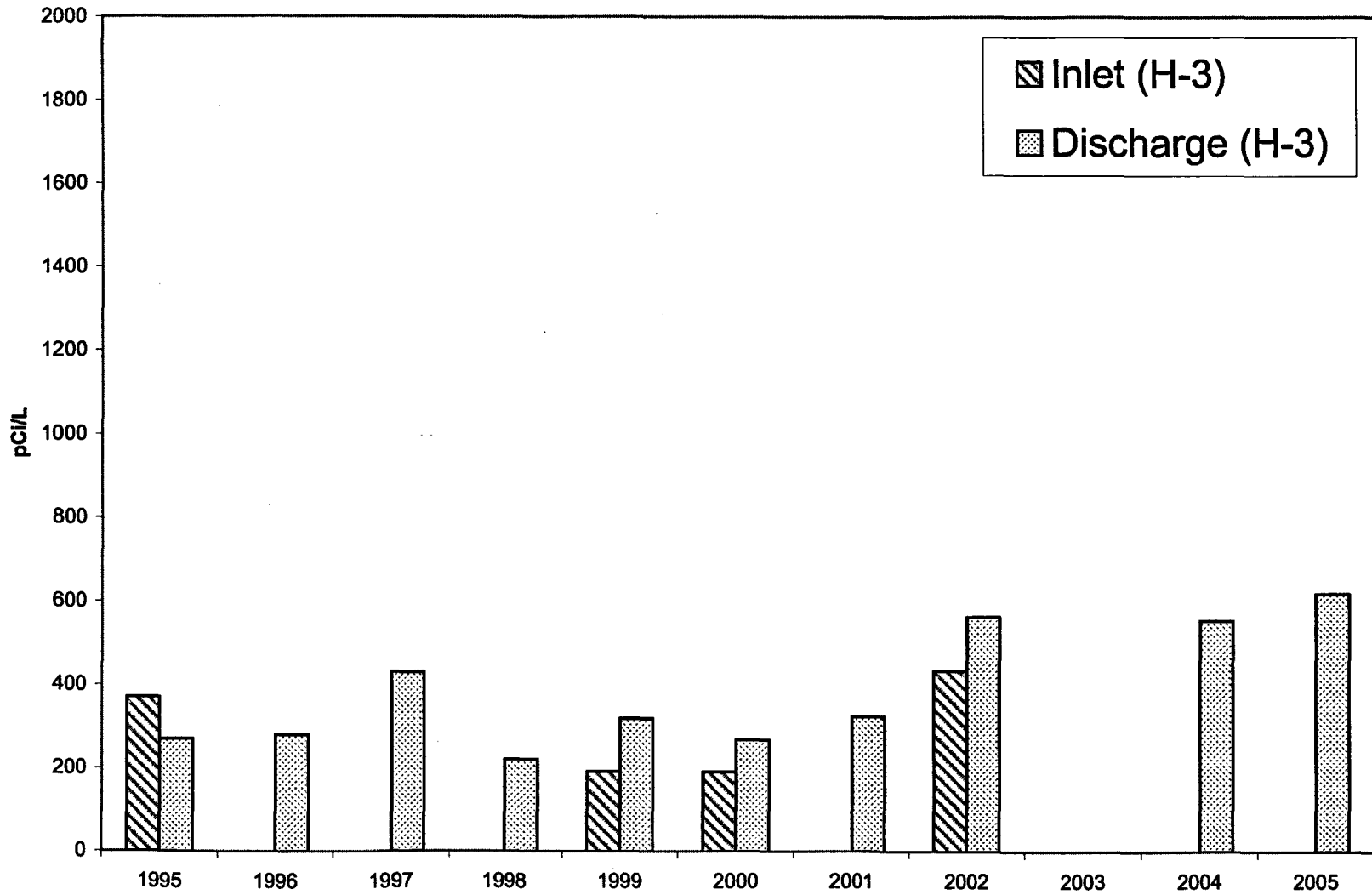
TABLE C-3

**RADIONUCLIDES IN HUDSON RIVER WATER
1995 - 2005
(pCi/L)**

Year	Tritium (H-3)		Cs-137	
	Inlet	Discharge	Inlet	Discharge
1995	370	270	< L _c	< L _c
1996	< L _c	280	< L _c	< L _c
1997	< L _c	430	< L _c	< L _c
1998	< L _c	220	< L _c	< L _c
1999	191	318	< L _c	< L _c
2000	190	267	< L _c	< L _c
2001	< L _c	323	< L _c	< L _c
2002	432	562	< L _c	< L _c
2003	< L _c	< L _c	< L _c	< L _c
2004	< L _c	553	< L _c	< L _c
2005	< L_c	618	< L_c	< L_c
Historical Average 1995-2004	296	358	< L_c	< L_c

Critical Level (L_c) is less than the ODCM required LLD.
<L_c indicates no positive values above sample critical level.

**FIGURE C-3
HUDSON RIVER WATER - TRITIUM
1995 to 2005**



Tritium ODCM required LLD = 3000 pCi/L

TABLE C-4

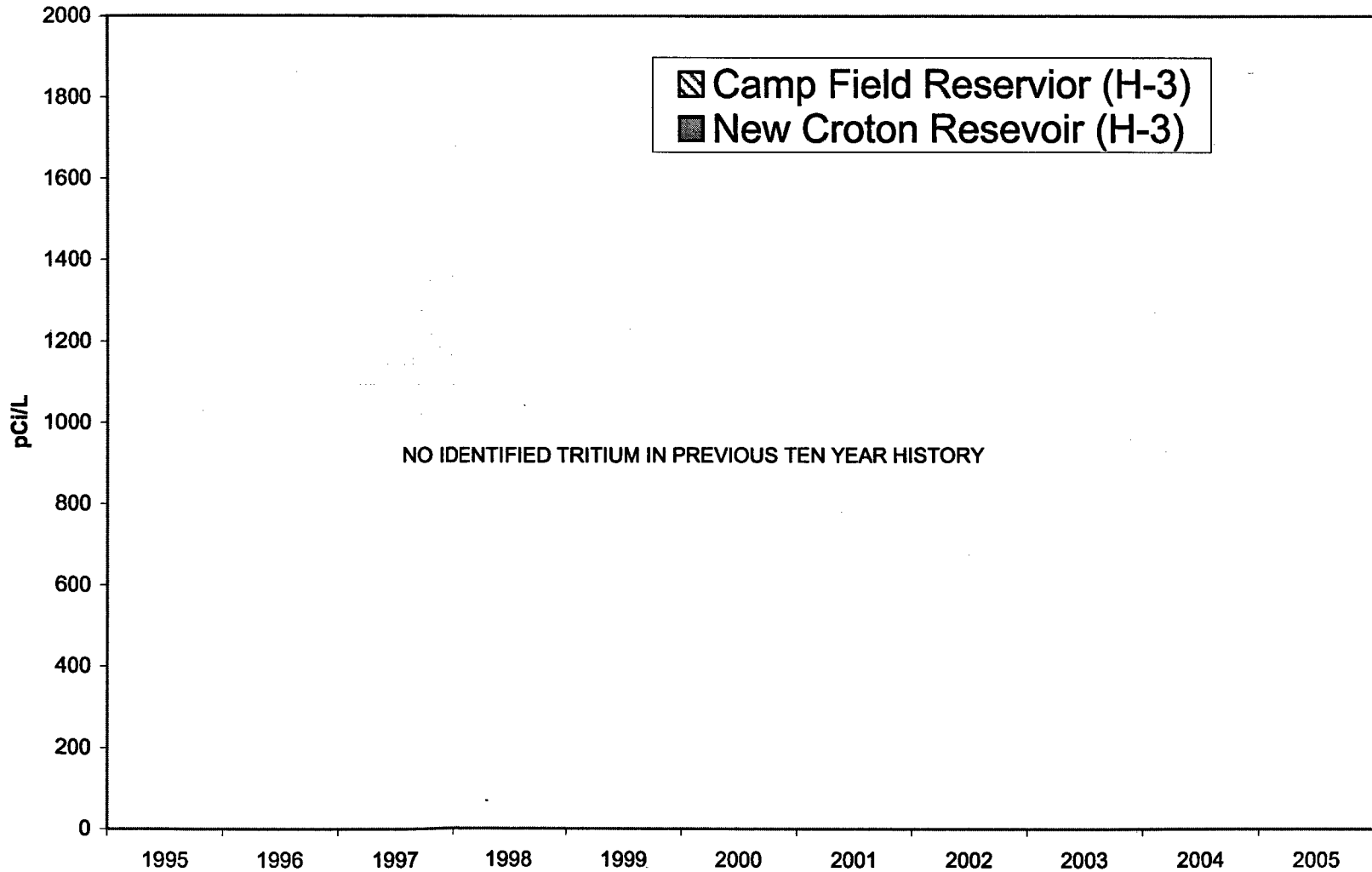
**RADIONUCLIDES IN DRINKING WATER
1995 - 2005
(pCi/L)**

