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Oyster Creek
US Route 9 South, P.O. Box 388
Forked River, NJ 08731-0388

Technical Specification 6.9.1.e

May 1, 2006

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U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

Oyster Creek Generating Station
Facility Operating License No. DPR-16
NRC Docket No. 50-219

Subject: Annual Radiological Environmental Operating Report - 2005

Enclosed is a copy of the Annual Radiological Environmental Operating Report for calendar year 2005, for the Oyster Creek Generating Station. This submittal is made in accordance with Oyster Creek Generating Station Technical Specification 6.9.1.e.

If any further information or assistance is needed, please contact Kathy Barnes at 609-971-4970.

Sincerely,

Timothy S. Rausch
Vice President, Oyster Creek Generating Station

DRW/DRW/KB
Enclosure

cc: Administrator, USNRC Region I
USNRC Senior Project Manager, Oyster Creek
USNRC Senior Resident Inspector, Oyster Creek
File No. 06004

IE25

Docket No: 50-219

OYSTER CREEK GENERATING STATION
UNIT 1

Annual Radiological
Environmental Operating Report

1 January Through 31 December 2005

Prepared By
Teledyne Brown Engineering
Environmental Services

AmerGen SM
An Exelon Company

Oyster Creek Generating Station
Forked River, NJ 08731

May 2006

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Appendices

I. Summary and Conclusions

This report on the Radiological Environmental Monitoring Program conducted for the Oyster Creek Generating Station (OCGS) by AmerGen Energy Company covers the period 01 January 2005 through 31 December 2005. During that time period, 1181 analyses were performed on 1009 samples. In assessing all the data gathered for this report and comparing these results with historical data, it was concluded that the operation of OCGS had no adverse radiological impact on the environment.

Surface and well water samples were analyzed for concentrations of tritium and gamma emitting nuclides. No fission or activation products were detected. Tritium activity was detected at a very low level in one well water control station. This control station is located upgradient of Oyster Creek and outside the influence of the facility. Data from previous years indicates that the yearly average tritium concentration is not significantly different from previous years.

Fish (predator and bottom feeder), clams, crabs, and sediment samples were analyzed for concentrations of gamma emitting nuclides. No fission or activation products were detected in fish, clams, or crabs. Cesium-137 levels detected in sediment were consistent with levels detected in previous years and were due to previous plant releases and fallout from nuclear weapons testing. No other OCGS-produced fission or activation products were detected in sediment.

Air particulate samples were analyzed for concentrations of gross beta and gamma emitting nuclides. Cosmogenic Be-7 was detected at levels consistent with those detected in previous years. No fission or activation products were detected.

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

Strontium-89 and strontium-90 and gamma analyses were performed on quarterly composites of air particulate samples. All strontium-89 and strontium-90 results were below the minimum detectable activity.

Vegetation samples were analyzed for gamma emitting nuclides, strontium-89, and strontium-90. Concentrations of naturally occurring K-40 were consistent with those detected in previous years. Cesium-137 was detected at low levels consistent with those detected in previous years. All strontium-89 results were below the minimum detectable activity. Strontium-90 activity was detected at low levels in both control and indicator stations.

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

II. Introduction

The Oyster Creek Generating Station (OCGS), consisting of one boiling water reactor owned and operated by AmerGen Energy Company, is located on the Atlantic Coastal Plain Physiographic Province in Ocean County, New Jersey, about 60 miles south of Newark, 9 miles south of Toms River, and 35 miles north of Atlantic City. It lies approximately 2 miles inland from Barnegat Bay. The site, covering approximately 781 acres, is situated partly in Lacey Township and, to a lesser extent, in Ocean Township. Access is provided by U.S. Route 9, passing through the site and separating a 637-acre eastern portion from the balance of the property west of the highway. The station is about ¼ mile west of the highway and 1¼ miles east of the Garden State Parkway. The site property extends about 2½ miles inland from the bay; the maximum width in the north-south direction is almost 1 mile. The site location is part of the New Jersey shore area with its relatively flat topography and extensive freshwater and saltwater marshlands. The South Branch of Forked River runs across the northern side of the site and Oyster Creek partly borders the southern side.

A Radiological Environmental Monitoring Program (REMP) for OCGS was initiated in 1966. This report covers those analyses performed by Teledyne Brown Engineering (TBE), Global Dosimetry, and Environmental Inc. (Midwest Labs) on samples collected during the period 01 January 2005 through 31 December 2005.

A. Objectives of the REMP

The objectives of the REMP are to:

1. Assess dose impacts to the public from the OCGS operations.
2. To verify in-plant controls for the containment of radioactive materials.
3. To monitor any buildup of long-lived radionuclides in the environment and changes in background radiation levels.
4. To provide reassurance to the public that the program is capable of adequately assessing impacts and identifying noteworthy changes in the radiological status of the environment.
5. Provide data on measurable levels of radiation and radioactive materials in the site environs.

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

7. To fulfill the requirements of the OCGS Offsite Dose Calculation Manual (ODCM) and Technical Specifications.

B. Implementation of the Objectives

The implementation of the objectives is accomplished by:

1. Identifying significant exposure pathways.

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

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

III. Program Description

A. Sample Collection

Samples for the OCGS REMP were collected for AmerGen Energy Company by on-site personnel and Normandeau Associates, RMC Environmental Services Division (RMC). This section describes the general collection methods used to obtain environmental samples for the OCGS REMP in 2005. Sample locations and descriptions can be found in Tables B–1 and B–2, and Figures B–1 and B–2, Appendix B. The collection procedures are listed in Table B–3.

Aquatic Environment

The aquatic environment was evaluated by performing radiological analyses on samples of surface water, well water, fish, clams, crabs, and sediment. One gallon surface water samples were collected monthly from two locations (33 and 94), semiannually at two locations (23 and 24), and quarterly from three well water locations (1, 37, and 38). Control locations were 94 and 37. All samples were collected in plastic bottles, which were rinsed at least twice with source water prior to collection. Fish samples comprising the flesh of two groups, bottom feeder and predator, were collected semiannually at three locations (33, 93 and 94 (control)). Clams were collected semiannually from three locations (23, 24, and 94

(control)). One annual crab sample was collected from one location (93). Sediment samples were collected at four locations semiannually (23, 24, 33, and 94 (control)).

Atmospheric Environment

The atmospheric environment was evaluated by performing radiological analyses on samples of air particulate, airborne iodine, and vegetation. Airborne iodine and particulate samples were collected and analyzed weekly at seven locations (C, 3, 20, 66, 71, 72, and 73). The control location was C. Airborne iodine and particulate samples were obtained at each location, using a vacuum pump with charcoal and glass fiber filters attached. The pumps were run continuously and sampled air at the rate of approximately one cubic foot per minute. The filters were replaced weekly and sent to the laboratory for analysis.

No commercial dairy operations and no dairy animals producing milk for human consumption are located within a 5 mile radius of the plant. Therefore, vegetation samples were collected in lieu of milk. Vegetation samples were collected, when available, at three locations (35, 36, and 66). Station 36 was the control. All samples were collected in 18" x 24" new unused plastic bags and shipped promptly to the laboratory.

Ambient Gamma Radiation

Direct radiation measurements were made using Panasonic Model 814 calcium sulfate ($CaSO_4$) thermoluminescent dosimeters (TLD). The TLDs were placed on and around the OCGS site and were categorized as follows:

A site boundary ring consisting of 16 locations (1, 51, 52, 53, 54, 55, 56, 57, 58, 59, 61, 62, 63, 64, 65 and 66) near the boundary.

An intermediate distance ring consisting of 16 locations (4, 5, 22, 47, 48, 68, 73, 74, 75, 79, 82, 84, 85, 86, 98, and 99) extending to approximately 5 miles from the site designed to measure possible exposures to close-in population.

Special interest stations consisting of 15 locations (3, 6, 8, 9, 11, 46, 71, 72, 78, 81, 88, 89, 90, 92, and T1) representing special interest areas such as population centers, state parks, etc.

Background (Control) stations consisting of two locations (C and 14) greater than 20 miles distant from the site.

Indicator TLDs were placed systematically, with at least one station in each of 16 meteorological compass sectors in the general area of the site boundary. TLDs were also placed in each land-based meteorological sector in the 6 to 8 kilometer (9.7 to 12.9 mile) range, where reasonable highway access would permit, in areas of public interest and population centers. Background locations were located greater than 32 kilometers (20 miles) distant from the OCGS and generally in an upwind direction from the OCGS. Two TLDs – each comprised of three $CaSO_4$ thermoluminescent phosphors enclosed in plastic – were placed at each location approximately three to eight feet above ground level. The TLDs were exchanged quarterly and sent to Global Dosimetry for analysis.

B. Sample Analysis

This section describes the general analytical methodologies used by TBE and Environmental Inc. (Midwest Labs) to analyze the environmental samples for radioactivity for the OCGS REMP in 2005. The analytical procedures used by the laboratories are listed in Table B–3.

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

1. Concentrations of beta emitters in air particulates.

2. Concentrations of gamma emitters in surface and well water, fish, clams, crabs, sediment, air particulates, and vegetation.

3. Concentrations of tritium in surface and well water.

4. Concentrations of I-131 in air iodine cartridges.

5. Concentrations of strontium in air particulates and vegetation.

6. Ambient gamma radiation levels at various locations around the OCGS.

C. Data Interpretation

For trending purposes, the radiological and direct radiation data collected during 2005 were compared with data from past years. OCGS preoperational data was compared to the 2005 data presented in this report. Several factors were important in the interpretation of the data:

1. Lower Limit of Detection and Minimum Detectable Concentration

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

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

2. Net Activity Calculation and Reporting of Results

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

Results for each type of sample were grouped as follows:

For surface and well water 13 nuclides, H-3, Mn-54, Co-58, Fe-59 Co-60, Zn-65, Zr-95, Nb-95, I-131, Cs-134, Cs-137, Ba-140, and La-140 were reported.

For fish eight nuclides, K-40, Mn-54, Co-58, Fe-59, Co-60, Zn-65, Cs-134, and Cs-137 were reported.

For clams eight nuclides, K-40, Mn-54, Co-58, Fe-59, Co-60, Zn-65, Cs-134, and Cs-137 were reported.

For crabs eight nuclides, K-40, Mn-54, Co-58, Fe-59, Co-60, Zn-65, Cs-134, and Cs-137 were reported.

For sediment seven nuclides, Be-7, K-40, Mn-54, Co-58, Co-60, Cs-134, and Cs-137 were reported.

For air particulate eight nuclides, Be-7, Mn-54, Co-58, Co-60, Sr-89, Sr-90, Cs-134, Cs-137, and Gross Beta were reported.

For air cartridges one nuclide, I-131 was reported.

For vegetation nine nuclides, Be-7, K-40, Sr-89, Sr-90, I-131, Cs-134, Cs-137, Ba-140, and La-140 were reported.

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

D. Program Exceptions

For 2005 the OCGS REMP had a sample recovery rate in excess of 99%. Exceptions are listed below:

1. Ground water monthly grab samples were not available for the following period and location, due to well drilling:
   September 2005, Location 38

2. Ground water quarterly composites missed the Ba-140 LLD for the following periods and locations, due to the composite date rather than the stop collection date being used as the reference date:
   01/01/2005 – 03/31/05, Location 1
   01/01/2005 – 03/31/05, Location 37
   01/01/2005 – 03/31/05, Location 38
   04/01/2005 – 06/30/05, Location 1
   04/01/2005 – 06/30/05, Location 37
   04/01/2005 – 06/30/05, Location 38
   07/01/2005 – 09/31/05, Location 1
   07/01/2005 – 09/31/05, Location 37
   07/01/2005 – 09/31/05, Location 38

3. Air particulate and air iodine samples were not available for the following periods and locations, due to electrical problems:
   01/18/2005 – 01/25/2005 (week 4), Location 71
   01/18/2005 – 01/25/2005 (week 4), Location 73
   01/25/2005 – 02/01/2005 (week 5), Location 73
   02/01/2005 – 02/08/2005 (week 6), Location 73
   02/08/2005 – 02/15/2005 (week 7), Location 73
   02/15/2005 – 02/22/2005 (week 8), Location 73
   02/22/2005 – 03/02/2005 (week 9), Location 72
   03/02/2005 – 03/08/2005 (week 10), Location 73
   05/03/2005 – 05/10/2005 (week 19), Location 20

05/10/2005 – 05/18/2005 (week 20), Location 20
05/24/2005 – 06/01/2005 (week 22), Location C
06/01/2005 – 06/07/2005 (week 23), Location 66
06/01/2005 – 06/07/2005 (week 23), Location C
07/07/2005 – 07/13/2005 (week 28), Location 66
08/10/2005 – 08/16/2005 (week 33), Location 72
07/26/2005 – 08/03/2005 (week 31), Location 3
08/10/2005 – 08/16/2005 (week 33), Location 72
08/16/2005 – 08/23/2005 (week 34), Location 72
08/23/2005 – 08/30/2005 (week 35), Location 72
08/30/2005 – 09/07/2005 (week 36), Location 72
09/07/2005 – 09/13/2005 (week 37), Location C
09/14/2005 – 09/21/2005 (week 38), Location C
09/21/2005 – 09/27/2005 (week 39), Location C
09/27/2005 – 10/05/2005 (week 40), Location C
10/05/2005 – 10/12/2005 (week 41), Location 71
10/05/2005 – 10/12/2005 (week 41), Location 73
10/05/2005 – 10/12/2005 (week 41), Location C
10/12/2005 – 10/19/2005 (week 42), Location 71
10/12/2005 – 10/19/2005 (week 42), Location 72
10/12/2005 – 10/19/2005 (week 42), Location 3
10/12/2005 – 10/19/2005 (week 42), Location C
12/20/2005 – 12/28/2005 (week 52), Location 71

4. Air particulate and air iodine samples were found to have a small hole in the center of each filter for the following period and location, reason unknown:
0/7/07/2005 – 07/13/2005 (week 28), Location 66

5. Air particulate filter adhered to the filter holder for the following period and location, due to high humidity:
07/26/2005 – 08/03/2005 (week 31), Location 3

7. Air particulate gross beta and air iodine samples iodine-131 LLDs were missed for the following period and location, due to small air volume from electrical failure:
09/07/2005 – 09/13/2005 (week 37), Location C

6. TLD sample was lost for the following periods and locations, due to vandalism:
01/10/2005 – 04/11/2005, Location 65
01/10/2005 – 04/11/2005, Location 78
04/11/2005 – 07/11/2005, Location 5
10/10/2005 – 01/09/2006, Location 6
10/10/2005 – 01/09/2006, Location 74

7. TLD sample was not collected for the following periods and locations, due to presence of heavy equipment during ongoing construction:
07/11/2005 – 10/10/2005, Location 9
10/10/2005 – 01/09/2006, Location 9

8. Clams were unavailable for collection in the Facility Discharge Canal for 2005.

Each program exception was captured under the corrective action process which resulted in an investigation to understand the causes of the program exception. Sampling and maintenance errors were reviewed with the personnel involved to prevent recurrence.

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

E. Program Changes

There were no changes to the program in 2005.

IV. Results and Discussion

A. Aquatic Environment

1. Surface Water

Samples were taken via grab sample methodology at two locations (33 and 94) on a monthly schedule. In addition, grab samples were collected semi-annually at two locations (23 and 24). Of these locations 23, 24, and 33, located downstream, could be affected by Oyster Creek's effluent releases. The following analyses were performed:

Tritium

Samples from all locations were analyzed for tritium activity (Table C–I.1, Appendix C). No tritium activity was detected. The highest MDA was calculated at <200 pCi/l.

Gamma Spectrometry

Samples from all locations were analyzed for gamma emitting

nuclides (Table C–I.2, Appendix C). All nuclides were less than the MDA.

2. Well Water

Quarterly samples were composited from monthly grab samples at three locations (1, 37, and 38). Two locations (1 and 38) could be affected by Oyster Creek's effluent releases. The following analyses were performed:

Tritium

Quarterly samples from all locations were analyzed for tritium activity (Table C–II.1, Appendix C). Tritium activities were consistent with those detected in previous years.