Year	Tritium (H-3)	Cs-137
1995	< L _c	< L _c
1996	< L _c	< L _c
1997	< L _c	< L _c
1998	< L _c	< L _c
1999	< L _c	< L _c
2000	< L _c	< L _c
2001	< L _c	< L _c
2002	< L _c	< L _c
2003	< L _c	< L _c
2004	< L _c	< L _c
2005	< L _c	< L _c
Historical Average 1995-2004	< L _c	< L _c

Critical Level (L_c) is less than the ODCM required LLD.

<L_c indicates no positive values above sample critical level.

**FIGURE C-4
DRINKING WATER - TRITIUM
1995 to 2005**



Tritium ODCM required LLD = 2000 pCi/L

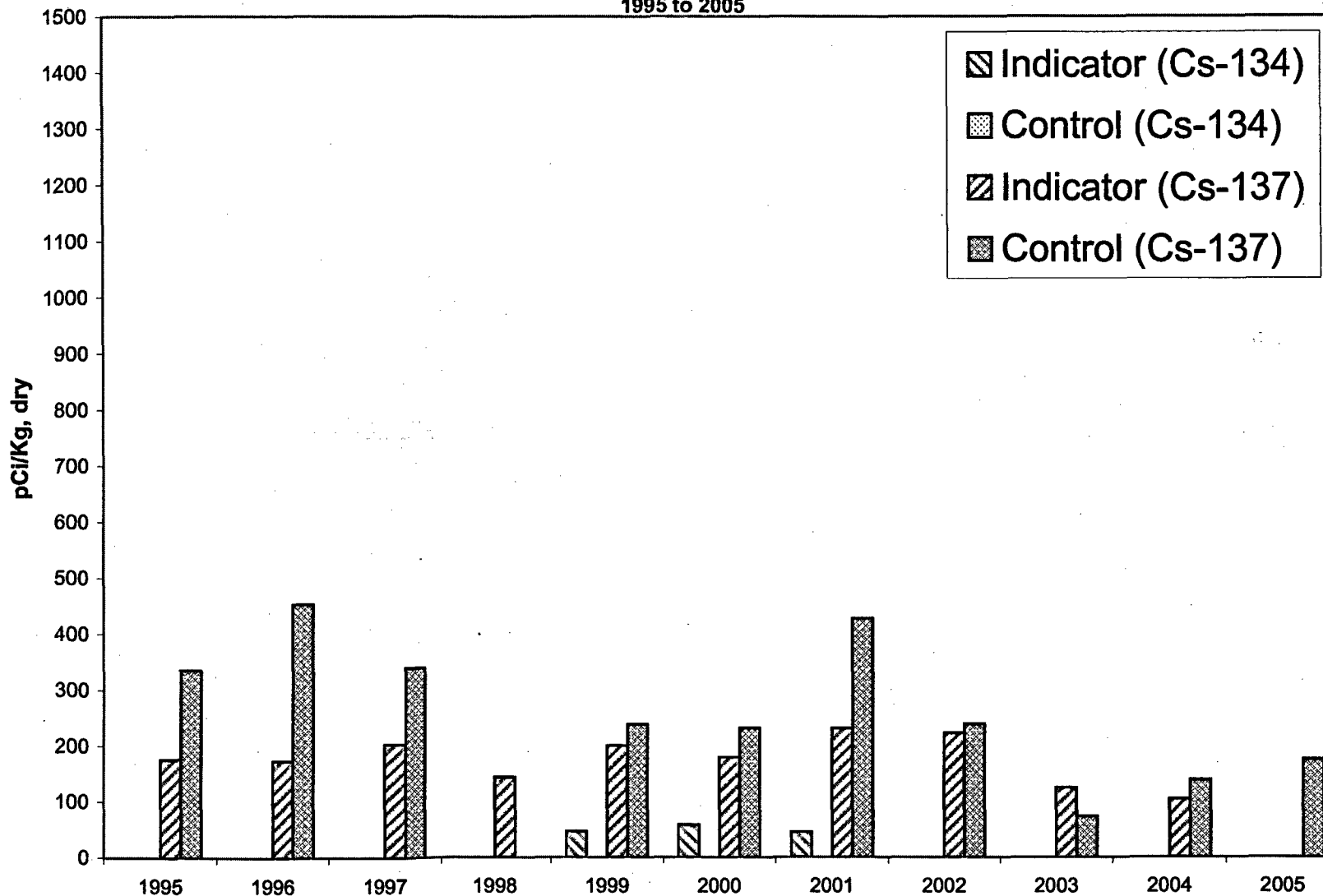
TABLE C-5

**RADIONUCLIDES IN SHORELINE SOIL
1995 - 2005
(pCi/Kg, dry)**

Year	Cs-134		Cs-137	
	Indicator	Control	Indicator	Control
1995	< L _c	< L _c	176	335
1996	< L _c	< L _c	173	453
1997	< L _c	< L _c	203	340
1998	< L _c	< L _c	143	< L _c
1999	46	< L _c	200	238
2000	58	< L _c	179	231
2001	45	< L _c	230	427
2002	< L _c	< L _c	221	238
2003	< L _c	< L _c	124	73
2004	< L _c	< L _c	104	138
2005	< L_c	< L_c	< L_c	174
Historical Average 1995-2004	50	< L_c	175	275

Critical Level (L_c) is less than the RETS required LLD.
<L_c indicates no positive values above sample critical level.

**FIGURE C-5
RADIONUCLIDES IN SHORELINE SOIL
1995 to 2005**



Cs-134 ODCM required LLD = 150 pCi/Kg, dry
Cs-137 ODCM required LLD = 175 pCi/Kg, dry

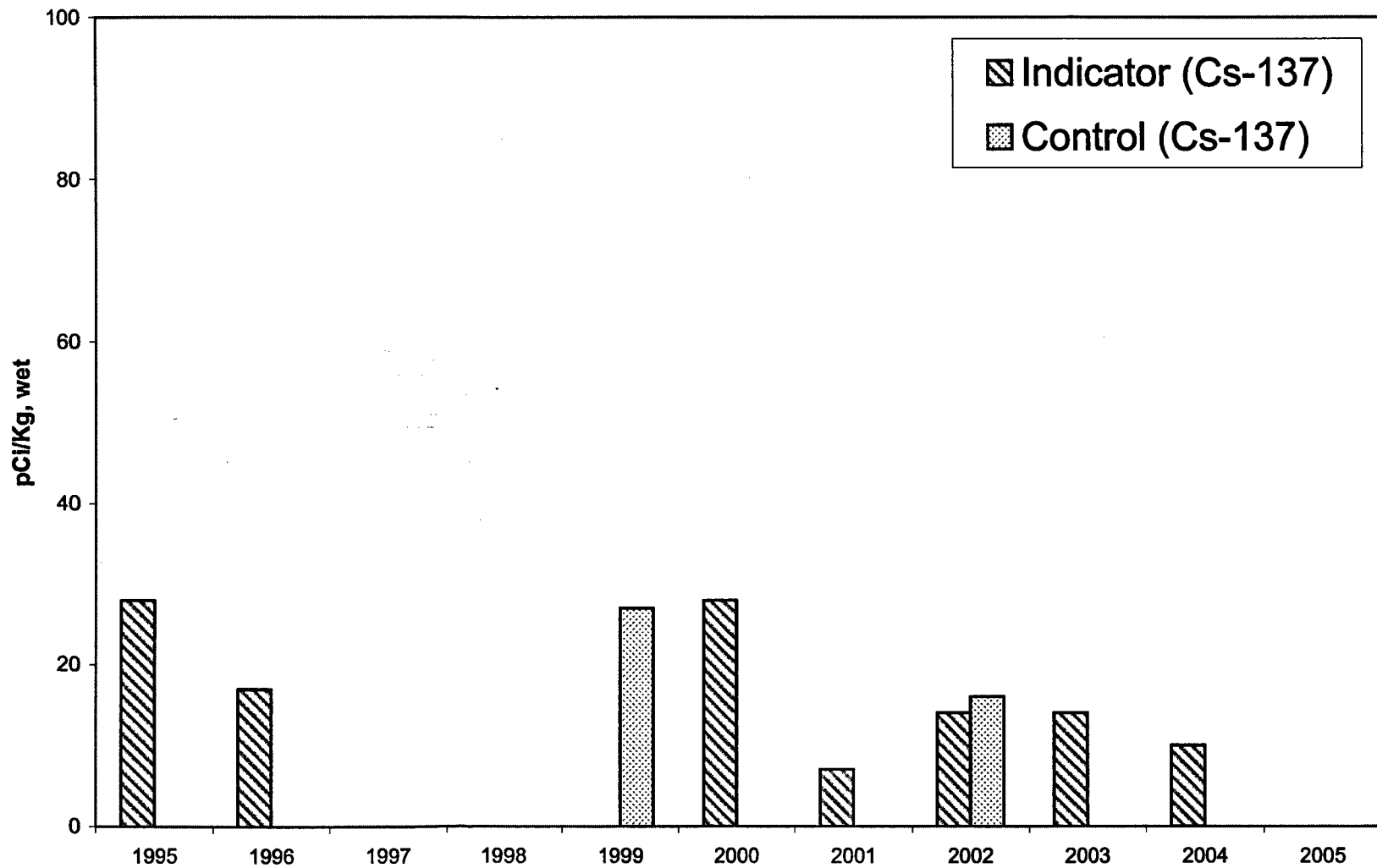
TABLE C-6

**RADIONUCLIDES IN BROAD LEAF VEGETATION
1995 - 2005
(pCi/Kg, wet)**

Cs-137		
Year	Indicator	Control
1995	28	< L _c
1996	17	< L _c
1997	< L _c	< L _c
1998	< L _c	< L _c
1999	< L _c	27
2000	28	< L _c
2001	7	< L _c
2002	14	16
2003	14	< L _c
2004	10	< L _c
2005	< L_c	< L_c
Historical Average 1995-2004	17	22

Critical Level (L_c) is less than the ODCM required LLD.
<L_c indicates no positive values above sample critical level.