Gamma Spectrometry

Samples from all locations were analyzed for gamma emitting nuclides (Table C–II.2, Appendix C). All nuclides were less than the MDA.

3. Fish

Fish samples comprised of American eel and flounder (bottom feeder) and weakfish, striped bass, bluefish, black drum, kingfish, herring, and crevalle jack (predator) were collected at three locations (33, 93, and 94) semiannually. Locations 93 and 33 could be affected by Oyster Creek's effluent releases. The following analysis was performed:

Gamma Spectrometry

The edible portions of fish samples from three locations were analyzed for gamma emitting nuclides (Table C–III.1, Appendix C). Naturally occurring potassium-40 was found at all stations and ranged from 2,250 to 5,190 pCi/kg wet and was consistent with levels detected in previous years. No fission or activation products were found.

4. Clams and Crabs

Clams were collected at three locations (23, 24, and 94) semiannually. Crabs were collected at one location (93) annually. Locations 23, 24, and 93 could be affected by Oyster Creek's

effluent releases. The following analysis was performed:

Gamma Spectrometry

The edible portions of clam samples from all three locations were analyzed for gamma emitting nuclides (Table C–III.2, Appendix C). Naturally occurring potassium-40 was found at all stations and ranged from 942 to 1,740 pCi/kg wet and was consistent with levels detected in previous years. No fission or activation products were found. Historical levels of Co-60 in clams are shown in Figure C–1, Appendix C.

The edible portions of crab samples from one location were analyzed for gamma emitting nuclides (Table C–III.2, Appendix C). Naturally occurring potassium-40 was found at a concentration of 3,260 pCi/kg wet and was consistent with levels detected in previous years. No fission or activation products were found.

5. Sediment

Aquatic sediment samples were collected at four locations (23, 24, 33, and 94) semiannually. Of these locations, stations 23, 24, and 33 located downstream, could be affected by Oyster Creek's effluent releases. The following analysis was performed:

Gamma Spectrometry

Sediment samples from all four locations were analyzed for gamma emitting nuclides (Table C–IV.1, Appendix C). Nuclides detected were naturally occurring Be-7 and K-40, and the fission product Cs-137.

Beryllium-7 was found in one sediment sample. Location 23 had a concentration of 1030 pCi/kg dry. Potassium-40 was found at all stations and ranged from 709 to 20,200 pCi/kg dry. Concentrations of the fission product Cs-137 was found in one sediment sample. Location 23 had a concentration of 87 pCi/kg dry. The activity detected was consistent with those detected in previous years (Figure C–3, Appendix C). No other Oyster Creek fission or activation products were found. Figure C–2, Appendix C graphs Co-60 concentrations in sediment from 1984 through 2005.

B. Atmospheric Environment

1. Airborne

a. Air Particulates

Continuous air particulate samples were collected from seven locations on a weekly basis. The seven locations were separated into three groups: Group I represents locations near the OCGS site boundary (20 and 66), Group II represents the locations at an intermediate distance from the OCGS site (71, 72, and 73), and Group III represents the control and locations at a remote distance from OCGS (C and 3). The following analyses were performed:

Gross Beta

Weekly samples were analyzed for concentrations of beta emitters (Table C–V.1 and C–V.2, Appendix C).

Detectable gross beta activity was observed at all locations. Comparison of results among the three groups aid in determining the effects, if any, resulting from the operation of OCGS. The results from the Site Boundary locations (Group I) ranged from <6 to 31 E–3 pCi/m^3 with a mean of 15 E–3 pCi/m^3. The results from the Intermediate Distance locations (Group II) ranged from <5 to 40 E–3 pCi/m^3 with a mean of 14 E–3 pCi/m^3. The results from the Distant locations (Group III) ranged from 6 to 50 E–3 pCi/m^3 with a mean of 14 E–3 pCi/m^3. Comparison of the 2005 air particulate data with previous years data indicate no effects from the operation of OCGS (Figure C–5, Appendix C). In addition a comparison of the weekly mean values for 2005 indicate no notable differences among the three groups (Figure C–4, Appendix C).

Strontium-89 and Strontium-90

Weekly samples were composited quarterly and analyzed for strontium-89 and strontium-90 (Table C–V.3, Appendix C). No strontium was detected.

Gamma Spectrometry

Weekly samples were composited quarterly and analyzed for gamma emitting nuclides (Table C–V.4, Appendix C).

Naturally occurring Be-7 due to cosmic ray activity was detected in all samples. These values ranged from 41 to 106 E–3 pCi/m^3. All other nuclides were less than the MDA.

b. Airborne Iodine

Continuous air samples were collected from seven (C, 3, 20, 66, 71, 72, and 73) locations and analyzed weekly for I-131 (Table C–VI.1, Appendix C). All results were less than the MDA.

2. Terrestrial

a. Vegetation

Samples were collected from three locations (35, 36, and 66) when available. The following analyses were performed:

Strontium-89 and Strontium-90

Vegetation samples from all locations were analyzed for concentrations of strontium-89 and strontium-90 (Table C–VII.1, Appendix C). All strontium-89 results were less than the MDA. Strontium-90 was detected in all samples. The values ranged from 4 to 39 pCi/kg wet, which is consistent with historical data.

Gamma Spectrometry

Each vegetation sample from locations 35, 36, and 66 Sector were analyzed for concentrations of gamma emitting nuclides (Table C–VII.1, Appendix C). Naturally occurring K-40 activity was found in all samples and ranged from 2,300 to 6,520 pCi/l. Cs-137 activity detected in three samples was consistent with those detected in previous years. All other nuclides were less than the MDA.

C. Ambient Gamma Radiation

Ambient gamma radiation levels were measured utilizing Panasonic Model 814 ($CaSO_4$) thermoluminescent dosimeters. Forty-nine TLD locations were monitored around the site. Results of TLD measurements are listed in Tables C–VIII.1 to C–VIII.3, Appendix C.

All TLD measurements were below 20 mR/standard quarter, with a range

of 7.6 to 19.2 mR/standard quarter. 2005 gamma radiation data from the control location were plotted along with similar data from the Site, Intermediate Distance, and Outer Ring Locations (Figure C-6, Appendix C). Historical ambient gamma radiation data from the control location was plotted along with similar data from the Site, Intermediate Distance and Outer Ring Locations (Figure C–7, Appendix C). The 2005 TLD results are consistent with historical data.

D. Land Use Survey

A Land Use Survey, conducted during 2005 around the Oyster Creek Generating Station (OCGS), was performed by Normandeau Associates, RMC Environmental Services Division for Exelon Nuclear. The purpose of the survey was, in part, to determine the location of animals producing milk for human consumption in each of the sixteen meteorological sectors out to a distance of 5 miles from the OCGS. None were observed. Another purpose of the survey was to determine the location of gardens greater than 500 square feet in size producing broad leaf vegetation, as well as the closest residence within each of the sixteen meteorological sectors. The distance and direction of all locations from the OCGS Reactor Building were positioned using Global Positioning System (GPS) technology. There were no changes required to the OCGS REMP, as a result of this survey. The results of this survey are summarized below.

Distance in Miles from the OCGS Reactor Building		
Sector	Residence (Miles)	Garden* (Miles)
1 N	1.1	1.3
2 NNE	0.6	1.8
3 NE	0.7	1.5
4 ENE	1.1	3.1
5 E	1.2	-
6 ESE	0.7	0.4
7 SE	0.6	0.4
8 SSE	0.9	1.8
9 S	1.6	2.1
10 SSW	1.7	4.3
11 SW	1.7	1.8
12 WSW	2.3	-
13 W	-	-
14 WNW	-	-
15 NW	5.3	-
16 NNW	1.5	2.8

* Greater than 500 ft^2 in size producing broad leaf vegetation

E. Summary of Results – Inter-laboratory Comparison Program

The primary and secondary laboratories analyzed Performance Evaluation (PE) samples of air particulate, air iodine, milk, soil, vegetation and water matrices (Appendix E). The PE samples, supplied by Analytics Inc., Environmental Resource Associates (ERA) and DOE's Mixed Analyte Performance Evaluation Program (MAPEP), were evaluated against the following pre-set acceptance criteria:

1. Analytics Evaluation Criteria

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

2. ERA Evaluation Criteria

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

3. DOE Evaluation Criteria

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

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

For the primary laboratory, 18 out of 19 analytes met the specified acceptance criteria. One sample did not meet the specified acceptance criteria for the following reason:

1. Teledyne Brown Engineering's Analytics' September 2005 air particulate Fe-59 ratio of 1.35 exceeded the upper control limit of 1.30 due to a new technician not counting the air particulate in a petri dish.

For the secondary laboratory, 19 out of 23 analytes met the specified acceptance criteria. Four samples did not meet the specified acceptance criteria for the following reasons:

1. Environmental Inc.'s ERA's November 2005 water Gross Alpha result of 41.1 pCi/L exceeded the upper control limit of 33.4 pCi/L. This was due to using an Am-241 efficiency instead of a Th-232 efficiency when counting the sample. Using the correct efficiency gave a result of 27.0 pCi/L.

2. Environmental Inc.'s ERA's November 2005 water Ra-228 result of 5.5 pCi/L exceeded the upper control limit of 5.0 pCi/L due to presence of radium daughters. Delay in counting 100 minutes gave a result of 4.01 pci/L.

3. Environmental Inc.'s MAPEP's January 2005 air particulate Sr-90 result of 2.2 exceeded the upper control limit of 1.76 Bq/kg. Reanalysis result was 1.56 Bq/kg.

4. Environmental Inc.'s MAPEP's July 2005 soil Am-241 result of 48.4 exceeded the lower control limit of 56.77 Bq/kg due to incorrect sample weight being used in the calculation. When recalculated with the correct sample weight, the result was 97.0 Bq/kg.

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

V. References

1. AmerGen Energy Company, LLC. Oyster Creek Nuclear Generating Station Operating License and Technical Specifications, Appendix A, DPR-16, April 1969.

2. AmerGen Energy Company, LLC. Oyster Creek Offsite Dose Calculation Manual, Procedure CY-OC-170-301.

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4. National Council on Radiation Protection and Measurements, Report No. 93, Ionizing Radiation Exposure of the Population of the United States, 1987.

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6. National Council on Radiation Protection and Measurements, Report No. 22, Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and Water for Occupational Exposure, (Published as National Bureau of Standards Handbook 69, Issued June 1959, superseding Handbook 52).

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APPENDIX A

RADIOLOGICAL ENVIRONMENTAL MONITORING REPORT SUMMARY

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE OYSTER CREEK GENERATING STATION, 2005

Name of Facility: OYSTER CREEK GENERATING STATION **DOCKET NUMBER:** 50-219
Location of Facility: OCEAN COUNTY, NJ **REPORTING PERIOD:** 2005

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN* (F) RANGE	CONTROL LOCATION MEAN* (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN MEAN* (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
SURFACE WATER (PCI/LITER)	H-3	28	200	175 (0/16) (<135/<196)	168 (0/12) (<128/<200)	187 (0/2) (<177/<196)	23 INDICATOR BARNEGAT BAY OFF STOUTS CREEK 3.6 MILES ENE OF SITE	0
	GAMMA	28						
	MN-54		15	4 (0/16) (<2/<7)	5 (0/12) (<3/<7)	5 (0/12) (<3/<7)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	CO-58		15	4 (0/16) (<2/<6)	4 (0/12) (<4/<6)	5 (0/2) (<4/<6)	24 INDICATOR BARNEGAT BAY 2.1 MILES E OF SITE	0
	FE-59		30	9 (0/16) (<3/<14)	9 (0/12) (<7/<13)	11 (0/2) (<10/<12)	24 INDICATOR BARNEGAT BAY 2.1 MILES E OF SITE	0
	CO-60		15	5 (0/16) (<2/<6)	5 (0/12) (<4/<7)	5 (0/2) (<4/<6)	23 INDICATOR BARNEGAT BAY OFF STOUTS CREEK 3.6 MILES ENE OF SITE	0
	ZN-65		30	9 (0/16) (<3/<14)	10 (0/12) (<7/<15)	10 (0/2) (<10/<10)	24 INDICATOR BARNEGAT BAY 2.1 MILES E OF SITE	0
	NB-95		15	5 (0/16) (<2/<7)	5 (0/12) (<4/<6)	5 (0/12) (<4/<6)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	ZR-95		30	8 (0/16) (<3/<12)	8 (0/12) (<5/<12)	8 (0/2) (<8/<9)	24 INDICATOR BARNEGAT BAY 2.1 MILES E OF SITE	0

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

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	I-131		15	8 (0/16) (<2/<15)	8 (0/12) (<6/<13)	12 (0/2) (<8/<15)	24 INDICATOR BARNEGAT BAY 2.1 MILES E OF SITE	0
	CS-134		15	4 (0/16) (<2/<6)	4 (0/12) (<3/<5)	4 (0/12) (<2/<6)	33 INDICATOR EAST OF RT 9 BRIDGE IN OCGS DISCHARGE 0.4 MILES ESE OF SITE	0
	CS-137		18	4 (0/16) (<2/<7)	5 (0/12) (<3/<7)	5 (0/12) (<3/<7)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	BA-140		60	25 (0/16) (<7/<38)	22 (0/12) (<16/<32)	30 (0/2) (<22/<38)	24 INDICATOR BARNEGAT BAY 2.1 MILES E OF SITE	0
	LA-140		15	7 (0/16) (<2/<12)	7 (0/12) (<4/<11)	10 (0/2) (<7/<12)	24 INDICATOR BARNEGAT BAY 2.1 MILES E OF SITE	0
WELL WATER (PCI/LITER)	H-3	12	200	174 (0/8) (<157/<197)	185 (1/4) (<157/239)	185 (1/4) (<157/239)	37 CONTROL BOOX RD AT LACEY MUA PUMPING STA 2.2 MILES NNE OF SITE	0
	GAMMA	12						
	MN-54		15	5 (0/8) (<3/<6)	4 (0/4) (<3/<6)	5 (0/4) (<4/<6)	1 INDICATOR ON-SITE DOMESTIC WELL AT OCGS 0.2 MILES	0
	CO-58		15	5 (0/8) (<3/<9)	4 (0/4) (<3/<6)	5 (0/4) (<3/<9)	38 INDICATOR RT 532 - OCEAN TOWNSHIP MUA PUMPING 1.6 MILES SSW OF SITE	0

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	FE-59	30		11 (0/8) (<6/<23)	11 (0/4) (<7/<15)	11 (0/4) (<7/<15)	37 CONTROL BOOX RD AT LACEY MUA PUMPING STA 2.2 MILES NNE OF SITE	0
	CO-60	15		5 (0/8) (<3/<7)	5 (0/4) (<4/<6)	5 (0/4) (<3/<7)	1 INDICATOR ON-SITE DOMESTIC WELL AT OCGS 0.2 MILES	0
	ZN-65	30		9 (0/8) (<6/<14)	9 (0/4) (<8/<11)	10 (0/4) (<6/<14)	1 INDICATOR ON-SITE DOMESTIC WELL AT OCGS 0.2 MILES	0
	NB-95	15		6 (0/8) (<3/<10)	6 (0/4) (<4/<8)	6 (0/4) (<4/<9)	1 INDICATOR ON-SITE DOMESTIC WELL AT OCGS 0.2 MILES	0
	ZR-95	30		9 (0/8) (<5/<13)	9 (0/4) (<7/<12)	9 (0/4) (<5/<12)	1 INDICATOR ON-SITE DOMESTIC WELL AT OCGS 0.2 MILES	0
	I-131	15		97 (0/8) (<6/<667)	35 (0/4) (<8/<96)	177 (0/4) (<6/<667)	38 INDICATOR RT 532 - OCEAN TOWNSHIP MUA PUMPING 1.6 MILES SSW OF SITE	0
	CS-134	15		4 (0/8) (<3/<6)	4 (0/4) (<4/<5)	5 (0/4) (<3/<6)	1 INDICATOR ON-SITE DOMESTIC WELL AT OCGS 0.2 MILES	0
	CS-137	18		5 (0/8) (<4/<6)	5 (0/4) (<4/<5)	5 (0/4) (<4/<6)	1 INDICATOR ON-SITE DOMESTIC WELL AT OCGS 0.2 MILES	0