**FIGURE C-6
BROAD LEAF VEGETATION - Cs-137
1995 to 2005**



ODCM required LLD = 80 pCi/Kg, wet

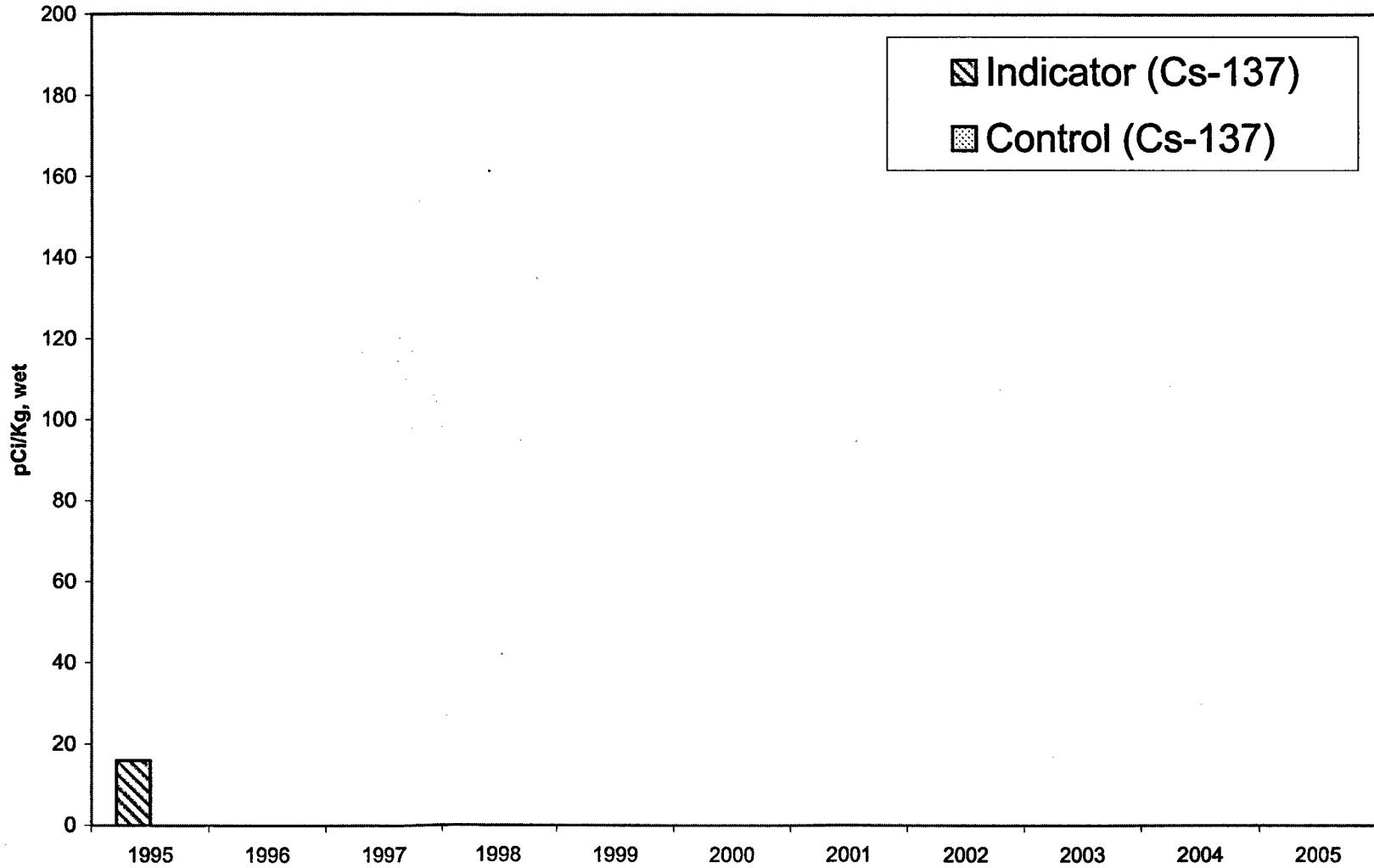
TABLE C-7

**RADIONUCLIDES IN FISH AND INVERTEBRATES
1995 - 2005**

Cs-137		
Year	Indicator	Control
1995	16	< L _c
1996	< L _c	< L _c
1997	< L _c	< L _c
1998	< L _c	< L _c
1999	< L _c	< L _c
2000	< L _c	< L _c
2001	< L _c	< L _c
2002	< L _c	< L _c
2003	< L _c	< L _c
2004	< L _c	< L _c
2005	< L_c	< L_c
Historical Average 1995-2004		
	16	< L _c

Critical Level (L_c) is less than the ODCM required LLD.
<L_c indicates no positive values above sample critical level.

FIGURE C-7
FISH AND INVERTEBRATES - Cs-137
1995 to 2005



Cs-137 ODCM required LLD = 150 pCi/Kg, wet

APPENDIX D

INTERLABORATORY COMPARISON PROGRAM

D. QA/QC PROGRAM

D.1. PROGRAM DESCRIPTION

The Offsite Dose Calculation Manual (ODCM), Part 1, Section 5.3 requires that the licensee participate in an Interlaboratory Comparison Program. The Interlaboratory Comparison Program shall include sample media for which samples are routinely collected and for which comparison samples are commercially available. Participation in an Interlaboratory Comparison Program ensures that independent checks on the precision and accuracy of the measurement of radioactive material in the environmental samples are performed as part of the Quality Assurance Program for environmental monitoring. To fulfill the requirement for an Interlaboratory Comparison Program, the JAF Environmental Laboratory has engaged the services of two independent laboratories to provide quality assurance comparison samples. The two laboratories are Analytics, Incorporated in Atlanta, Georgia and the U.S. Department of Commerce's National Institute of Standards and Technology (NIST) in Gaithersburg, Maryland.

Analytics supplies sample media as blind sample spikes, which contain certified levels of radioactivity unknown to the analysis laboratory. These samples are prepared and analyzed using standard laboratory procedures. The results are submitted to Analytics, which issues a statistical summary report. The JAFNPP Environmental Laboratory uses predetermined acceptance criteria methodology for evaluating the laboratory's performance for Analytic's sample results.

In addition to the Analytics Program, the JAF Environmental Laboratory participates in the NEI/NIST Measurement Assurance Program. In 1987, the nuclear industry established a Measurement Assurance Program at the National Bureau of Standards (now the National Institute of Standards and Technology) to provide sponsoring nuclear utilities an independent verification, traceable to NIST, of their capability to make accurate measurements of radioactivity, as described in NRC Regulatory Guide 4.15. The program includes distribution to sponsoring utilities, approximately six times a year. The samples are prepared by NIST to present specific challenges to participating laboratories. For 2005, the two mixed gamma samples analyzed tested the ability of the JAF Environmental Laboratory to accurately account for coincidence summing from Cs-134. NIST supplies sample media as blind sample spikes. These samples are prepared and analyzed by the JAF Environmental Laboratory and the results are submitted to the Entergy Nuclear Northeast representative, who uses predetermined acceptance criteria methodology for evaluating the laboratory's performance. The performance results along with the NIST Report of Test (Certifies what activities are present in the sample) are forwarded to the laboratory.

D.2. PROGRAM SCHEDULE

Table D-1

SAMPLE MEDIA	LABORATORY ANALYSIS	SAMPLE PROVIDER ANALYTICS
Water	Gross Beta	1
Water	Tritium	1
Water	I-131	2
Water	Mixed Gamma	3
Air	Gross Beta	2
Air	I-131	2
Air	Mixed Gamma	3
Milk	I-131	2
Milk	Mixed Gamma	2
Soil	Mixed Gamma	1
Vegetation	Mixed Gamma	1
TOTAL SAMPLE INVENTORY		20

ACCEPTANCE CRITERIA

Each sample result is evaluated to determine the accuracy and precision of the laboratory's analysis result. The sample evaluation method is discussed below.

SAMPLE RESULTS EVALUATION

Samples provided by Analytics and NIST are evaluated using what is specified as the NRC method. This method is based on the calculation of the ratio of results reported by the participating laboratory (QC result) to the Vendor Laboratory Known value (reference result).

An Environmental Laboratory analytical result is evaluated using the following calculation:

The value for the error resolution is calculated.

$$\text{The error resolution} = \frac{\text{Reference Result}}{\text{Reference Results Error}}$$

Using the appropriate row under the Error Resolution column in Table D-2 below, a corresponding Ratio of Agreement interval is given.

The value for the ratio is then calculated.

$$\text{Ratio of Agreement} = \frac{\text{QC Result}}{\text{Reference Result}}$$

If the value falls within the agreement interval, the result is acceptable.

TABLE D-2

ERROR RESOLUTION	RATIO OF AGREEMENT
≤ 3	0.4-2.5
3.1 to 7.5	0.5-2.0
7.6 to 15.5	0.6-1.66
15.6 to 50.5	0.75-1.33
50.6 to 200	0.8-1.25
>200	0.85-1.18

This acceptance test is generally referred to as the "NRC" method. The acceptance criteria is contained in Procedure DVP-04.01 and was taken from the Criteria of Comparing Analytical Results (USNRC) and Bevington, P.R., Data Reduction and Error Analysis for the Physical Sciences, McGraw-Hill, New York, (1969). The NRC method generally results in an acceptance range of approximately ± 25% of the Known value when applied to sample results from the Analytics and NIST. Interlaboratory Comparison Program. This method is used as the procedurally required assessment method and requires the generation of a nonconformity report when results are unacceptable.

D.3. PROGRAM RESULTS SUMMARY

The Interlaboratory Comparison Program numerical results are provided on Table D-3,4 and 5.

ANALYTICS QA SAMPLES RESULTS

Eighteen QA blind spike samples were analyzed as part of Analytics 2005 Interlaboratory Comparison Program. The following sample media were evaluated as part of the comparison program.

Air Charcoal Cartridge: I-131
Air Particulate Filter: Mixed Gamma Emitters, Gross Beta
Water: I-131, Mixed Gamma Emitters, Tritium, Gross Beta
Soil: Mixed Gamma Emitters
Milk: I-131, Mixed Gamma Emitters
Vegetation: Mixed Gamma Emitters

The JAF Environmental Laboratory performed 79 individual analyses on the eighteen QA samples. Of the 79 analyses performed, 79 were in agreement using the NRC acceptance criteria for a 100% agreement ratio.

There were no non-conformities in the 2005 program.

NIST QA SAMPLES RESULTS

In 2005, JAF Environmental Laboratory participated in the NEI/NIST Measurement Assurance Program. Two QA blind spike samples were analyzed. The following sample media were evaluated as part of the comparison program.

Air Particulate Filter: Mixed Gamma Emitters
Water: Mixed Gamma Emitters

The JAF Environmental Laboratory performed 10 individual analyses on the two QA samples. Of the 10 analyses performed, 10 were in agreement using the NRC acceptance criteria for a 100% agreement ratio.

There were no non-conformities in the 2005 program.

Table D-3 NUMERICAL RESULTS TABLES

**TABLE D-3
INTERLABORATORY INTERCOMPARISON PROGRAM
Gross Beta Analysis of Air Particulate Filters (pCi/filter)**

DATE	JAF ENV ID NO.	MEDIUM	ANALYSIS	JAF RESULT (1)	REFERENCE LAB* (2)	RATIO (3)
6/9/05	E-4583-05	AIR pCi/filter	GROSS BETA	142.4 ± 1.8 146.6 ± 1.8 145.2 ± 1.8 Mean = 144.7 ± 1.0	138.0 ± 2.3	1.05 A
12/8/05	E-4824-05	AIR pCi/filter	GROSS BETA	202.8 ± 3.0 204.7 ± 3.0 206.5 ± 3.0 Mean = 204.7 ± 1.7	186.0 ± 3.1	1.10 A

- (1) Results reported as activity ±1 sigma.
- (2) Results reported as activity ±1 sigma.
- (3) Ratio = Reported/Analytics (See Section 8.3).
- (*) Sample provided by Analytics, Inc.
- (A) Evaluation Results, Acceptable.

**TABLE D-4
INTERLABORATORY INTERCOMPARISON PROGRAM
Tritium Analysis Water (pCi/liter)**

DATE	JAF ENV ID NO.	MEDIUM	ANALYSIS	JAF RESULT (1)	REFERENCE LAB* (2)	RATIO (3)
3/17/05	E-4487-05	WATER pCi/liter	H-3	6073 ± 176 5887 ± 175 5925 ± 175 Mean = 5962 ± 101	6040 ± 200	0.99 A

- (1) Results reported as activity ±1 sigma. Sample analyzed by JAF Environmental Laboratory
- (2) Results reported as activity ±1 sigma.
- (3) Ratio = Reported/Analytics (See Section 8.3).
- (*) Sample provided by Analytics, Inc.
- (A) Evaluation Results, Acceptable.

**TABLE D-5
INTERLABORATORY INTERCOMPARISON PROGRAM
Iodine Analysis of Water, Air and Milk**

DATE	JAF ENV ID NO.	MEDIUM	ANALYSIS	JAF RESULT (1)	REFERENCE LAB* (2)	RATIO (3)
3/17/05	E-4488-05	WATER pCi/liter	I-131**	59.4 ± 1.8 63.3 ± 2.4 64.6 ± 1.8 Mean = 62.4 ± 1.1	65.9 ± 1.1	0.95 A
6/9/05	E-4586-05	AIR pCi/cc	I-131	102.0 ± 5.6 98.7 ± 4.8 88.1 ± 4.4 Mean = 96.3 ± 2.9	92.5 ± 1.5	1.04 A
6/9/05	E-4584-05	MILK pCi/liter	I-131**	80.4 ± 2.2 81.9 ± 2.4 81.3 ± 2.7 Mean = 81.2 ± 1.4	86.9 ± 1.5	0.93 A
9/15/05	E-4716-05	AIR pCi/cc	I-131	65.2 ± 4.0 58.6 ± 4.7 66.7 ± 3.6 Mean = 63.5 ± 2.4	63.4 ± 1.1	1.00 A
9/15/05	E-4713-05	WATER pCi/liter	I-131**	77.0 ± 1.6 78.0 ± 2.0 75.6 ± 2.1 Mean = 76.9 ± 1.1	78.2 ± 1.3	0.98 A
9/15/05	E-4715-05	MILK pCi/liter	I-131**	86.4 ± 1.7 90.6 ± 1.9 84.6 ± 1.8 Mean = 87.2 ± 1.0	94.3 ± 1.6	0.92 A

- (1) Results reported as activity ±1 sigma.
(2) Results reported as activity ±1 sigma.
(3) Ratio = Reported/Analytics (See Section 8.3).
(*) Sample provided by Analytics, Inc.
(**) Result determined by Resin Extraction/Gamma Spectral Analysis.
(A) Evaluation Results, Acceptable.

TABLE D-5 (cont)
INTERLABORATORY INTERCOMPARISON PROGRAM
Gamma Analysis Water (pCi/liter)

DATE	JAF ENV ID NO.	MEDIUM	ANALYSIS	JAF RESULT (1)	REFERENCE LAB* (2)	RATIO (3)		
3/17/05	E-4488-05	WATER pCi/liter	Ce-141	222.0 ± 11.4	221 ± 3.7	1.06 A		
				248.0 ± 11.8				
				236.0 ± 9.4				
						Mean = 235.3 ± 6.3		
			Cr-51	278.0 ± 53.9	322 ± 5.4	0.86 A		
				295.0 ± 48.7				
				262.0 ± 38.5				
				Mean = 278.3 ± 27.4				
			Cs-134	128.0 ± 9.6	134 ± 2.2	0.94 A		
				113.0 ± 14.6				
138.0 ± 6.8								
	Mean = 126.3 ± 6.2							
Cs-137	112.0 ± 8.0	125 ± 2.1	0.97 A					
	121.0 ± 7.9							
	130.0 ± 6.3							
	Mean = 121.0 ± 4.3							
Mn-54	157.0 ± 9.2	154 ± 2.6	1.05 A					
	162.0 ± 9.0							
	164.0 ± 7.0							
	Mean = 161.0 ± 4.9							
Fe-59	106.0 ± 10.0	107 ± 1.8	1.07 A					
	114.0 ± 9.6							
	122.0 ± 7.1							
	Mean = 114.0 ± 5.2							
Zn-65	184.0 ± 16.4	191 ± 3.2	0.99 A					
	203.0 ± 16.4							
	179.0 ± 11.5							
	Mean = 188.7 ± 8.6							
Co-60	136.0 ± 6.6	139 ± 2.3	0.99 A					
	131.0 ± 6.3							
	144.0 ± 4.9							
	Mean = 137.0 ± 3.5							
Co-58	117.0 ± 8.2	111 ± 1.9	1.05 A					
	120.0 ± 8.0							
	112.0 ± 5.8							
	Mean = 116.3 ± 4.3							

- (1) Results reported as activity ±1 sigma.
- (2) Results reported as activity ±1 sigma.
- (3) Ratio = Reported/Analytics (See Section 8.3).
- (*) Sample provided by Analytics, Inc.
- (A) Evaluation Results, Acceptable.