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	BA-140		60	75 (0/8) (<19/<379)	48 (0/4) (<20/<106)	116 (0/4) (<22/<379)	38 INDICATOR RT 532 - OCEAN TOWNSHIP MUA PUMPING 1.6 MILES SSW OF SITE	0
	LA-140		15	27 (0/8) (<5/<145)	18 (0/4) (<6/<35)	43 (0/4) (<7/<145)	38 INDICATOR RT 532 - OCEAN TOWNSHIP MUA PUMPING 1.6 MILES SSW OF SITE	0
BOTTOM FEEDER (FISH) (PCI/KG WET)	GAMMA	3						
	K-40		NA	NA	2803 (3/3) (2250/3460)	2803 (3/3) (2250/3460)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	MN-54		130	NA	36 (0/3) (<30/<42)	36 (0/3) (<30/<42)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	CO-58		130	NA	41 (0/3) (<30/<55)	41 (0/3) (<30/<55)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	FE-59		260	NA	84 (0/3) (<48/<106)	84 (0/3) (<48/<106)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	CO-60		130	NA	43 (0/3) (<34/<51)	43 (0/3) (<34/<51)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	ZN-65		260	NA	78 (0/3) (<59/<88)	78 (0/3) (<59/<88)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0

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	CS-134		130	NA 35 (0/3) (<26/<41)	35 (0/3) (<26/<41)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE		0
	CS-137		150	NA 38 (0/3) (<33/<47)	38 (0/3) (<33/<47)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE		0
PREDATOR (FISH) (PCI/KG WET)	GAMMA	13						
	K-40		NA	4313 (9/9) (2920/5190)	4513 (4/4) (4070/4860)	4513 (4/4) (4070/4860)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	MN-54		130	39 (0/9) (<30/<52)	39 (0/4) (<20/<55)	41 (0/4) (<30/<52)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0
	CO-58		130	42 (0/9) (<26/<59)	43 (0/4) (<28/<57)	48 (0/4) (<38/<59)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0
	FE-59		260	87 (0/9) (<63/<116)	90 (0/4) (<50/<141)	94 (0/4) (<63/<116)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0
	CO-60		130	41 (0/9) (<31/<60)	46 (0/4) (<29/<58)	48 (0/4) (<37/<60)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0
	ZN-65		260	82 (0/9) (<67/<103)	80 (0/4) (<53/<99)	84 (0/4) (<67/<103)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0

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MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN* (F) RANGE	CONTROL LOCATION MEAN* (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN MEAN* (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
	CS-134		130	36 (0/9) (<29/<46)	40 (0/4) (<21/<55)	40 (0/4) (<21/<55)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	CS-137		150	42 (0/9) (<35/<51)	44 (0/4) (<30/<60)	44 (0/4) (<30/<60)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
CLAMS PCI/KG WET	GAMMA K-40	6	NA	1059 (3/4) (942/1250)	1645 (2/2) (1550/1740)	1645 (2/2) (1550/1740)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	MN-54		130	63 (0/4) (<38/<109)	40 (0/2) (<22/<57)	74 (0/2) (<38/<109)	23 INDICATOR BARNEGAT BAY OFF STOUTS CREEK 3.6 MILES ENE OF SITE	0
	CO-58		130	74 (0/4) (<42/<120)	30 (0/2) (<21/<39)	82 (0/2) (<44/<120)	23 INDICATOR BARNEGAT BAY OFF STOUTS CREEK 3.6 MILES ENE OF SITE	0
	FE-59		260	143 (0/4) (<68/<235)	80 (0/2) (<46/<114)	152 (0/2) (<68/<235)	23 INDICATOR BARNEGAT BAY OFF STOUTS CREEK 3.6 MILES ENE OF SITE	0
	CO-60		130	63 (0/4) (<29/<101)	48 (0/2) (<46/<50)	65 (0/2) (<29/<101)	23 INDICATOR BARNEGAT BAY OFF STOUTS CREEK 3.6 MILES ENE OF SITE	0
	ZN-65		NA	139 (0/4) (<63/<234)	80 (0/2) (<57/<102)	148 (0/2) (<63/<234)	23 INDICATOR BARNEGAT BAY OFF STOUTS CREEK 3.6 MILES ENE OF SITE	0

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	CS-134		100	64 (0/4) (<39/<90)	37 (0/2) (<21/<52)	64 (0/2) (<39/<90)	23 INDICATOR BARNEGAT BAY OFF STOUTS CREEK 3.6 MILES ENE OF SITE	0
	CS-137		100	65 (0/4) (<39/<90)	31 (0/2) (<27/<36)	68 (0/2) (<46/<90)	24 INDICATOR BARNEGAT BAY 2.1 MILES E OF SITE	0
CRABS	GAMMA	1						
(PCI/KG WET)	K-40		NA	3260 (1/1) (3260)	NA	3260 (1/1) (3260)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0
	MN-54		130	62 (0/1) (<62)	NA	62 (0/1) (<62)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0
	CO-58		130	54 (0/1) (<54)	NA	54 (0/1) (<54)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0
	FE-59		260	139 (0/1) (<139)	NA	139 (0/1) (<139)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0
	CO-60		130	46 (0/1) (<46)	NA	46 (0/1) (<46)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0
	ZN-65		NA	144 (0/1) (<144)	NA	144 (0/1) (<144)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0

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MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN* (F) RANGE	CONTROL LOCATION MEAN* (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN MEAN* (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
	CS-134		100	52 (0/1) (<52)	NA	52 (0/1) (<52)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0
	CS-137		100	71 (0/1) (<71)	NA	71 (0/1) (<71)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0
SEDIMENT (PCI/KG DRY)	GAMMA	8						
	BE-7		NA	458 (1/6) (<232/1030)	440 (0/2) (<365/<515)	631 (1/2) (<232/1030)	23 INDICATOR BARNEGAT BAY OFF STOUTS CREEK 3.6 MILES ENE OF SITE	0
	K-40		NA	3488 (6/6) (709/8310)	18800 (2/2) (17400/20200)	18800 (2/2) (17400/20200)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	MN-54		NA	34 (0/6) (<25/<38)	48 (0/2) (<42/<54)	48 (0/2) (<42/<54)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	CO-58		NA	35 (0/6) (<28/<43)	46 (0/2) (<42/<50)	46 (0/2) (<42/<50)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	CO-60		NA	32 (0/6) (<26/<42)	42 (0/2) (<42/<43)	42 (0/2) (<42/<43)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	CS-134		150	31 (0/6) (<24/<38)	43 (0/2) (<34/<51)	43 (0/2) (<34/<51)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE OYSTER CREEK GENERATING STATION, 2005

Name of Facility: OYSTER CREEK GENERATING STATION **DOCKET NUMBER:** 50-219
Location of Facility: OCEAN COUNTY, NJ **REPORTING PERIOD:** 2005

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN* (F) RANGE	CONTROL LOCATION MEAN* (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN MEAN* (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
	CS-137		180	46 (1/6) (<27/87)	54 (0/2) (<45/<63)	57 (1/2) (<27/87)	23 INDICATOR BARNEGAT BAY OFF STOUTS CREEK 3.6 MILES ENE OF SITE	0
AIR PARTICULATE (E-3 PCI/CU.METER)	GR-B	360	10	14 (287/308) (<5/40)	15 (49/52) (6/<50)	15 (49/52) (6/<50)	C CONTROL JCP&L OFFICE - COOKSTOWN NJ 24.7 MILES NW OF SITE	0
	SR-89	28	10	6.9 (0/24) (< 5.5/< 9.4)	7.7 (0/4) (< 6.3/< 8.7)	7.7 (0/4) (< 6.3/< 8.7)	C CONTROL JCP&L OFFICE - COOKSTOWN NJ 24.7 MILES NW OF SITE	0
	SR-90	28	10	4.7 (0/24) (< 3.2/< 6.6)	4.7 (0/4) (< 3.2/< 6.3)	5.1 (0/4) (< 3.6/< 6.6)	3 INDICATOR COAST GUARD STATION - ISLAND BEACH ST PK 6.0 MILES E OF SITE	0
	GAMMA	28						
	BE-7		NA	57.3 (24/24) (41/106)	64.5 (4/4) (50/88)	71.8 (4/4) (52/106)	71 INDICATOR RT 532 AT WARETOWN MUNICPAL BLDG 1.6 MILES SSE OF SITE	0
	MN-54		NA	1.8 (0/24) (< 0.5/< 3.4)	1.5 (0/4) (< 1.0/< 2.4)	2.1 (0/4) (< 1.0/< 3.3)	73 INDICATOR BAY PARKWAY - SANDS POINT HARBOR 1.8 MILES ESE OF SITE	0
	CO-58		NA	2.1 (0/24) (< 0.7/< 5.1)	1.8 (0/4) (< 1.1/< 3.1)	2.5 (0/4) (< 1.2/< 5.1)	73 INDICATOR BAY PARKWAY - SANDS POINT HARBOR 1.8 MILES ESE OF SITE	0
	CO-60		NA	1.8 (0/24) (< 0.4/< 3.2)	1.5 (0/4) (< 1.0/< 2.3)	2.1 (0/4) (< 1.0/< 3.2)	3 INDICATOR COAST GUARD STATION - ISLAND BEACH ST PK 6.0 MILES E OF SITE	0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE OYSTER CREEK GENERATING STATION, 2005

Name of Facility: OYSTER CREEK GENERATING STATION **DOCKET NUMBER:** 50-219
Location of Facility: OCEAN COUNTY, NJ **REPORTING PERIOD:** 2005

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN* (F) RANGE	CONTROL LOCATION MEAN* (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN MEAN* (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
	CS-134		50	1.9 (0/24) (< 0.5/< 4.5)	1.8 (0/4) (< 0.9/< 3.8)	2.2 (0/4) (< 0.9/< 3.9)	73 INDICATOR BAY PARKWAY - SANDS POINT HARBOR 1.8 MILES ESE OF SITE	0
	CS-137		60	1.7 (0/24) (< 0.5/< 3.8)	1.6 (0/4) (< 1.0/< 2.7)	1.8 (0/4) (< 0.8/< 3.1)	72 INDICATOR LACEY RD AT KNIGHT OF COLUMBUS HALL 1.9 MILES NNE OF SITE	0
AIR IODINE (E-3 PCI/CU.METER)	I-131	360	70	20 (0/308) (<11/<39)	22 (0/52) (<6/<160)	22 (0/52) (<6/<160)	C CONTROL JCP&L OFFICE - COOKSTOWN NJ 24.7 MILES NW OF SITE	0
VEGETATION	SR-89	24	25	16 (0/15) (<11/<23)	20 (0/9) (<15/<24)	20 (0/9) (<15/<24)	36 CONTROL U-PICK FARM - NEW EGYPT NJ 23.1 MILES NW OF SITE	0
	SR-90	24	5	13 (14/15) (<3/20)	23 (9/9) (4/39)	23 (9/9) (4/39)	36 CONTROL U-PICK FARM - NEW EGYPT NJ 23.1 MILES NW OF SITE	0
	GAMMA BE-7	24	NA	238 (6/15) (102/424)	161 (2/9) (72/282)	239 (3/6) (159/317)	66 INDICATOR EAST OF RT 9 AND SOUTH OF OCGS DISCHG 0.4 MILES SE OF SITE	0
	K-40		NA	3429 (15/15) (2570/4870)	4187 (9/9) (2300/6520)	4187 (9/9) (2300/6520)	36 CONTROL U-PICK FARM - NEW EGYPT NJ 23.1 MILES NW OF SITE	0
	I-131		60	39 (0/15) (<14/<58)	33 (0/9) (<10/<59)	39 (0/6) (<14/<53)	66 INDICATOR EAST OF RT 9 AND SOUTH OF OCGS DISCHG 0.4 MILES SE OF SITE	0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE OYSTER CREEK GENERATING STATION, 2005

Name of Facility: OYSTER CREEK GENERATING STATION **DOCKET NUMBER:** 50-219
Location of Facility: OCEAN COUNTY, NJ **REPORTING PERIOD:** 2005

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN* (F) RANGE	CONTROL LOCATION MEAN* (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN MEAN* (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
	CS-134		60	18 (0/15) (<7/<28)	14 (0/9) (<6/<23)	18 (0/6) (<7/<28)	66 INDICATOR EAST OF RT 9 AND SOUTH OF OCGS DISCHG 0.4 MILES SE OF SITE	0
	CS-137		80	25 (3/15) (<12/<37)	16 (0/9) (<6/<25)	26 (1/6) (<12/<37)	66 INDICATOR EAST OF RT 9 AND SOUTH OF OCGS DISCHG 0.4 MILES SE OF SITE	0
	BA-140		NA	99 (0/15) (<38/<159)	84 (0/9) (<30/<143)	108 (0/6) (<38/<159)	66 INDICATOR EAST OF RT 9 AND SOUTH OF OCGS DISCHG 0.4 MILES SE OF SITE	0
	LA-140		NA	29 (0/15) (<10/<54)	21 (0/9) (<8/<42)	108 (0/6) (<10/<47)	66 INDICATOR EAST OF RT 9 AND SOUTH OF OCGS DISCHG 0.4 MILES SE OF SITE	
DIRECT RADIATION (MILLI-ROENTGEN/STD.QUARTER **2004 DATA**	TLD-QUARTERLY	194	N/A	11.5 (186/186) (7.4/18.2)	11.9 (8/8) (9.5/14.4)	16.7 (4/4) (15.7/18.2)	55 INDICATOR OCGS SWITCHYARD 0.3 MILES W OF SITE	0

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

APPENDIX B

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

TABLE B-1: Location Designation and Identification System for the Oyster Creek Generating Station

Sample Medium	–	APT = Air Particulate AIO = Air Iodine WWA = Well Water VEG = Vegetation SWA = Surface Water AQS = Aquatic Sediment	Clam = Clam TLD = Thermoluminescent Dosimetry Fish = Fish Crab = Crab
Station Code	–	Station's Designation	
Distance	–	Distance from the OCGS in miles	
Azimuth	–	Azimuth with respect to the OCGS in degrees	
Description	–	Meteorological sector in which the station is located and a narrative description	

TABLE B-2: Radiological Environmental Monitoring Program – Sampling Locations, Distance and Direction, Oyster Creek Generating Station, 2005

Sample Medium	Station Code	Distance (miles)	Azimuth (degrees)	Description
TLD	1	0.4	219	SW of site at OCGS Fire Pond, Forked River, NJ
WWA	1	0.1	209	On-site southern domestic well at OCGS, Forked River, NJ
		0.2	349	On-site northern domestic well at OCGS, Forked River, NJ
APT, AIO, TLD	3	6.0	97	East of site, near old Coast Guard Station, Island Beach State Park
TLD	4	4.6	213	SSW of site, Route 554 and Garden Parkway, Barnegat, NJ
TLD	5	4.2	353	North of site, at Garden State Rest Area, Forked River, NJ
TLD	6	2.1	13	NNE of site, Lane Place, behind St. Pius Church, Forked River, NJ
TLD	8	2.3	177	South of site, Route 9 at the Waretown Substation, Waretown, NJ
TLD	9	2.0	230	SW of site, where Route 532 and the Garden State Parkway meet, Waretown, NJ
APT, AIO, TLD	C	24.7	313	NW of site, JCP&L office in rear parking lot, Cookstown, NJ
TLD	11	8.2	152	SSE of site, 80th and Anchor Streets, Harvey Cedars, NJ
TLD	14	20.8	2	North of site, Larrabee Substation on Randolph Road, Lakewood, NJ
APT, AIO	20	0.7	95	East of site, on Finninger Farm on south side of access road, Forked River, NJ
TLD	22	1.6	145	SE of site, on Long Silver Way, Skippers Cove, Waretown, NJ
SWA, CLAM, AQS	23	3.6	64	ENE of site, Barnegat Bay off Stouts Creek, approximately 400 yards SE of "Flashing Light 1"
SWA, CLAM, AQS	24	2.1	101	East of site, Barnegat Bay, approximately 250 yards SE of "Flashing Light 3"
SWA, AQS, FISH	33	0.4	123	ESE of site, east of Route 9 Bridge in OCGS Discharge Canal
VEG	35	0.4	111	ESE of site, east of Route 9 and north of the OCGS Discharge Canal, Forked River, NJ
VEG	36	23.1	319	NW of site, at "U-Pick" Farm, New Egypt, NJ
WWA	37	2.2	18	NNE of Site, off Boox Road at Lacey MUA Pumping Station, Forked River, NJ
WWA	38	1.6	197	SSW of Site, on Route 532, at Ocean Township MUA Pumping Station, Waretown, NJ