TABLE D-5 (cont)
INTERLABORATORY INTERCOMPARISON PROGRAM
Gamma Analysis Water (pCi/liter)

DATE	JAF ENV ID NO.	MEDIUM	ANALYSIS	JAF RESULT (1)	REFERENCE LAB* (2)	RATIO (3)			
9/15/05	E-4713	WATER pCi/liter	Ce-141	292.0 ± 4.4	282 ± 4.7	1.03 A			
				284.0 ± 9.0					
				296.0 ± 4.1					
				Mean = 290.7 ± 3.6					
				Cr-51			395.0 ± 18.2	408 ± 6.8	0.98 A
							411.0 ± 38.1		
							397.0 ± 16.2		
							Mean = 401.0 ± 15.1		
				Cs-134			152.0 ± 3.3	148 ± 2.5	1.03 A
							152.0 ± 6.3		
153.0 ± 2.9									
Mean = 152.3 ± 2.6									
Cs-137	234.0 ± 3.7	235 ± 3.9	0.99 A						
	235.0 ± 7.2								
	231.0 ± 3.5								
	Mean = 233.3 ± 2.9								
Mn-54	119.0 ± 2.8	111 ± 1.9	1.07 A						
	118.0 ± 5.5								
	118.0 ± 2.7								
	Mean = 118.3 ± 2.3								
Fe-59	74.7 ± 3.1	74 ± 1.2	1.05 A						
	77.0 ± 6.2								
	81.6 ± 3.0								
	Mean = 77.8 ± 2.5								
Zn-65	158.0 ± 5.3	149 ± 2.5	1.08 A						
	160.0 ± 11.0								
	163.0 ± 5.2								
	Mean = 160.3 ± 4.4								
Co-60	201.0 ± 2.7	202 ± 3.4	0.99 A						
	202.0 ± 5.5								
	198.0 ± 2.6								
	Mean = 200.3 ± 2.2								
Co-58	71.6 ± 2.5	77 ± 1.3	1.00 A						
	81.0 ± 4.6								
	79.2 ± 2.5								
	Mean = 77.3 ± 1.9								

- (1) Results reported as activity ±1 sigma.
- (2) Results reported as activity ±1 sigma.
- (3) Ratio = Reported/Analytics (See Section 8.3).
- (*) Sample provided by Analytics, Inc.
- (A) Evaluation Results, Acceptable.

TABLE D-5 (cont)
INTERLABORATORY INTERCOMPARISON PROGRAM
Gamma Analysis of Air Particulate Filters (pCi/filter)

DATE	JAF ENV ID NO.	MEDIUM	ANALYSIS	JAF RESULT (1)	REFERENCE LAB* (2)	RATIO (3)
3/17/05	E-4489-05	FILTER pCi/filter	Ce-141	160.0 ± 6.0	155 ± 2.6	1.01 A
				151.0 ± 5.4		
			160.0 ± 4.8	Mean = 157.0 ± 3.1		
			Mean = 157.0 ± 3.1			
			Cr-51	268.0 ± 30.8	226 ± 3.8	1.22 A
				259.0 ± 29.6		
			302.0 ± 23.5	Mean = 276.3 ± 16.3		
			Mean = 276.3 ± 16.3			
			Cs-134	107.0 ± 7.0	93.9 ± 1.6	1.08 A
				94.5 ± 7.1		
102.0 ± 5.4	Mean = 101.2 ± 3.8					
Mean = 101.2 ± 3.8						
Cs-137	91.1 ± 5.6	87.6 ± 1.5	1.05 A			
	88.2 ± 5.9					
96.5 ± 4.5	Mean = 91.9 ± 3.1					
Mean = 91.9 ± 3.1						
Mn-54	115.0 ± 6.6	108 ± 1.8	1.10 A			
	116.0 ± 7.1					
126.0 ± 5.5	Mean = 119.0 ± 3.7					
Mean = 119.0 ± 3.7						
Fe-59	79.8 ± 7.9	75.0 ± 1.3	1.17 A			
	89.0 ± 9.1					
94.2 ± 6.8	Mean = 87.7 ± 4.6					
Mean = 87.7 ± 4.6						
Zn-65	150.0 ± 12.5	134 ± 2.2	1.15 A			
	162.0 ± 14.1					
151.0 ± 10.0	Mean = 154.3 ± 7.1					
Mean = 154.3 ± 7.1						
Co-60	95.2 ± 5.0	97.1 ± 1.6	1.02 A			
	106.0 ± 5.6					
96.6 ± 4.0	Mean = 99.3 ± 2.8					
Mean = 99.3 ± 2.8						
Co-58	73.2 ± 5.8	77.8 ± 1.3	1.01 A			
	82.6 ± 6.6					
80.1 ± 4.9	Mean = 78.6 ± 3.4					
Mean = 78.6 ± 3.4						

- (1) Results reported as activity ±1 sigma.
(2) Results reported as activity ±1 sigma.
(3) Ratio = Reported/Analytics (See Section 8.3).
(*) Sample provided by Analytics, Inc.
(A) Evaluation Results, Acceptable.