TABLE B-2: Radiological Environmental Monitoring Program – Sampling Locations, Distance and Direction, Oyster Creek Generating Station, 2005

Sample Medium	Station Code	Distance (miles)	Azimuth (degrees)	Description
TLD	46	5.6	323	NNW of site, on Lacey Road, Forked River, NJ
TLD	47	4.6	26	NNE of site, Harbor Inn Road, Bayville, NJ
TLD	48	4.5	189	South of site, at Brooks and Schoolhouse Roads, Barnegat, NJ
TLD	51	0.4	358	North of site, on the access road to Forked River site, Forked River, NJ
TLD	52	0.3	333	NNW of site, on the access road to Forked River site, Forked River, NJ
TLD	53	0.3	309	NW of site, at sewage lift station on the access road to the Forked River site, Forked River, NJ
TLD	54	0.3	288	WNW of site, on the access road to Forked River site, Forked River, NJ
TLD	55	0.3	263	West of site, on Southern Area Stores security fence, west of OCGS Switchyard, Forked River, NJ
TLD	56	0.3	249	WSW of site, on utility pole east of Southern Area Stores, west of the OCGS Switchyard, Forked River, NJ
TLD	57	0.2	206	SSW of site, on Southern Area Stores access road, Forked River, NJ
TLD	58	0.2	188	South of site, on Southern Area Stores access road, Forked River, NJ
TLD	59	0.3	166	SSE of site, on Southern Area Stores access road, Waretown, NJ
TLD	61	0.3	104	ESE of site, on Route 9 south of OCGS Main Entrance, Forked River, NJ
TLD	62	0.2	83	East of site, on Route 9 at access road to OCGS Main Gate, Forked River, NJ
TLD	63	0.2	70	ENE of site, on Route 9, between main gate and OCGS North Gate access road, Forked River, NJ
TLD	64	0.3	48	NE of site, on Route 9 at entrance to Finninger Farm, Forked River, NJ
TLD	65	0.4	19	NNE of site, on Route 9 at Intake Canal Bridge, Forked River, NJ
APT, AIO, TLD, VEG	66	0.4	133	SE of site, east of Route 9 and south of the OCGS Discharge Canal, inside fence, Waretown, NJ
TLD	68	1.3	265	West of site, on Garden State Parkway at mile marker 71.7, Lacey Township, NJ
APT, AIO, TLD	71	1.6	164	SSE of site, on Route 532 at the Waretown Municipal Building, Waretown, NJ

TABLE B-2: Radiological Environmental Monitoring Program – Sampling Locations, Distance and Direction, Oyster Creek Generating Station, 2005

Sample Medium	Station Code	Distance (miles)	Azimuth (degrees)	Description
APT, AIO, TLD	72	1.9	25	NNE of site, on Lacey Road at Knights of Columbus Hall, Forked River, NJ
APT, AIO, TLD	73	1.8	108	ESE of site, on Bay Parkway, Sands Point Harbor, Waretown, NJ
TLD	74	1.8	88	East of site, Orlando Drive and Penguin Court, Forked River, NJ
TLD	75	2.0	71	ENE of site, Beach Blvd. and Maui Drive, Forked River, NJ
TLD	78	1.8	2	North of site, 1514 Arient Road, Forked River, NJ
TLD	79	2.9	160	SSE of site, Hightide Drive and Bonita Drive, Waretown, NJ
TLD	81	3.5	201	SSW of site, on Rose Hill Road at intersection with Barnegat Boulevard, Barnegat, NJ
TLD	82	4.4	36	NE of site, Bay Way and Clairmore Avenue, Lanoka Harbor, NJ
TLD	84	4.4	332	NNW of site, on Lacey Road, 1.3 miles west of the Garden State Parkway on siren pole, Lacey Township, NJ
TLD	85	3.9	250	WSW of site, on Route 532, just east of Wells Mills Park, Waretown, NJ
TLD	86	5.0	224	SW of site, on Route 554, 1 mile west of the Garden State Parkway, Barnegat, NJ
TLD	88	6.6	125	SE of site, eastern end of 3rd Street, Barnegat Light, NJ
TLD	89	6.1	108	ESE of site, Job Francis residence, Island Beach State Park
TLD	90	6.3	75	ENE of site, parking lot A-5, Island Beach State Park
TLD	92	9.0	46	NE of site, at Guard Shack/Toll Booth, Island Beach State Park
FISH, CRAB	93	0.1	242	WSW of site, OCGS Discharge Canal between Pump Discharges and Route 9, Forked River, NJ
SWA, AQS, CLAM, FISH	94	20.0	198	SSW of site, in Great Bay/Little Egg Harbor
TLD	98	1.3	292	WNW of site, on Garden State Parkway at mile marker 72.3, Lacey Township, NJ
TLD	99	1.5	310	NW of site, on Garden State Parkway at mile marker 72.8, Lacey Township, NJ
TLD	T1	0.4	219	SW of site, at OCGS Fire Pond, Forked River, NJ

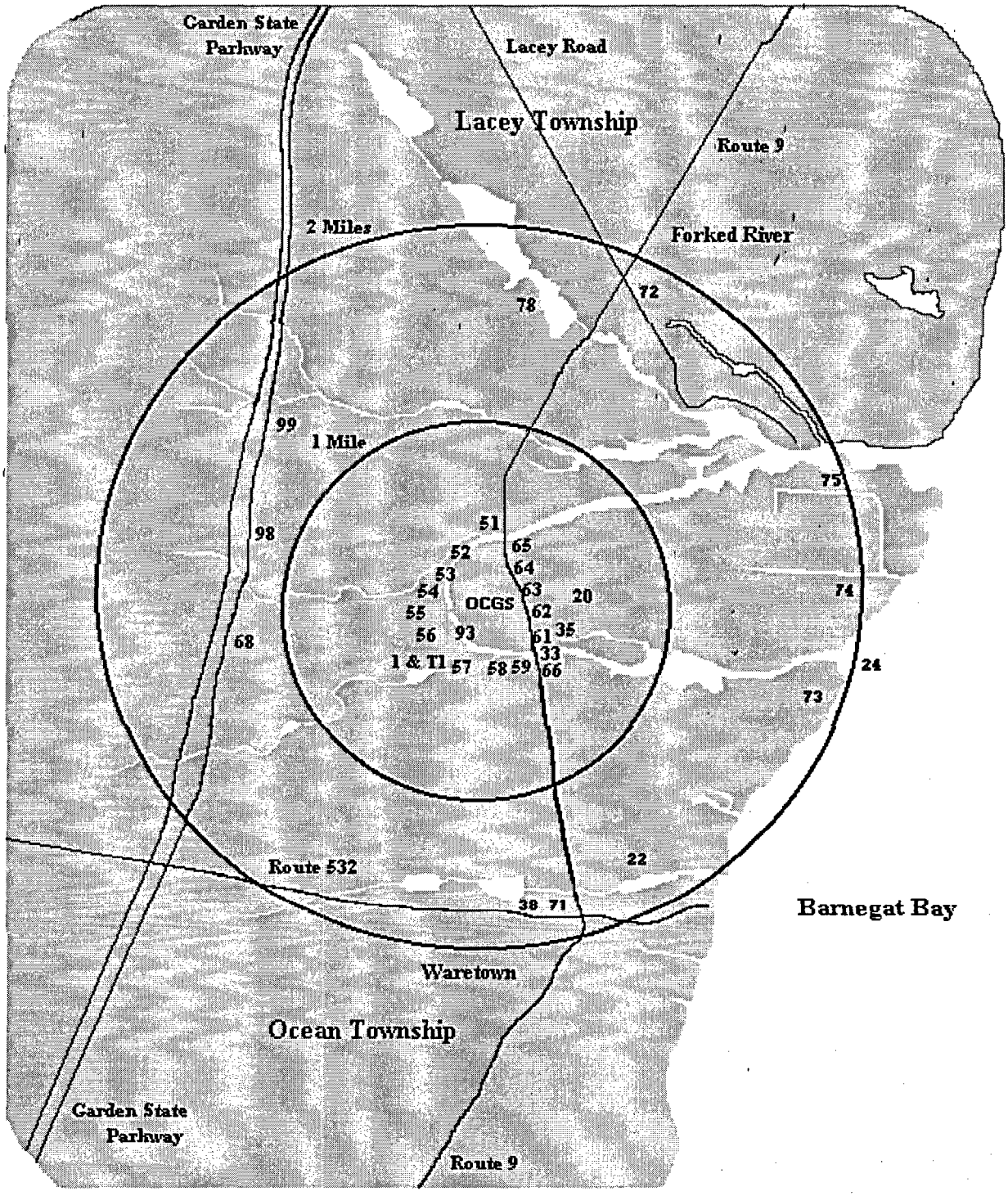
TABLE B-3: Radiological Environmental Monitoring Program – Summary of Sample Collection and Analytical Methods, Oyster Creek Generating Station, 2005

Sample Medium	Analysis	Sampling Method	Collection Procedure Number	Sample Size	Analytical Procedure Number
Surface Water	Gamma Spectroscopy	Grab Sample	ER-OCGS-06, Collection of surface water samples for radiological analysis	1 gallon	TBE, TBE-2007 Gamma emitting radioisotopes analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Surface Water	Tritium	Grab Sample	ER-OCGS-06, Collection of surface water samples for radiological analysis	1 gallon	TBE, TBE-2010 Tritium and carbon-13 analysis by liquid scintillation Env. Inc., T-02 Determination of tritium in water (direct method)
Well Water	Gamma Spectroscopy	Monthly samples composited quarterly	ER-OCGS-10, Collection of well water samples for radiological analysis CY-OC-120-1200, REMP sample collection procedure – well water	1 gallon	TBE, TBE-2007 Gamma emitting radioisotopes analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Well Water	Tritium	Monthly samples composited quarterly	ER-OCGS-10, Collection of well water samples for radiological analysis CY-OC-120-1200, REMP sample collection procedure – well water	1 gallon	TBE, TBE-2010 Tritium and carbon-13 analysis by liquid scintillation Env. Inc., T-02 Determination of tritium in water (direct method)
Fish	Gamma Spectroscopy	Semi-annual samples collected via hook and line technique and traps	ER-OCGS-14, Collection of fish samples for radiological analysis	1000 grams (wet)	TBE, TBE-2007 Gamma emitting radioisotopes analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Clams and Crabs	Gamma Spectroscopy	Semi-annual and annual samples collected using clam tongs and traps.	ER-OCGS-16, Collection of clam and crab samples for radiological analysis	1000 grams (wet)	TBE, TBE-2007 Gamma emitting radioisotopes analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Sediment	Gamma Spectroscopy	Semi-annual grab samples	ER-OCGS-03, Collection of aquatic sediment samples for radiological analysis	1000 grams (dry)	TBE, TBE-2007 Gamma emitting radioisotopes analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy

TABLE B-3: Radiological Environmental Monitoring Program – Summary of Sample Collection and Analytical Methods, Oyster Creek Generating Station, 2005

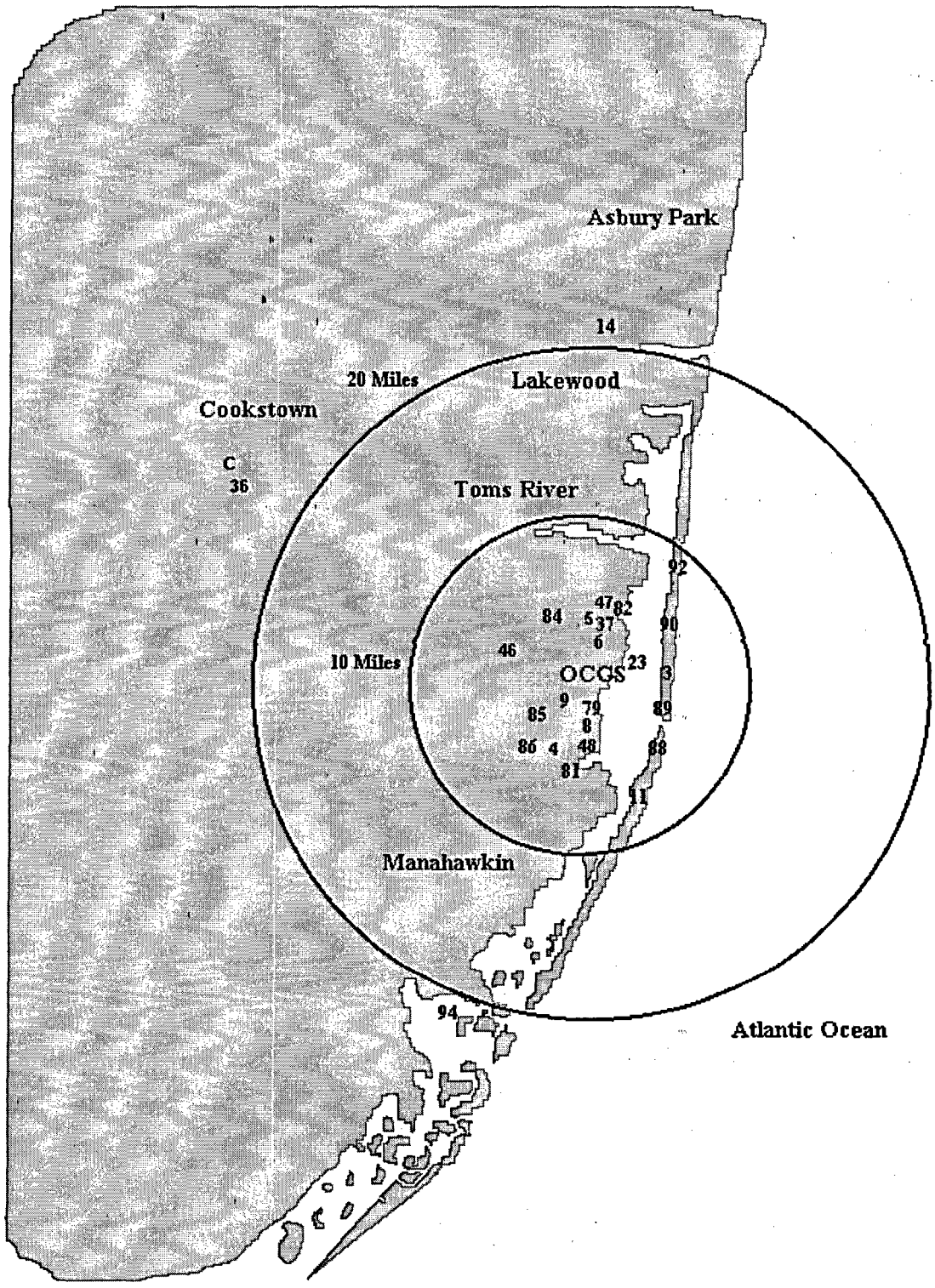
Sample Medium	Analysis	Sampling Method	Collection Procedure Number	Sample Size	Analytical Procedure Number
Air Particulates	Gross Beta	One-week composite of continuous air sampling through glass fiber filter paper	ER-OCGS-05, Collection of air iodine and air particulate samples for radiological analysis	1 filter (approximately 300 cubic meters weekly)	TBE, TBE-2008 Gross alpha and/or beta activity in various matrices) Env. Inc., AP-02 Determination of gross alpha and/or gross beta in air particulate filters
Air Particulates	Gamma Spectroscopy	Quarterly composite of each station	TBE, TBE-2023 Compositing of samples Env. Inc., AP-03 Procedure for compositing air particulate filters for gamma spectroscopic analysis	13 filters (approximately 4000 cubic meters)	TBE, TBE-2007 Gamma emitting radioisotopes analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Air Particulates	Strontium-89/90	Quarterly composite of each station	ER-OCGS-05, Collection of air iodine and air particulate samples for radiological analysis	13 filters (approximately 4000 cubic meters)	TBE, TBE-2019 Radiostrontium analysis by ion exchange
Air Iodine	Gamma Spectroscopy	One-week composite of continuous air sampling through charcoal filter	ER-OCGS-05, Collection of air iodine and air particulate samples for radiological analysis	1 filter (approximately 300 cubic meters weekly)	TBE, TBE-2007 Gamma emitting radioisotopes analysis Env. Inc., I-131-02 Determination of I-131 in charcoal canisters by gamma spectroscopy (batch method)
Vegetation	Gamma Spectroscopy	Grab sample during growing season	ER-OCGS-04, Collection of food products and broadleaf vegetation samples for radiological analysis	1000 grams	TBE, TBE-2007 Gamma emitting radioisotopes analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Vegetation	Strontium-89/90	Grab sample during growing season	ER-OCGS-04, Collection of food products and broadleaf vegetation samples for radiological analysis	1000 grams	TBE, TBE-2019 Radiostrontium analysis by ion exchange
TLD	Thermoluminescence Dosimetry	Quarterly TLDs comprised of two Panasonic 814 (containing 3 each $CaSO_4$ elements)	ER OCGS-02, Collection of thermoluminescent dosimeters (TLDs) for radiological analysis	2 dosimeters	ICN Pharmaceutical/Global Dosimetry, Inc.

Figure B-1



Oyster Creek Generating Station (OCGS)
Locations of Radiological Environmental Monitoring Program (REMP)
Stations within two miles of the OCGS

Figure B-2



Oyster Creek Generating Station (OCGS)
Locations of Radiological Environmental Monitoring Program (REMP)
Stations greater than 2 miles from the OCGS

APPENDIX C

DATA TABLES
PRIMARY LABORATORY

TABLE C-I.1 CONCENTRATIONS OF TRITIUM IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	23	24	33	94
JAN			< 159	< 200
FEB			< 195	< 128
MAR			< 191	< 190
APR	< 196	< 192	< 190	< 197
MAY			< 178	< 179
JUN			< 172	< 161
JUL			< 159	< 162
AUG			< 135	< 134
SEP			< 155	< 153
OCT	< 177	< 174	< 179	< 175
NOV			< 171	< 160
DEC			< 172	< 175
MEAN*	187 ± 27	183 ± 25	171 ± 35	168 ± 46

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

TABLE C-I.2 CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
23	JAN												
	FEB												
	MAR												
	APR	< 4	< 4	< 10	< 6	< 9	< 4	< 8	< 8	< 3	< 4	< 23	< 6
	MAY												
	JUN												
	JUL												
	AUG												
	SEP												
	OCT	< 3	< 3	< 8	< 4	< 8	< 4	< 7	< 10	< 4	< 4	< 30	< 8
	NOV												
	DEC												
	MEAN*	4 ± 2	4 ± 1	9 ± 2	5 ± 3	8 ± 1	4 ± 1	8 ± 0.4	9 ± 3	3 ± 1	4 ± 0	27 ± 10	7 ± 2
24	JAN												
	FEB												
	MAR												
	APR	< 4	< 4	< 10	< 5	< 10	< 4	< 8	< 8	< 4	< 4	< 22	< 7
	MAY												
	JUN												
	JUL												
	AUG												
	SEP												
	OCT	< 4	< 6	< 12	< 5	< 10	< 5	< 9	< 15	< 4	< 5	< 38	< 12
	NOV												
	DEC												
	MEAN*	4 ± 0.5	5 ± 3	11 ± 3	5 ± 0.2	10 ± 0.2	5 ± 1	8 ± 1	12 ± 9	4 ± 0.2	4 ± 1	30 ± 23	10 ± 7

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

TABLE C-I.2 CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
33	JAN	< 4	< 5	< 8	< 4	< 9	< 5	< 7	< 7	< 4	< 4	< 22	< 7
	FEB	< 5	< 6	< 13	< 5	< 11	< 7	< 10	< 10	< 6	< 5	< 34	< 8
	MAR	< 3	< 3	< 7	< 3	< 8	< 3	< 6	< 5	< 3	< 3	< 15	< 4
	APR	< 6	< 4	< 10	< 6	< 9	< 4	< 7	< 6	< 6	< 5	< 26	< 4
	MAY	< 5	< 5	< 11	< 5	< 11	< 5	< 10	< 10	< 5	< 6	< 28	< 9
	JUN	< 5	< 6	< 12	< 5	< 9	< 7	< 8	< 9	< 6	< 6	< 29	< 9
	JUL	< 7	< 6	< 14	< 6	< 14	< 7	< 12	< 9	< 6	< 7	< 30	< 9
	AUG	< 2	< 2	< 3	< 2	< 3	< 2	< 3	< 2	< 2	< 2	< 7	< 2
	SEP	< 3	< 3	< 5	< 3	< 6	< 3	< 5	< 5	< 3	< 3	< 13	< 4
	OCT	< 5	< 5	< 10	< 5	< 11	< 6	< 10	< 12	< 5	< 5	< 32	< 10
	NOV	< 4	< 3	< 9	< 5	< 8	< 3	< 7	< 11	< 3	< 4	< 27	< 7
	DEC	< 4	< 4	< 8	< 5	< 10	< 5	< 9	< 7	< 4	< 5	< 17	< 7
	MEAN*	4 ± 3	4 ± 3	9 ± 6	4 ± 3	9 ± 5	5 ± 4	8 ± 5	8 ± 6	4 ± 3	5 ± 3	23 ± 17	7 ± 5
94	JAN	< 4	< 4	< 8	< 5	< 9	< 4	< 8	< 7	< 3	< 5	< 18	< 6
	FEB	< 5	< 5	< 12	< 6	< 10	< 6	< 11	< 9	< 4	< 5	< 27	< 10
	MAR	< 4	< 4	< 8	< 4	< 7	< 4	< 6	< 6	< 3	< 4	< 17	< 6
	APR	< 6	< 6	< 13	< 7	< 15	< 6	< 12	< 8	< 5	< 6	< 31	< 9
	MAY	< 6	< 5	< 12	< 6	< 13	< 5	< 7	< 9	< 5	< 3	< 24	< 9
	JUN	< 7	< 4	< 10	< 5	< 10	< 6	< 8	< 8	< 5	< 7	< 21	< 6
	JUL	< 4	< 4	< 9	< 5	< 10	< 4	< 8	< 7	< 5	< 5	< 20	< 7
	AUG	< 4	< 4	< 8	< 4	< 8	< 5	< 5	< 7	< 4	< 4	< 17	< 4
	SEP	< 3	< 4	< 8	< 4	< 7	< 4	< 7	< 6	< 3	< 3	< 16	< 4
	OCT	< 5	< 4	< 7	< 4	< 10	< 4	< 10	< 13	< 4	< 4	< 30	< 8
	NOV	< 5	< 4	< 9	< 5	< 10	< 5	< 7	< 13	< 4	< 5	< 32	< 11
	DEC	< 4	< 5	< 8	< 4	< 8	< 4	< 7	< 6	< 4	< 4	< 16	< 6
	MEAN*	5 ± 2	4 ± 1	9 ± 4	5 ± 2	10 ± 5	5 ± 2	8 ± 4	8 ± 5	4 ± 2	5 ± 2	22 ± 12	7 ± 4

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

TABLE C-II.1 **CONCENTRATIONS OF TRITIUM IN WELL WATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	1	37	38
JAN - MAR	< 197	239 ± 124	< 191
APR - JUN	< 163	< 163	< 165
JUL - SEP	< 181	< 181	< 182
OCT - DEC	< 157	< 157	< 158
MEAN*	175 ± 36	185 ± 75	174 ± 30

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

TABLE C-II.2 CONCENTRATIONS OF GAMMA EMITTERS IN WELL WATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
1	JAN	< 4	< 5	< 10	< 6	< 9	< 5	< 9	< 9	< 5	< 5	< 24	< 9
	FEB												
	MAR												
	APR	< 5	< 6	< 14	< 5	< 11	< 9	< 11	< 17	< 6	< 6	< 48	< 14
	MAY												
	JUN												
	JUL	< 6	< 6	< 14	< 7	< 14	< 6	< 12	< 32	< 5	< 6	< 50	< 14
	AUG												
	SEP												
	OCT	< 4	< 3	< 7	< 3	< 6	< 4	< 5	< 7	< 3	< 4	< 19	< 5
	NOV												
	DEC												
	MEAN*	5 ± 2	5 ± 2	11 ± 7	5 ± 3	10 ± 6	6 ± 4	9 ± 6	16 ± 22	5 ± 2	5 ± 2	35 ± 32	11 ± 9
37	JAN	< 4	< 4	< 9	< 4	< 8	< 4	< 8	< 10	< 4	< 4	< 26	< 9
	FEB												
	MAR												
	APR	< 3	< 4	< 13	< 5	< 10	< 6	< 10	< 25	< 5	< 4	< 43	< 21
	MAY												
	JUN												
	JUL	< 6	< 6	< 15	< 6	< 11	< 8	< 12	< 96	< 5	< 5	< 106	< 35
	AUG												
	SEP												
	OCT	< 3	< 3	< 7	< 4	< 8	< 4	< 7	< 8	< 4	< 5	< 20	< 6
	NOV												
	DEC												
	MEAN*	4 ± 3	4 ± 2	11 ± 7	5 ± 2	9 ± 3	6 ± 4	9 ± 4	35 ± 83	4 ± 2	5 ± 0	48 ± 79	18 ± 26

TABLE C-II.2 CONCENTRATIONS OF GAMMA EMITTERS IN WELL WATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
38	JAN	< 4	< 3	< 6	< 3	< 7	< 4	< 6	< 8	< 3	< 4	< 24	< 7
	FEB												
	MAR												
	APR	< 5	< 5	< 6	< 5	< 7	< 5	< 8	< 29	< 4	< 4	< 38	< 13
	MAY												
	JUN												
	JUL	< 5	< 9	< 23	< 7	< 11	< 10	< 13	< 667	< 6	< 6	< 379	< 145
	AUG												
	SEP												
	OCT	< 3	< 3	< 8	< 5	< 6	< 3	< 7	< 6	< 3	< 4	< 22	< 7
	NOV												
	DEC												
	MEAN*	5 ± 2	5 ± 6	11 ± 16	5 ± 3	8 ± 5	6 ± 6	9 ± 6	177 ± 653	4 ± 2	4 ± 2	116 ± 352	43 ± 136

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

TABLE C-III.1 **CONCENTRATIONS OF GAMMA EMITTERS IN PREDATOR AND BOTTOM FEEDER (FISH) SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005**

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137
	PREDATOR								
33	04/27 - 04/27/05	3690 ± 837	< 33	< 32	< 69	< 34	< 86	< 35	< 40
93	04/27 - 04/27/05	4210 ± 788	< 30	< 38	< 63	< 37	< 67	< 29	< 38
93	04/28 - 04/28/05	4650 ± 1020	< 52	< 56	< 116	< 60	< 103	< 43	< 51
33	05/24 - 05/24/05	3940 ± 574	< 30	< 26	< 66	< 32	< 70	< 29	< 35
93	10/04 - 10/04/05	2920 ± 650	< 36	< 40	< 106	< 40	< 72	< 36	< 39
93	10/04 - 10/04/05	5190 ± 952	< 46	< 59	< 91	< 57	< 94	< 41	< 43
33	10/03 - 10/05/05	4610 ± 688	< 38	< 36	< 100	< 33	< 76	< 31	< 38
33	10/05 - 10/05/05	4910 ± 820	< 49	< 49	< 97	< 47	< 97	< 46	< 47
33	10/05 - 10/06/05	4700 ± 858	< 39	< 41	< 77	< 31	< 74	< 37	< 47
	MEAN*	4313 ± 1406	39 ± 16	42 ± 22	87 ± 38	41 ± 22	82 ± 26	36 ± 12	42 ± 10
94	PREDATOR								
	04/26 - 04/26/05	4680 ± 834	< 49	< 49	< 94	< 49	< 99	< 52	< 46
	04/26 - 04/26/05	4070 ± 689	< 20	< 28	< 50	< 46	< 53	< 21	< 30
	10/04 - 10/04/05	4860 ± 927	< 55	< 57	< 141	< 58	< 91	< 55	< 60
	10/04 - 10/04/05	4440 ± 847	< 34	< 39	< 75	< 29	< 77	< 33	< 39
	MEAN*	4513 ± 683	39 ± 31	43 ± 25	90 ± 77	46 ± 24	80 ± 40	40 ± 32	44 ± 26
94	BOTTOM FEEDER								
	04/26 - 04/26/05	2700 ± 756	< 30	< 30	< 48	< 34	< 59	< 26	< 33
	10/04 - 10/04/05	3460 ± 657	< 35	< 40	< 97	< 44	< 87	< 38	< 35
	10/04 - 10/04/05	2250 ± 745	< 42	< 55	< 106	< 51	< 88	< 41	< 47
	MEAN*	2803 ± 1223	36 ± 12	41 ± 25	84 ± 63	43 ± 17	78 ± 33	35 ± 16	38 ± 16

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

TABLE C-III.2 **CONCENTRATIONS OF GAMMA EMITTERS IN CLAM AND CRAB SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005**

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137
23	CLAMS								
	04/26 - 04/26/05	974 ± 508	< 38	< 44	< 68	< 29	< 63	< 39	< 39
	10/03 - 10/03/05	< 1070	< 109	< 120	< 235	< 101	< 234	< 90	< 84
	MEAN*	1022 ± 136	74 ± 100	82 ± 108	152 ± 236	65 ± 103	148 ± 242	64 ± 72	61 ± 65
24	CLAMS								
	04/25 - 04/25/05	1250 ± 721	< 40	< 42	< 90	< 35	< 73	< 48	< 46
	10/03 - 10/03/05	942 ± 583	< 66	< 91	< 181	< 89	< 185	< 78	< 90
	MEAN*	1096 ± 436	53 ± 37	67 ± 70	135 ± 129	62 ± 77	129 ± 159	63 ± 43	68 ± 62
94	CLAMS								
	04/26 - 04/26/05	1550 ± 564	< 22	< 21	< 46	< 46	< 57	< 21	< 27
	10/04 - 10/04/05	1740 ± 912	< 57	< 39	< 114	< 50	< 102	< 52	< 36
	MEAN*	1645 ± 269	40 ± 50	30 ± 25	80 ± 97	48 ± 6	80 ± 63	37 ± 45	31 ± 13
93	CRABS								
	10/06 - 10/06/05	3260 ± 925	< 62	< 54	< 139	< 46	< 144	< 52	< 71

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

TABLE C-IV.1 CONCENTRATIONS OF GAMMA EMITTERS IN SEDIMENT SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

RESULTS IN UNITS OF PCI/KG DRY ± 2 SIGMA

STC	COLLECTION PERIOD	Be-7	K-40	Mn-54	Co-58	Co-60	Cs-134	Cs-137
23								
	04/26/05	1030 ± 459	8310 ± 963	< 33	< 28	< 26	< 28	87 ± 45
	10/03/05	< 232	4610 ± 635	< 25	< 29	< 26	< 24	< 27
	MEAN*	631 ± 1129	6460 ± 5233	29 ± 11	29 ± 2	26 ± 0	26 ± 6	57 ± 85
24								
	04/25/05	< 363	709 ± 411	< 35	< 33	< 26	< 30	< 32
	10/03/05	< 352	1990 ± 534	< 37	< 40	< 40	< 30	< 42
	MEAN*	358 ± 16	1350 ± 1812	36 ± 3	37 ± 10	33 ± 20	30 ± 0	37 ± 15
33								
	04/25/05	< 346	2080 ± 610	< 38	< 37	< 32	< 38	< 48
	10/03/05	< 427	3230 ± 631	< 38	< 43	< 42	< 35	< 42
	MEAN*	387 ± 115	2655 ± 1626	38 ± 0	40 ± 8	37 ± 15	36 ± 3	45 ± 8
94								
	04/26/05	< 365	20200 ± 1750	< 42	< 42	< 42	< 34	< 45
	10/03/05	< 515	17400 ± 1590	< 54	< 50	< 43	< 51	< 63
	MEAN*	440 ± 212	18800 ± 3960	48 ± 17	46 ± 10	42 ± 1	43 ± 23	54 ± 25