TABLE D-5 (cont)
INTERLABORATORY INTERCOMPARISON PROGRAM
Gamma Analysis of Air Particulate Filters (pCi/liter)

DATE	JAF ENV ID NO.	MEDIUM	ANALYSIS	JAF RESULT (1)	REFERENCE LAB* (2)	RATIO (3)			
9/15/05	E-4714-05	FILTER pCi/liter	Ce-141	174.0 ± 4.8	165 ± 2.8	1.07 A			
				173.0 ± 4.8					
				187.0 ± 5.8					
				170.0 ± 4.4					
				Mean = 176.0 ± 2.5					
				Cr-51			239.0 ± 22.1	239 ± 4.0	0.99 A
							246.0 ± 22.3		
							230.0 ± 24.5		
							232.0 ± 20.7		
							Mean = 236.8 ± 11.2		
Cs-134	90.4 ± 5.2	86.3 ± 1.4	1.10 A						
	93.2 ± 5.2								
	110.0 ± 6.6								
	Mean = 94.6 ± 2.8								
Cs-137	143.0 ± 5.7	138 ± 2.3	1.04 A						
	144.0 ± 5.5								
	139.0 ± 6.6								
	Mean = 144.0 ± 2.9								
Mn-54	75.0 ± 4.4	65.0 ± 1.1	1.19 A						
	65.4 ± 4.4								
	82.9 ± 5.6								
	Mean = 77.1 ± 2.4								
Fe-59	50.6 ± 5.2	43.0 ± 0.7	1.17 A						
	45.2 ± 4.9								
	53.4 ± 5.8								
	Mean = 50.1 ± 2.6								
Zn-65	93.6 ± 9.3	87.2 ± 1.5	1.19 A						
	110.0 ± 9.0								
	118.0 ± 10.8								
	Mean = 103.7 ± 4.7								
Co-60	119.0 ± 4.5	118 ± 2.0	1.01 A						
	113.0 ± 4.5								
	133.0 ± 5.8								
	Mean = 119.8 ± 2.4								
Co-58	47.8 ± 3.9	44.7 ± 0.8	1.00 A						
	44.3 ± 3.9								
	39.1 ± 4.5								
	Mean = 44.6 ± 2.0								

(1) Results reported as activity ±1 sigma.
(2) Results reported as activity ±1 sigma.
(3) Ratio = Reported/Analytics (See Section 8.3).
(*) Sample provided by Analytics, Inc.
(A) Evaluation Results, Acceptable

TABLE D-5 (cont)
INTERLABORATORY INTERCOMPARISON PROGRAM
Gamma Analysis Milk (pCi/liter)

DATE	JAF ENV ID NO.	MEDIUM	ANALYSIS	JAF RESULT (1)	REFERENCE LAB* (2)	RATIO (3)
6/9/05	E-4584-05	MILK pCi/liter	Ce-141	85.9 ± 8.64	92.4 ± 1.5	1.09 A
				112.0 ± 10.6		
				105.0 ± 7.9		
				Mean = 101.0 ± 5.3		
			Cr-51	224.0 ± 48.4	303 ± 5.1	0.96 A
				298.0 ± 61.1		
				350.0 ± 45.5		
				Mean = 290.7 ± 30.1		
			Cs-134	83.0 ± 6.9	95 ± 1.6	0.95 A
91.5 ± 9.8						
97.5 ± 7.3						
Mean = 90.7 ± 4.7						
Cs-137	174.0 ± 9.8	189 ± 3.2	0.93 A			
	178.0 ± 10.9					
	175.0 ± 8.5					
	Mean = 175.7 ± 5.7					
Mn-54	128.0 ± 8.5	125 ± 2.1	0.94 A			
	101.0 ± 9.8					
	124.0 ± 7.8					
	Mean = 117.7 ± 5.0					
Fe-59	49.5 ± 10.1	63.9 ± 1.1	0.96 A			
	71.3 ± 11.9					
	63.5 ± 8.3					
	Mean = 61.4 ± 5.9					
Zn-65	121.0 ± 16.6	155 ± 2.6	1.01 A			
	170.0 ± 20.7					
	179.0 ± 15.6					
	Mean = 156.7 ± 10.3					
Co-60	142.0 ± 7.0	145 ± 2.4	0.92 A			
	128.0 ± 8.3					
	130.0 ± 6.4					
	Mean = 133.3 ± 4.2					

- (1) Results reported as activity ±1 sigma.
- (2) Results reported as activity ±1 sigma.
- (3) Ratio = Reported/Analytics (See Section 8.3).
- (*) Sample provided by Analytics, Inc
- (A) Evaluation Results, Acceptable

TABLE D-5 (cont)
INTERLABORATORY INTERCOMPARISON PROGRAM
Gamma Analysis Milk (pCi/liter)

DATE	JAF ENV ID NO.	MEDIUM	ANALYSIS	JAF RESULT (1)	REFERENCE LAB* (2)	RATIO (3)			
9/15/05	E-4715-05	MILK pCi/liter	Ce-141	232.0 ± 4.9	233 ± 3.9	1.02 A			
				241.0 ± 8.1					
				237.0 ± 7.6					
				Mean = 236.7 ± 4.1					
				Cr-51			326.0 ± 21.0	338 ± 5.7	0.97 A
							344.0 ± 35.9		
							314.0 ± 31.4		
							Mean = 328.0 ± 17.4		
				Cs-134			130.0 ± 3.7	122 ± 2.0	1.03 A
							126.0 ± 5.7		
120.0 ± 5.6									
Mean = 125.3 ± 2.9									
Cs-137	187.0 ± 4.0	195 ± 3.2	0.99 A						
	198.0 ± 7.0								
	194.0 ± 6.3								
	Mean = 193.0 ± 3.4								
Mn-54	97.2 ± 3.3	92.0 ± 1.5	1.09 A						
	102.0 ± 5.6								
	102.0 ± 5.1								
	Mean = 100.4 ± 2.8								
Fe-59	65.0 ± 3.7	61.0 ± 1.0	1.00 A						
	49.9 ± 6.3								
	68.4 ± 6.0								
	Mean = 61.1 ± 3.1								
Zn-65	124.0 ± 6.3	123 ± 2.1	1.07 A						
	147.0 ± 12.3								
	121.0 ± 9.6								
	Mean = 130.7 ± 5.6								
Co-60	159.0 ± 3.2	167 ± 2.8	0.98 A						
	163.0 ± 5.3								
	169.0 ± 5.0								
	Mean = 163.7 ± 2.6								
Co-58	55.2 ± 2.8	63.4 ± 1.1	0.94 A						
	62.6 ± 5.0								
	61.8 ± 4.5								
	Mean = 59.9 ± 2.4								

- (1) Results reported as activity ±1 sigma.
- (2) Results reported as activity ±1 sigma.
- (3) Ratio = Reported/Analytics (See Section 8.3).
- (*) Sample provided by Analytics, Inc.
- (A) Evaluation Results, Acceptable.

TABLE D-5 (cont)
INTERLABORATORY INTERCOMPARISON PROGRAM
Gamma Analysis Soil (pCi/gram)

DATE	JAF ENV ID NO.	MEDIUM	ANALYSIS	JAF RESULT (1)	REFERENCE LAB* (2)	RATIO (3)
6/9/05	E-4585-05	SOIL pCi/gram	Ce-141	0.203 ± 0.022	0.182 ± 0.003	0.95 A
				0.157 ± 0.022		
				0.190 ± 0.024		
				0.171 ± 0.037		
			Mean = 0.173 ± 0.017			
			Cr-51	0.356 ± 0.101	0.596 ± 0.010	1.08 A
				0.593 ± 0.122		
				0.697 ± 0.135		
				0.640 ± 0.198		
Mean = 0.643 ± 0.090						
Cs-134	0.160 ± 0.015	0.187 ± 0.003	1.03 A			
	0.204 ± 0.016					
	0.193 ± 0.018					
	0.182 ± 0.008					
Mean = 0.193 ± 0.009						
Cs-137	0.449 ± 0.021	0.474 ± 0.008	1.01 A			
	0.480 ± 0.023					
	0.479 ± 0.027					
	0.473 ± 0.010					
Mean = 0.477 ± 0.012						
Mn-54	0.256 ± 0.018	0.246 ± 0.004	0.98 A			
	0.255 ± 0.018					
	0.223 ± 0.021					
	0.244 ± 0.009					
Mean = 0.241 ± 0.010						
Fe-59	0.109 ± 0.025	0.126 ± 0.002	1.01 A			
	0.104 ± 0.029					
	0.132 ± 0.032					
	0.131 ± 0.031					
	0.157 ± 0.033					
Mean = 0.127 ± 0.013						
Zn-65	0.320 ± 0.034	0.305 ± 0.005	1.15 A			
	0.360 ± 0.033					
	0.374 ± 0.040					
	0.320 ± 0.017					
Mean = 0.351 ± 0.018						
Co-60	0.277 ± 0.014	0.285 ± 0.005	0.96 A			
	0.266 ± 0.015					
	0.279 ± 0.017					
	0.274 ± 0.007					
Mean = 0.273 ± 0.008						