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

TABLE C-V.1 CONCENTRATIONS OF GROSS BETA IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

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

	GROUP I		GROUP II			GROUP III	
WEEK	20	66	71	72	73	3	C
1	27 ± 6	23 ± 6	11 ± 6	17 ± 6	23 ± 6	25 ± 7	25 ± 6
2	13 ± 4	12 ± 4	9 ± 4	15 ± 4	14 ± 4	11 ± 4	12 ± 4
3	19 ± 6	16 ± 6	16 ± 6	16 ± 6	14 ± 6	15 ± 6	19 ± 6
4	11 ± 5	15 ± 5	15 ± 6	9 ± 5	16 ± 6	10 ± 5	16 ± 5
5	11 ± 5	10 ± 5	7 ± 5	< 7	11 ± 5	12 ± 5	10 ± 5
6	16 ± 5	13 ± 5	9 ± 5	10 ± 5	13 ± 5	9 ± 5	19 ± 5
7	20 ± 5	12 ± 5	15 ± 5	12 ± 5	13 ± 5	11 ± 5	15 ± 5
8	15 ± 4	17 ± 5	15 ± 5	13 ± 5	11 ± 4	15 ± 5	15 ± 5
9	11 ± 4	10 ± 4	9 ± 4	12 ± 4	13 ± 4	9 ± 4	11 ± 4
10	21 ± 6	15 ± 6	17 ± 6	12 ± 5	14 ± 5	16 ± 6	19 ± 6
11	17 ± 5	18 ± 5	11 ± 5	14 ± 5	13 ± 5	11 ± 5	11 ± 5
12	10 ± 5	12 ± 5	14 ± 5	16 ± 5	11 ± 5	14 ± 5	12 ± 5
13	9 ± 5	< 7	10 ± 5	16 ± 5	10 ± 5	< 7	10 ± 5
14	9 ± 4	7 ± 4	7 ± 4	9 ± 5	13 ± 5	8 ± 4	6 ± 4
15	8 ± 5	15 ± 5	15 ± 5	12 ± 5	11 ± 5	9 ± 5	15 ± 5
16	13 ± 5	21 ± 5	15 ± 5	13 ± 5	13 ± 5	8 ± 4	15 ± 5
17	12 ± 5	12 ± 5	10 ± 5	12 ± 5	9 ± 5	12 ± 5	9 ± 5
18	15 ± 5	13 ± 5	11 ± 5	14 ± 5	15 ± 5	18 ± 5	15 ± 5
19	< 7	7 ± 5	< 7	8 ± 5	11 ± 5	7 ± 5	< 7
20	(1)	8 ± 4	< 5	12 ± 4	10 ± 4	11 ± 4	12 ± 4
21	< 10	11 ± 5	8 ± 5	< 8	< 8	< 8	< 8
22	6 ± 4	< 6	8 ± 4	7 ± 4	< 6	8 ± 4	7 ± 4
23	12 ± 5	12 ± 6	< 7	8 ± 5	< 7	< 7	10 ± 6
24	16 ± 5	12 ± 4	14 ± 4	14 ± 5	15 ± 5	11 ± 4	15 ± 5
25	9 ± 5	< 8	8 ± 5	8 ± 5	8 ± 5	< 8	8 ± 5
26	13 ± 4	13 ± 4	12 ± 4	10 ± 4	11 ± 4	8 ± 4	15 ± 4
27	10 ± 5	8 ± 5	12 ± 5	11 ± 5	8 ± 5	7 ± 5	9 ± 5
28	15 ± 5	14 ± 5	17 ± 5	13 ± 5	11 ± 5	13 ± 5	14 ± 5
29	12 ± 5	12 ± 5	10 ± 5	< 8	11 ± 5	11 ± 5	10 ± 5
30	14 ± 5	17 ± 5	15 ± 5	19 ± 5	22 ± 5	20 ± 5	16 ± 5
31	18 ± 5	18 ± 5	18 ± 5	21 ± 5	19 ± 5	18 ± 5	18 ± 5
32	31 ± 6	26 ± 6	28 ± 6	23 ± 6	27 ± 6	21 ± 6	24 ± 6
33	21 ± 6	20 ± 6	16 ± 6	14 ± 6	16 ± 6	13 ± 6	21 ± 6
34	20 ± 5	25 ± 6	20 ± 5	24 ± 6	25 ± 6	19 ± 5	18 ± 5
35	8 ± 4	12 ± 5	8 ± 4	10 ± 5	7 ± 4	< 7	11 ± 5
36	14 ± 4	15 ± 4	15 ± 4	14 ± 4	14 ± 4	15 ± 4	15 ± 4
37	23 ± 6	24 ± 6	24 ± 6	21 ± 6	18 ± 6	17 ± 6	< 50 (1)
38	16 ± 5	15 ± 5	14 ± 5	15 ± 5	12 ± 5	15 ± 5	16 ± 5
39	24 ± 6	22 ± 6	17 ± 6	25 ± 6	26 ± 6	15 ± 6	21 ± 6
40	< 6	13 ± 4	12 ± 4	16 ± 5	14 ± 4	16 ± 5	13 ± 4
41	13 ± 5	10 ± 4	12 ± 6	7 ± 4	13 ± 7	8 ± 4	8 ± 4
42	14 ± 5	10 ± 5	(1)	(1)	11 ± 5	(1)	9 ± 5
43	8 ± 4	7 ± 4	9 ± 4	< 7	7 ± 4	10 ± 5	9 ± 5
44	16 ± 5	16 ± 5	17 ± 5	13 ± 5	17 ± 5	16 ± 5	16 ± 5
45	27 ± 6	26 ± 6	26 ± 6	25 ± 6	28 ± 6	27 ± 6	29 ± 6
46	19 ± 5	19 ± 5	14 ± 4	21 ± 5	16 ± 5	16 ± 5	16 ± 5
47	19 ± 6	17 ± 6	16 ± 5	18 ± 6	20 ± 6	17 ± 6	21 ± 6
48	12 ± 5	7 ± 4	10 ± 5	8 ± 4	8 ± 4	11 ± 5	7 ± 4
49	18 ± 5	18 ± 5	15 ± 5	15 ± 5	16 ± 5	19 ± 5	17 ± 5
50	26 ± 6	30 ± 6	25 ± 6	28 ± 6	26 ± 6	30 ± 6	29 ± 6
51	12 ± 5	22 ± 5	17 ± 5	13 ± 5	17 ± 5	10 ± 5	17 ± 5
52	28 ± 5	26 ± 5	40 ± 7	30 ± 5	21 ± 5	24 ± 5	28 ± 5
MEAN*	15 ± 12	15 ± 12	14 ± 13	14 ± 11	14 ± 11	13 ± 11	15 ± 15

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

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

TABLE C-V.2 **MONTHLY AND YEARLY MEAN VALUES OF GROSS BETA CONCENTRATIONS (E-3 PCI/CU METER) IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005**

GROUP I - ON-SITE LOCATIONS				GROUP II - INTERMEDIATE DISTANCE LOCATIONS				GROUP III - CONTROL LOCATIONS			
COLLECTION PERIOD	MIN	MAX.	MEAN ± 2 SD*	COLLECTION PERIOD	MIN	MAX.	MEAN ± 2 SD*	COLLECTION PERIOD	MIN	MAX.	MEAN ± 2 SD*
12/29/04 - 02/01/05	10	27	16 ± 11	12/29/04 - 02/01/05	< 7	23	13 ± 9	12/29/04 - 02/01/05	10	25	15 ± 12
02/01/05 - 03/02/05	10	20	14 ± 7	02/01/05 - 03/02/05	9	15	12 ± 4	02/01/05 - 03/02/05	9	19	13 ± 7
03/02/05 - 03/29/05	< 7	21	13 ± 10	03/02/05 - 03/29/05	10	17	13 ± 5	03/02/05 - 03/29/05	< 7	19	12 ± 8
03/29/05 - 05/03/05	7	21	12 ± 8	03/29/05 - 05/03/05	7	15	12 ± 5	03/29/05 - 05/03/05	6	18	11 ± 8
05/03/05 - 06/01/05	< 6	11	8 ± 3	05/03/05 - 06/01/05	< 5	12	8 ± 4	05/03/05 - 06/01/05	< 7	12	8 ± 4
06/01/05 - 06/29/05	< 8	16	12 ± 5	06/01/05 - 06/29/05	< 7	15	10 ± 6	06/01/05 - 06/29/05	< 7	15	10 ± 6
06/29/05 - 08/03/05	8	18	14 ± 7	06/29/05 - 08/03/05	< 8	22	14 ± 9	06/29/05 - 08/03/05	7	20	13 ± 9
08/03/05 - 08/30/05	8	31	20 ± 15	08/03/05 - 08/30/05	7	28	18 ± 15	08/03/05 - 08/30/05	< 7	24	17 ± 12
08/30/05 - 09/27/05	14	24	19 ± 9	08/30/05 - 09/27/05	12	26	18 ± 10	08/30/05 - 09/27/05	< 15	50	21 ± 24
09/27/05 - 11/02/05	< 6	16	11 ± 8	09/27/05 - 11/02/05	< 7	17	12 ± 7	09/27/05 - 11/02/05	8	16	12 ± 7
11/02/05 - 11/30/05	7	27	18 ± 13	11/02/05 - 11/30/05	8	28	17 ± 13	11/02/05 - 11/30/05	7	29	18 ± 15
11/30/05 - 12/28/05	12	30	23 ± 12	11/30/05 - 12/28/05	13	40	22 ± 16	11/30/05 - 12/28/05	10	30	22 ± 14
12/29/04 - 12/28/05	< 6	31	15 ± 8	12/29/04 - 12/28/05	< 5	40	14 ± 8	12/29/04 - 12/28/05	6	50	14 ± 8

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

TABLE C-V.3 CONCENTRATIONS OF STRONTIUM IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

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

STC	COLLECTION PERIOD	Sr-89	Sr-90
3	12/29/04 - 03/29/05	< 6.2	< 4.3
	03/29/05 - 06/29/05	< 6.0	< 6.6
	06/29/05 - 09/27/05	< 7.5	< 3.6
	09/27/05 - 12/28/05	< 8.7	< 6.1
	MEAN*	7.1 ± 2.5	5.1 ± 2.8
20	12/29/04 - 03/29/05	< 5.5	< 3.2
	03/29/05 - 06/29/05	< 7.7	< 5.9
	06/29/05 - 09/27/05	< 7.8	< 3.4
	09/27/05 - 12/28/05	< 6.6	< 3.5
	MEAN*	6.9 ± 2.2	4.0 ± 2.5
66	12/29/04 - 03/29/05	< 6.1	< 4.2
	03/29/05 - 06/29/05	< 6.5	< 5.6
	06/29/05 - 09/27/05	< 7.7	< 5.8
	09/27/05 - 12/28/05	< 6.9	< 3.8
	MEAN*	6.8 ± 1.3	4.8 ± 2.0
71	12/29/04 - 03/29/05	< 6.1	< 4.8
	03/29/05 - 06/29/05	< 6.2	< 6.1
	06/29/05 - 09/27/05	< 7.0	< 4.4
	09/27/05 - 12/28/05	< 6.7	< 5.0
	MEAN*	6.5 ± 0.8	5.1 ± 1.4
72	12/29/04 - 03/29/05	< 7.0	< 4.1
	03/29/05 - 06/29/05	< 7.3	< 5.6
	06/29/05 - 09/27/05	< 7.4	< 4.3
	09/27/05 - 12/28/05	< 6.8	< 4.1
	MEAN*	7.1 ± 0.6	4.5 ± 1.4
73	12/29/04 - 03/29/05	< 6.4	< 4.0
	03/29/05 - 06/29/05	< 6.7	< 5.6
	06/29/05 - 09/27/05	< 9.4	< 3.8
	09/27/05 - 12/28/05	< 6.3	< 4.6
	MEAN*	7.2 ± 2.9	4.5 ± 1.6
C	12/29/04 - 03/29/05	< 6.3	< 3.8
	03/29/05 - 06/29/05	< 8.7	< 6.3
	06/29/05 - 09/27/05	< 8.6	< 5.3
	09/27/05 - 12/28/05	< 7.0	< 3.2
	MEAN*	7.7 ± 2.4	4.7 ± 2.8

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

TABLE C-V.4 CONCENTRATION OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

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

STC	COLLECTION PERIOD	Be-7	Mn-54	Co-58	Co-60	Cs-134	Cs-137
3	12/29 - 03/29/05	66 ± 15	< 0.8	< 1.0	< 1.0	< 0.8	< 0.9
	03/29 - 06/29/05	53 ± 12	< 0.5	< 0.9	< 1.1	< 0.5	< 0.7
	06/29 - 09/27/05	58 ± 24	< 2.4	< 3.3	< 3.0	< 2.6	< 2.0
	09/27 - 12/28/05	41 ± 23	< 2.6	< 2.6	< 3.2	< 3.2	< 2.6
	MEAN*	55 ± 21	1.6 ± 2.2	1.9 ± 2.4	2.1 ± 2.3	1.7 ± 2.7	1.6 ± 1.8
20	12/29 - 03/29/05	57 ± 11	< 0.7	< 0.7	< 0.4	< 0.6	< 0.6
	03/29 - 06/29/05	43 ± 12	< 1.2	< 1.3	< 1.4	< 1.0	< 1.0
	06/29 - 09/27/05	67 ± 30	< 1.5	< 2.0	< 1.7	< 1.6	< 1.5
	09/27 - 12/28/05	44 ± 18	< 3.3	< 3.6	< 2.7	< 3.2	< 3.6
	MEAN*	53 ± 23	1.7 ± 2.2	1.9 ± 2.4	1.6 ± 1.8	1.6 ± 2.3	1.7 ± 2.7
66	12/29 - 03/29/05	56 ± 15	< 0.8	< 1.0	< 1.2	< 0.8	< 0.8
	03/29 - 06/29/05	52 ± 14	< 0.9	< 0.7	< 1.0	< 0.7	< 0.7
	06/29 - 09/27/05	63 ± 25	< 1.7	< 1.8	< 1.7	< 1.3	< 1.7
	09/27 - 12/28/05	59 ± 23	< 3.1	< 3.5	< 2.8	< 4.5	< 3.7
	MEAN*	58 ± 9	1.6 ± 2.1	1.8 ± 2.5	1.7 ± 1.7	1.9 ± 3.6	1.7 ± 2.8
71	12/29 - 03/29/05	57 ± 14	< 0.7	< 0.7	< 1.1	< 0.6	< 0.5
	03/29 - 06/29/05	52 ± 12	< 1.0	< 1.1	< 1.0	< 0.8	< 1.1
	06/29 - 09/27/05	73 ± 22	< 2.7	< 1.8	< 2.1	< 1.6	< 1.5
	09/27 - 12/28/05	106 ± 33	< 3.4	< 4.1	< 2.7	< 3.8	< 3.8
	MEAN*	72 ± 49	1.9 ± 2.6	1.9 ± 3.0	1.7 ± 1.6	1.7 ± 2.9	1.7 ± 2.9
72	12/29 - 03/29/05	55 ± 18	< 1.0	< 1.6	< 1.2	< 1.0	< 1.2
	03/29 - 06/29/05	55 ± 17	< 0.8	< 1.2	< 0.9	< 0.9	< 0.8
	06/29 - 09/27/05	64 ± 36	< 2.5	< 4.7	< 2.4	< 3.3	< 3.1
	09/27 - 12/28/05	43 ± 25	< 3.2	< 2.2	< 3.1	< 3.0	< 2.1
	MEAN*	54 ± 17	1.9 ± 2.3	2.4 ± 3.1	1.9 ± 2.0	2.0 ± 2.5	1.8 ± 2.1
73	12/29 - 03/29/05	62 ± 13	< 1.0	< 1.2	< 0.8	< 0.9	< 1.0
	03/29 - 06/29/05	42 ± 16	< 1.4	< 1.4	< 0.9	< 1.1	< 1.4
	06/29 - 09/27/05	55 ± 37	< 3.3	< 5.1	< 3.0	< 2.7	< 1.7
	09/27 - 12/28/05	53 ± 15	< 2.9	< 2.5	< 2.4	< 3.9	< 2.8
	MEAN*	53 ± 16	2.1 ± 2.2	2.5 ± 3.6	1.8 ± 2.2	2.2 ± 2.8	1.7 ± 1.5
C	12/29 - 03/29/05	68 ± 13	< 1.0	< 1.1	< 1.0	< 0.9	< 1.0
	03/29 - 06/29/05	50 ± 13	< 1.2	< 1.2	< 1.2	< 1.0	< 1.2
	06/29 - 09/27/05	88 ± 25	< 1.6	< 1.9	< 1.6	< 1.6	< 1.5
	09/27 - 12/28/05	53 ± 18	< 2.4	< 3.1	< 2.3	< 3.8	< 2.7
	MEAN*	65 ± 35	1.5 ± 1.3	1.8 ± 1.8	1.5 ± 1.1	1.8 ± 2.8	1.6 ± 1.6

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

TABLE C-VI.1 CONCENTRATIONS OF I-131 IN AIR IODINE SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

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

	GROUP I		GROUP II			GROUP III	
WEEK	20	66	71	72	73	3	C
1	< 12	< 13	< 13	< 12	< 13	< 12	< 12
2	< 17	< 18	< 17	< 14	< 17	< 14	< 14
3	< 17	< 19	< 19	< 15	< 18	< 16	< 16
4	< 14	< 15	< 19	< 13	< 18	< 13	< 13
5	< 18	< 20	< 19	< 22	< 19	< 22	< 22
6	< 17	< 19	< 18	< 23	< 18	< 23	< 23
7	< 18	< 20	< 20	< 15	< 19	< 15	< 15
8	< 17	< 19	< 18	< 18	< 18	< 18	< 19
9	< 20	< 21	< 19	< 22	< 21	< 20	< 20
10	< 14	< 16	< 16	< 19	< 15	< 19	< 18
11	< 18	< 18	< 18	< 15	< 18	< 15	< 15
12	< 15	< 16	< 15	< 17	< 16	< 17	< 16
13	< 13	< 13	< 13	< 14	< 13	< 14	< 13
14	< 15	< 15	< 15	< 15	< 16	< 15	< 15
15	< 20	< 20	< 20	< 23	< 20	< 23	< 23
16	< 12	< 12	< 12	< 17	< 13	< 17	< 16
17	< 25	< 25	< 24	< 19	< 25	< 19	< 34
18	< 20	< 21	< 20	< 21	< 21	< 20	< 19
19	< 16	< 16	< 16	< 22	< 16	< 22	< 22
20	(1)	< 18	< 17	< 21	< 18	< 20	< 20
21	< 20	< 16	< 16	< 17	< 16	< 17	< 17
22	< 14	< 14	< 14	< 19	< 14	< 19	< 19
23	< 22	< 25	< 23	< 24	< 23	< 24	< 25
24	< 27	< 27	< 27	< 22	< 27	< 22	< 22
25	< 19	< 19	< 19	< 17	< 19	< 17	< 16
26	< 15	< 15	< 15	< 20	< 15	< 20	< 19
27	< 19	< 18	< 18	< 20	< 18	< 20	< 19
28	< 20	< 21	< 20	< 18	< 21	< 17	< 17
29	< 23	< 24	< 24	< 26	< 24	< 26	< 25
30	< 17	< 18	< 17	< 22	< 18	< 22	< 21
31	< 16	< 16	< 16	< 23	< 17	< 23	< 22
32	< 22	< 22	< 22	< 26	< 22	< 25	< 25
33	< 25	< 25	< 25	< 18	< 26	< 17	< 16
34	< 20	< 20	< 20	< 18	< 21	< 17	< 17
35	< 19	< 20	< 20	< 17	< 20	< 17	< 16
36	< 25	< 25	< 25	< 22	< 26	< 21	< 21
37	< 22	< 23	< 22	< 24	< 23	< 24	< 160 (1)
38	< 12	< 12	< 12	< 15	< 12	< 14	< 11
39	< 21	< 22	< 21	< 21	< 22	< 20	< 20
40	< 14	< 14	< 14	< 11	< 15	< 14	< 14
41	< 17	< 18	< 26	< 26	< 28	< 26	< 25
42	< 31	< 31	(1)	(1)	< 17	(1)	< 31
43	< 23	< 23	< 23	< 28	< 23	< 28	< 27
44	< 35	< 36	< 36	< 29	< 37	< 29	< 28
45	< 22	< 25	< 24	< 23	< 25	< 12	< 22
46	< 21	< 21	< 21	< 19	< 22	< 18	< 18
47	< 38	< 39	< 39	< 36	< 39	< 36	< 35
48	< 12	< 17	< 17	< 13	< 17	< 13	< 6
49	< 30	< 31	< 30	< 34	< 31	< 34	< 33
50	< 30	< 31	< 30	< 21	< 31	< 21	< 20
51	< 21	< 14	< 21	< 19	< 22	< 19	< 19
52	< 24	< 25	< 35	< 20	< 25	< 20	< 20
MEAN*	20 ± 12	20 ± 12	20 ± 12	20 ± 10	20 ± 11	20 ± 10	22 ± 41

(1) SEE THE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-VII.1 CONCENTRATIONS OF STRONTIUM AND GAMMA EMITTERS IN VEGETATION SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	Sr-89	Sr-90	K-40	I-131	Cs-134	Cs-137	Ba-140	La-140
35 Cabbage	08/24/05	< 12	18 ± 3	3290 ± 418	< 22	< 12	< 15	< 78	< 21
35 Collards	08/24/05	< 11	14 ± 3	3040 ± 383	< 23	< 13	19 ± 14	< 69	< 25
35 Kale	08/24/05	< 16	20 ± 4	3690 ± 223	< 16	< 9	20 ± 11	< 45	< 12
35 Cabbage	09/21/05	< 16	16 ± 2	3540 ± 566	< 47	< 25	< 31	< 120	< 21
35 Collards	09/21/05	< 15	20 ± 2	2630 ± 485	< 47	< 23	< 28	< 109	< 39
35 Kale	09/21/05	< 16	16 ± 2	3680 ± 584	< 42	< 21	< 27	< 98	< 29
35 Cabbage	10/17/05	< 19	9 ± 2	2810 ± 620	< 58	< 22	< 31	< 113	< 54

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

TABLE C-VII.1 CONCENTRATIONS OF STRONTIUM AND GAMMA EMITTERS IN VEGETATION SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	Sr-89	Sr-90	K-40	I-131	Cs-134	Cs-137	Ba-140	La-140
35 Collards	10/17/05	< 12	18 ± 2	2980 ± 400	< 47	< 17	< 25	< 108	< 28
35 Kale	10/17/05	< 22	18 ± 3	4110 ± 574	< 44	< 16	< 26	< 99	< 37
	MEAN*	15 ± 7	16 ± 7	3308 ± 967	38 ± 29	18 ± 11	25 ± 11	93 ± 49	29 ± 25

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

TABLE C-VII.1 **CONCENTRATIONS OF STRONTIUM AND GAMMA EMITTERS IN VEGETATION SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005**

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	Sr-89	Sr-90	K-40	I-131	Cs-134	Cs-137	Ba-140	La-140
36 Cabbage	08/24/05	< 19	20 ± 4	3460 ± 356	< 30	< 15	< 14	< 76	< 22
36 Collards	08/24/05	< 21	36 ± 5	5610 ± 174	< 10	< 6	< 6	< 30	< 8
36 Kale	08/24/05	< 21	32 ± 5	6520 ± 584	< 23	< 13	< 17	< 68	< 19
36 Cabbage	09/21/05	< 15	4 ± 1	2370 ± 325	< 23	< 12	< 14	< 77	< 19
36 Collards	09/21/05	< 21	39 ± 3	4250 ± 360	< 23	< 12	< 13	< 61	< 18
36 Kale	09/21/05	< 19	32 ± 3	4710 ± 406	< 17	< 9	< 10	< 60	< 10
36 Cabbage	10/17/05	< 20	7 ± 2	2300 ± 435	< 57	< 20	< 20	< 143	< 42

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

TABLE C-VII.1 CONCENTRATIONS OF STRONTIUM AND GAMMA EMITTERS IN VEGETATION SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	Sr-89	Sr-90	K-40	I-131	Cs-134	Cs-137	Ba-140	La-140
36 Collards	10/17/05	< 24	13 ± 3	4090 ± 507	< 59	< 23	< 25	< 131	< 26
36 Kale	10/17/05	< 23	22 ± 3	4370 ± 510	< 55	< 18	< 22	< 110	< 23
	MEAN*	20 ± 5	23 ± 26	4187 ± 2755	33 ± 37	14 ± 11	16 ± 12	84 ± 74	21 ± 20

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

TABLE C-VII.1 CONCENTRATIONS OF STRONTIUM AND GAMMA EMITTERS IN VEGETATION SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	Sr-89	Sr-90	K-40	I-131	Cs-134	Cs-137	Ba-140	La-140
66 Cabbage	08/24/05	< 14	10 ± 3	3220 ± 224	< 14	< 7	20 ± 11	< 38	< 10
66 Collards	08/24/05	< 16	7 ± 3	2970 ± 276	< 16	< 10	< 12	< 45	< 13
66 Cabbage	09/21/05	< 14	6 ± 1	3660 ± 545	< 51	< 23	< 32	< 141	< 43
66 Collards	09/21/05	< 20	10 ± 2	4370 ± 582	< 53	< 28	< 35	< 159	< 34
66 Kale	09/21/05	< 18	10 ± 2	4870 ± 854	< 47	< 20	< 37	< 133	< 30
66 Cabbage	10/17/05	< 23	< 3	2570 ± 369	< 50	< 20	< 22	< 130	< 47
	MEAN*	17 ± 7	8 ± 6	3610 ± 1746	39 ± 37	18 ± 16	26 ± 20	108 ± 105	30 ± 30

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

TABLE C-VIII.1 QUARTERLY TLD RESULTS FOR OYSTER CREEK GENERATION STATION, 2005

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

STATION CODE	MEAN ± 2 S. D.	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC
C	11.4 ± 2.6	11.4 ± 1.0	9.8 ± 0.9	11.4 ± 1.0	12.9 ± 1.4
14	12.9 ± 1.7	12.9 ± 0.9	11.9 ± 1.7	12.9 ± 0.9	14.0 ± 1.7
1	11.5 ± 3.2	11.1 ± 1.1	10.1 ± 1.3	11.1 ± 1.1	13.8 ± 2.3
T1	11.7 ± 2.2	11.1 ± 0.7	11.2 ± 0.9	11.1 ± 0.7	13.3 ± 1.0
3	10.4 ± 1.7	10.4 ± 1.2	9.3 ± 1.8	10.4 ± 1.2	11.4 ± 1.4
4	11.0 ± 2.5	11.0 ± 1.5	9.5 ± 1.3	12.6 ± 5.8	11.0 ± 1.1
5	14.5 ± 5.1	15.6 ± 1.0	(1)	11.6 ± 1.2	16.4 ± 3.1
6	10.9 ± 2.5	11.6 ± 0.9	9.4 ± 2.7	11.6 ± 0.9	(1)
8	11.1 ± 2.2	11.2 ± 1.0	9.7 ± 0.9	11.2 ± 1.0	12.3 ± 1.4
9	11.0 ± 1.5	11.4 ± 0.6	10.1 ± 1.2	11.4 ± 0.6	(1)
11	11.0 ± 2.2	11.1 ± 1.3	9.5 ± 1.0	11.1 ± 1.3	12.2 ± 0.7
22	10.6 ± 3.3	10.4 ± 1.6	8.7 ± 1.1	10.4 ± 1.6	12.7 ± 2.9
46	10.0 ± 2.2	10.1 ± 0.6	8.5 ± 0.6	11.1 ± 1.5	10.4 ± 1.3
47	11.7 ± 2.8	11.3 ± 0.5	10.1 ± 1.2	13.4 ± 4.4	12.2 ± 1.2
48	11.3 ± 1.9	11.8 ± 1.2	10.1 ± 1.6	11.0 ± 1.9	12.3 ± 0.7
51	13.3 ± 2.8	13.1 ± 0.8	11.7 ± 1.5	13.1 ± 0.8	15.1 ± 0.6
52	14.0 ± 2.2	14.2 ± 0.7	12.5 ± 1.1	14.2 ± 0.7	15.2 ± 1.1
53	14.0 ± 2.0	14.2 ± 1.4	12.6 ± 2.8	14.2 ± 1.4	15.0 ± 3.2
54	10.9 ± 1.5	11.2 ± 2.1	9.8 ± 1.1	11.2 ± 2.1	11.4 ± 0.9
55	18.0 ± 3.1	18.6 ± 3.6	15.7 ± 1.0	18.6 ± 3.6	19.2 ± 3.2
56	14.7 ± 1.8	14.7 ± 1.2	13.5 ± 0.8	14.7 ± 1.2	15.7 ± 2.1
57	12.7 ± 1.6	12.8 ± 2.0	11.7 ± 1.5	12.8 ± 2.0	13.7 ± 0.7
58	11.8 ± 1.8	11.7 ± 1.2	10.9 ± 1.3	11.7 ± 1.2	12.7 ± 0.8
59	12.6 ± 3.7	12.2 ± 1.1	10.8 ± 1.4	12.2 ± 1.1	15.2 ± 7.1
61	11.4 ± 0.1	11.4 ± 0.9	11.4 ± 2.4	11.4 ± 0.9	11.5 ± 1.4
62	12.2 ± 0.6	12.3 ± 1.5	11.9 ± 3.3	12.3 ± 1.5	12.5 ± 0.4
63	12.4 ± 2.5	12.8 ± 2.7	10.6 ± 1.5	12.8 ± 2.7	13.4 ± 2.1
64	12.4 ± 2.4	13.2 ± 2.0	10.7 ± 1.6	13.2 ± 2.0	12.7 ± 1.1
65	11.9 ± 4.4	(1)	10.3 ± 2.4	(1)	13.4 ± 3.7
66	10.2 ± 2.3	10.4 ± 0.9	8.6 ± 0.4	10.4 ± 0.9	11.4 ± 1.1
68	9.9 ± 2.4	10.5 ± 0.9	8.1 ± 1.3	10.5 ± 0.9	10.4 ± 1.1
71	11.5 ± 1.2	11.7 ± 0.9	11.0 ± 1.6	11.7 ± 0.9	12.4 ± 1.3
72	11.2 ± 1.1	11.2 ± 0.4	10.5 ± 2.8	11.2 ± 0.4	11.9 ± 0.9
73	10.5 ± 3.4	10.6 ± 1.7	8.3 ± 0.6	10.6 ± 1.7	12.5 ± 1.3
74	9.9 ± 3.9	11.0 ± 0.8	7.6 ± 1.9	11.0 ± 0.8	(1)
75	11.6 ± 2.4	12.0 ± 1.0	9.9 ± 1.1	12.0 ± 1.0	12.7 ± 0.8
78	12.0 ± 3.9	13.1 ± 0.8	9.1 ± 0.7	13.1 ± 0.8	12.7 ± 1.5
79	12.1 ± 1.3	12.3 ± 1.0	11.2 ± 1.6	12.3 ± 1.0	12.8 ± 1.2
81	10.7 ± 2.3	11.3 ± 0.9	9.4 ± 0.7	11.3 ± 0.9	12.1 ± 1.9
82	11.6 ± 2.5	11.8 ± 0.6	9.8 ± 1.4	11.8 ± 0.6	12.8 ± 2.6
84	11.7 ± 2.6	12.1 ± 1.1	9.9 ± 0.6	12.1 ± 1.1	12.9 ± 1.2
85	10.3 ± 2.4	10.5 ± 0.9	8.6 ± 2.1	10.5 ± 0.9	11.5 ± 0.9
86	11.6 ± 2.1	11.8 ± 0.6	10.1 ± 0.9	11.8 ± 0.6	12.6 ± 1.6
88	9.5 ± 2.7	9.8 ± 1.3	7.6 ± 0.6	9.8 ± 1.3	10.8 ± 1.9
89	10.2 ± 2.6	10.5 ± 1.4	8.4 ± 1.0	10.5 ± 1.4	11.4 ± 1.1
90	10.0 ± 1.8	10.4 ± 0.6	8.7 ± 0.9	10.4 ± 0.6	10.7 ± 1.7
92	11.3 ± 2.1	11.3 ± 1.0	10.0 ± 3.9	11.3 ± 1.0	12.6 ± 1.8
98	10.1 ± 2.5	10.6 ± 1.1	8.3 ± 0.9	10.6 ± 1.1	11.0 ± 1.6
99	10.3 ± 2.5	10.8 ± 0.8	8.4 ± 1.3	10.8 ± 0.8	11.1 ± 0.8