- (1) Results reported as activity ±1 sigma.
- (2) Results reported as activity ±1 sigma.
- (3) Ratio = Reported/Analytics (See Section 8.3).
- (*) Sample provided by Analytics, Inc.
- (A) Evaluation Results, Acceptable.

TABLE D-5 (cont)
INTERLABORATORY INTERCOMPARISON PROGRAM
Gamma Analysis Vegetation (pCi/gram)

DATE	JAF ENV ID NO.	MEDIUM	ANALYSIS	JAF RESULT (1)	REFERENCE LAB* (2)	RATIO (3)
6/9/05	E-4587-05	VEGETATION pCi/gram	Ce-141	0.179 ± 0.012	0.174 ± 0.003	1.02 A
				0.160 ± 0.012		
				0.193 ± 0.012		
				0.180 ± 0.015		
			Mean = 0.178 ± 0.009			
			Cr-51	0.600 ± 0.087	0.569 ± 0.010	0.95 A
				0.464 ± 0.075		
				0.470 ± 0.059		
				0.638 ± 0.118		
Mean = 0.543 ± 0.058						
Cs-134	0.232 ± 0.013	0.179 ± 0.003	1.17 A			
	0.213 ± 0.013					
	0.197 ± 0.010					
	0.195 ± 0.006					
Mean = 0.209 ± 0.007						
Cs-137	0.370 ± 0.015	0.355 ± 0.006	0.97 A			
	0.340 ± 0.015					
	0.341 ± 0.012					
	0.326 ± 0.007					
Mean = 0.344 ± 0.008						
Mn-54	0.243 ± 0.014	0.235 ± 0.004	1.00 A			
	0.227 ± 0.014					
	0.238 ± 0.011					
	0.235 ± 0.006					
Mean = 0.236 ± 0.008						
Fe-59	0.123 ± 0.015	0.120 ± 0.002	1.04 A			
	0.112 ± 0.016					
	0.139 ± 0.012					
	0.123 ± 0.014					
Mean = 0.124 ± 0.009						
Zn-65	0.275 ± 0.023	0.292 ± 0.005	1.00 A			
	0.280 ± 0.029					
	0.301 ± 0.019					
	0.317 ± 0.013					
Mean = 0.293 ± 0.014						
Co-60	0.273 ± 0.011	0.272 ± 0.005	0.98 A			
	0.252 ± 0.011					
	0.267 ± 0.009					
	0.271 ± 0.005					
Mean = 0.266 ± 0.006						

- (1) Results reported as activity ±1 sigma.
(2) Results reported as activity ±1 sigma.
(3) Ratio = Reported/Analytics (See Section 8.3).
(*) Sample provided by Analytics, Inc.
(A) Evaluation Results, Acceptable.

TABLE D-5 (cont)
INTERLABORATORY INTERCOMPARISON PROGRAM
Gross Beta Analysis of Water (pCi/ml)

DATE	JAF ENV ID NO.	MEDIUM	ANALYSIS	JAF RESULT (1)	REFERENCE LAB* (2)	RATIO (3)
11/11/05	A19773-05	WATER pCi/ml	GROSS BETA	1908 ± 2 1687 ± 2 1908 ± 2 1706 ± 2 Mean = 1802 ± 2	1830 ± 46	0.98 A

(1) Results reported as activity ±1 sigma.

(2) Results reported as activity ±1 sigma.

(3) Ratio = Reported/known

(*) Sample provided by Analytics, Inc.

(A) Evaluation Results, Acceptable.

TABLE D-5 (Continued)
INTERLABORATORY INTERCOMPARISON PROGRAM
Gamma Analysis of NIST Filter and water samples

DATE	JAF ENV ID NO.	MEDIUM	ANALYSIS	JAF RESULT (1)	REFERENCE LAB* (2)	RATIO (3)		
8/20005	1801-20	FILTER pCi/filter	Ce-141	1.86E5 ± 791	1.96E5 ± 2176	0.96 A		
				1.85E5 ± 887				
			1.96E5 ± 785					
			Mean = 1.89E5 ± 475					
			Ba-133	5.25E4 ± 277			5.95E4 ± 619	0.89 A
				5.36E4 ± 300				
5.21E4 ± 262								
Mean = 5.27E4 ± 162								
Cs-134	2.90E4 ± 230	2.79E4 ± 254	0.97 A					
	2.30E4 ± 226							
2.95E4 ± 224								
Mean = 2.72E4 ± 131								
Fe-59	1.99E5 ± 1140			1.87E5 ± 1982	1.06 A			
	1.94E5 ± 1460							
2.03E5 ± 1110								
Mean = 1.99E5 ± 720								
Zn-65	9.59E4 ± 686	9.02E4 ± 1344	1.06 A					
	9.30E4 ± 878							
9.76E4 ± 664								
Mean = 9.55E4 ± 432								
8/2005	1800-10			WATER pCi/g	Ce-141	1.48E5 ± 752	1.48E5 ± 1125	0.99 A
						1.46E5 ± 686		
		1.47E5 ± 845						
		Mean = 1.47E5 ± 441						
		Ba-133	4.17E4 ± 193		4.41E4 ± 291	0.96 A		
			4.22E4 ± 188					
4.27E4 ± 237								
Mean = 4.22E4 ± 120								
Cs-134	2.69E4 ± 170	2.62E4 ± 115	1.03 A					
	2.69E4 ± 166							
2.74E4 ± 208								
Mean = 2.71E4 ± 105								
Fe-59	1.21E5 ± 685			1.18E5 ± 814	1.03 A			
	1.22E5 ± 687							
1.22E5 ± 871								
Mean = 1.22E5 ± 435								
Zn-65	6.16E4 ± 426	5.91E4 ± 745	1.04 A					
	6.12E4 ± 423							
6.13E4 ± 535								
Mean = 6.14E4 ± 268								

(1) Results reported as activity ±1 sigma.

(1) Results reported as activity ±2 sigma (total propagated uncertainty).

(3) Ratio = Reported/NIST (see Section 8.3).

(*) Sample provided by NIST.

(A) Evaluation Results, Acceptable.

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