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-VIII.2 MEAN QUARTERLY TLD RESULTS FOR THE SITE BOUNDARY, MIDDLE, SPECIAL INTEREST AND CONTROL LOCATIONS FOR OYSTER CREEK GENERATING STATION, 2005

RESULTS IN UNITS OF MILLI-ROENTGEN PER STD. QUARTER ± 2 STANDARD DEVIATIONS OF THE STATION DATA

STATION CODE	SITE BOUNDARY ± 2 S. D.	MIDDLE	SPECIAL INTEREST	CONTROL
JAN-MAR	12.9 ± 4.0	11.5 ± 2.5	11.1 ± 1.6	12.2 ± 2.1
APR-JUN	11.4 ± 3.3	9.2 ± 2.0	9.5 ± 2.0	10.9 ± 3.0
JUL-SEP	12.9 ± 4.0	11.4 ± 1.8	11.1 ± 1.5	12.2 ± 2.1
OCT-DEC	13.9 ± 4.0	12.3 ± 2.8	11.9 ± 1.8	13.5 ± 1.4

TABLE C-VIII.3 SUMMARY OF THE AMBIENT DOSIMETRY PROGRAM FOR OYSTER CREEK GENERATING STATION, 2005

RESULTS IN UNITS OF MILLI-ROENTGEN/STD. QUARTER

LOCATION	SAMPLES ANALYZED	PERIOD MINIMUM	PERIOD MAXIMUM	PERIOD MEAN ± 2 s.d.
SITE BOUNDARY	62	8.6	19.2	12.8 ± 4.2
MIDDLE DISTANCE	62	7.6	16.4	11.1 ± 3.2
SPECIAL INTEREST	58	7.6	13.3	10.9 ± 2.4
CONTROL	8	9.8	14.0	12.2 ± 2.6

SITE BOUNDARY STATIONS - 1, 51, 52, 53, 54, 55, 56, 57, 58, 59, 61, 62, 63, 64, 65, 66

INTERMEDIATE DISTANCE STATIONS - 4, 5, 22, 47, 48, 68, 73, 74, 75, 79, 82, 84, 85, 86, 98, 99

SPECIAL INTEREST - 3, 6, 8, 9, 11, 46, 71, 72, 78, 81, 88, 89, 90, 92, T1

CONTROL STATIONS - C, 14

TABLE C-IX.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

SURFACE WATER (TRITIUM LIQUID SCINTILLATION)

COLLECTION PERIOD	23	24	33	94
JAN			01/04/05	01/04/05
FEB			02/01/05	02/01/05
MAR			03/02/05	03/02/05
APR	04/26/05	04/25/05	04/05/05	04/05/05
MAY			05/03/05	05/03/05
JUN			06/01/05	06/01/05
JUL			07/06/05	07/06/05
AUG			08/03/05	08/03/05
SEP			09/07/05	09/07/05
OCT	10/03/05	10/03/05	10/05/05	10/05/05
NOV			11/02/05	11/02/05
DEC			12/07/05	12/07/05

SURFACE WATER (GAMMA SPECTROSCOPY)

COLLECTION PERIOD	23	24	33	94
JAN			01/04/05	01/04/05
FEB			02/01/05	02/01/05
MAR			03/02/05	03/02/05
APR	04/26/05	04/25/05	04/05/05	04/05/05
MAY			05/03/05	05/03/05
JUN			06/01/05	06/01/05
JUL			07/06/05	07/06/05
AUG			08/03/05	08/03/05
SEP			09/07/05	09/07/05
OCT	10/03/05	10/03/05	10/05/05	10/05/05
NOV			11/02/05	11/02/05
DEC			12/07/05	12/07/05

WELL WATER (TRITIUM & GAMMA SPECTROSCOPY)

COLLECTION PERIOD	1	37	38
JAN-MAR	01/21/05 - 03/17/05	01/12/05 - 03/15/05	01/04/05 - 03/15/05
APR-JUN	04/05/05 - 06/24/05	04/12/05 - 06/15/05	04/12/05 - 06/15/05
JUL-SEP	07/26/05 - 09/27/05	07/19/05 - 09/13/05	07/26/05 - 09/27/05
OCT-DEC	10/26/05 - 12/13/05	10/12/05 - 12/13/05	10/11/05 - 12/13/05

AIR PARTICULATE (GAMMA SPECTROSCOPY)

COLLECTION PERIOD	C	3	20	66
JAN-MAR	12/29/04 - 03/29/05	12/29/04 - 03/29/05	12/29/04 - 03/29/05	12/29/04 - 03/29/05
APR-JUN	03/29/05 - 06/29/05	03/29/05 - 06/29/05	03/29/05 - 06/29/05	03/29/05 - 06/29/05
JUL-SEP	06/29/05 - 09/27/05	06/29/05 - 09/27/05	06/29/05 - 09/27/05	06/29/05 - 09/27/05
OCT-DEC	09/27/05 - 12/28/05	09/27/05 - 12/28/05	09/27/05 - 12/28/05	09/27/05 - 12/28/05

COLLECTION PERIOD	71	72	73
JAN-MAR	12/29/04 - 03/29/05	12/29/04 - 03/29/05	12/29/04 - 03/29/05
APR-JUN	03/29/05 - 06/29/05	03/29/05 - 06/29/05	03/29/05 - 06/29/05
JUL-SEP	06/29/05 - 09/27/05	06/29/05 - 09/27/05	06/29/05 - 09/27/05
OCT-DEC	09/27/05 - 12/28/05	09/27/05 - 12/28/05	09/27/05 - 12/28/05

TABLE C-IX.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

AIR PARTICULATE (GROSS BETA & I-131)

COLLECTION PERIOD	C	3	20	66	71
1	12/29/04 - 01/04/05	12/29/04 - 01/04/05	12/29/04 - 01/04/05	12/29/04 - 01/04/05	12/29/04 - 01/04/05
2	01/04/05 - 01/12/05	01/04/05 - 01/12/05	01/04/05 - 01/12/05	01/04/05 - 01/12/05	01/04/05 - 01/12/05
3	01/12/05 - 01/18/05	01/12/05 - 01/18/05	01/12/05 - 01/18/05	01/12/05 - 01/18/05	01/12/05 - 01/18/05
4	01/18/05 - 01/25/05	01/18/05 - 01/25/05	01/18/05 - 01/25/05	01/18/05 - 01/25/05	01/18/05 - 01/25/05
5	01/25/05 - 02/01/05	01/25/05 - 02/01/05	01/25/05 - 02/01/05	01/25/05 - 02/01/05	01/25/05 - 02/01/05
6	02/01/05 - 02/08/05	02/01/05 - 02/08/05	02/01/05 - 02/08/05	02/01/05 - 02/08/05	02/01/05 - 02/08/05
7	02/08/05 - 02/15/05	02/08/05 - 02/15/05	02/08/05 - 02/15/05	02/08/05 - 02/15/05	02/08/05 - 02/15/05
8	02/15/05 - 02/22/05	02/15/05 - 02/22/05	02/15/05 - 02/22/05	02/15/05 - 02/22/05	02/15/05 - 02/22/05
9	02/22/05 - 03/02/05	02/22/05 - 03/02/05	02/22/05 - 03/02/05	02/22/05 - 03/02/05	02/22/05 - 03/02/05
10	03/02/05 - 03/08/05	03/02/05 - 03/08/05	03/02/05 - 03/08/05	03/02/05 - 03/08/05	03/02/05 - 03/08/05
11	03/08/05 - 03/15/05	03/08/05 - 03/15/05	03/08/05 - 03/15/05	03/08/05 - 03/15/05	03/08/05 - 03/15/05
12	03/15/05 - 03/22/05	03/15/05 - 03/22/05	03/15/05 - 03/22/05	03/15/05 - 03/22/05	03/15/05 - 03/22/05
13	03/22/05 - 03/29/05	03/22/05 - 03/29/05	03/22/05 - 03/29/05	03/22/05 - 03/29/05	03/22/05 - 03/29/05
14	03/29/05 - 04/05/05	03/29/05 - 04/05/05	03/29/05 - 04/05/05	03/29/05 - 04/05/05	03/29/05 - 04/05/05
15	04/05/05 - 04/12/05	04/05/05 - 04/12/05	04/05/05 - 04/12/05	04/05/05 - 04/12/05	04/05/05 - 04/12/05
16	04/12/05 - 04/19/05	04/12/05 - 04/19/05	04/12/05 - 04/19/05	04/12/05 - 04/19/05	04/12/05 - 04/19/05
17	04/19/05 - 04/26/05	04/19/05 - 04/26/05	04/19/05 - 04/26/05	04/19/05 - 04/26/05	04/19/05 - 04/26/05
18	04/26/05 - 05/03/05	04/26/05 - 05/03/05	04/26/05 - 05/03/05	04/26/05 - 05/03/05	04/26/05 - 05/03/05
19	05/03/05 - 05/10/05	05/03/05 - 05/10/05	05/03/05 - 05/10/05	05/03/05 - 05/10/05	05/03/05 - 05/10/05
20	05/10/05 - 05/18/05	05/10/05 - 05/18/05	05/10/05 - 05/18/05	05/10/05 - 05/18/05	05/10/05 - 05/18/05
21	05/18/05 - 05/24/05	05/18/05 - 05/24/05	05/19/05 - 05/24/05	05/18/05 - 05/24/05	05/18/05 - 05/24/05
22	05/24/05 - 06/01/05	05/24/05 - 06/01/05	05/24/05 - 06/01/05	05/24/05 - 06/01/05	05/24/05 - 06/01/05
23	06/01/05 - 06/07/05	06/01/05 - 06/07/05	06/01/05 - 06/07/05	06/01/05 - 06/07/05	06/01/05 - 06/07/05
24	06/07/05 - 06/15/05	06/07/05 - 06/15/05	06/07/05 - 06/15/05	06/07/05 - 06/15/05	06/07/05 - 06/15/05
25	06/15/05 - 06/21/05	06/15/05 - 06/21/05	06/15/05 - 06/21/05	06/15/05 - 06/21/05	06/15/05 - 06/21/05
26	06/21/05 - 06/29/05	06/21/05 - 06/29/05	06/21/05 - 06/29/05	06/21/05 - 06/29/05	06/21/05 - 06/29/05
27	06/29/05 - 07/07/05	06/29/05 - 07/07/05	06/29/05 - 07/07/05	06/29/05 - 07/07/05	06/29/05 - 07/07/05
28	07/07/05 - 07/13/05	07/07/05 - 07/13/05	07/07/05 - 07/13/05	07/07/05 - 07/13/05	07/07/05 - 07/13/05
29	07/13/05 - 07/19/05	07/13/05 - 07/19/05	07/13/05 - 07/19/05	07/13/05 - 07/19/05	07/13/05 - 07/19/05
30	07/19/05 - 07/26/05	07/19/05 - 07/26/05	07/19/05 - 07/26/05	07/19/05 - 07/26/05	07/19/05 - 07/26/05
31	07/26/05 - 08/03/05	07/26/05 - 08/03/05	07/26/05 - 08/03/05	07/26/05 - 08/03/05	07/26/05 - 08/03/05
32	08/03/05 - 08/10/05	08/03/05 - 08/10/05	08/03/05 - 08/10/05	08/03/05 - 08/10/05	08/03/05 - 08/10/05
33	08/10/05 - 08/16/05	08/10/05 - 08/16/05	08/10/05 - 08/16/05	08/10/05 - 08/16/05	08/10/05 - 08/16/05
34	08/16/05 - 08/23/05	08/16/05 - 08/23/05	08/16/05 - 08/23/05	08/16/05 - 08/23/05	08/16/05 - 08/23/05
35	08/23/05 - 08/30/05	08/23/05 - 08/30/05	08/23/05 - 08/30/05	08/23/05 - 08/30/05	08/23/05 - 08/30/05
36	08/30/05 - 09/07/05	08/30/05 - 09/07/05	08/30/05 - 09/07/05	08/30/05 - 09/07/05	08/30/05 - 09/07/05
37	09/07/05 - 09/13/05	09/07/05 - 09/13/05	09/07/05 - 09/13/05	09/07/05 - 09/13/05	09/07/05 - 09/13/05
38	09/13/05 - 09/21/05	09/13/05 - 09/21/05	09/13/05 - 09/21/05	09/13/05 - 09/21/05	09/13/05 - 09/21/05
39	09/21/05 - 09/27/05	09/21/05 - 09/27/05	09/21/05 - 09/27/05	09/21/05 - 09/27/05	09/21/05 - 09/27/05
40	09/27/05 - 10/05/05	09/27/05 - 10/05/05	09/27/05 - 10/05/05	09/27/05 - 10/05/05	09/27/05 - 10/05/05
41	10/05/05 - 10/12/05	10/05/05 - 10/12/05	10/05/05 - 10/12/05	10/05/05 - 10/12/05	10/05/05 - 10/12/05
42	10/12/05 - 10/19/05	10/12/05 - 10/19/05	10/12/05 - 10/19/05	10/12/05 - 10/19/05	10/18/05 - 10/19/05
43	10/19/05 - 10/26/05	10/19/05 - 10/26/05	10/19/05 - 10/26/05	10/19/05 - 10/26/05	10/19/05 - 10/26/05
44	10/26/05 - 11/02/05	10/26/05 - 11/02/05	10/26/05 - 11/02/05	10/26/05 - 11/02/05	10/26/05 - 11/02/05
45	11/02/05 - 11/08/05	11/02/05 - 11/08/05	11/02/05 - 11/08/05	11/02/05 - 11/08/05	11/02/05 - 11/08/05
46	11/08/05 - 11/16/05	11/08/05 - 11/16/05	11/08/05 - 11/16/05	11/08/05 - 11/16/05	11/08/05 - 11/16/05
47	11/16/05 - 11/22/05	11/16/05 - 11/22/05	11/16/05 - 11/22/05	11/16/05 - 11/22/05	11/16/05 - 11/22/05
48	11/22/05 - 11/30/05	11/22/05 - 11/30/05	11/22/05 - 11/30/05	11/22/05 - 11/30/05	11/22/05 - 11/30/05
49	11/30/05 - 12/07/05	11/30/05 - 12/07/05	11/30/05 - 12/07/05	11/30/05 - 12/07/05	11/30/05 - 12/07/05
50	12/07/05 - 12/13/05	12/07/05 - 12/13/05	12/07/05 - 12/13/05	12/07/05 - 12/13/05	12/07/05 - 12/13/05
51	12/13/05 - 12/20/05	12/13/05 - 12/20/05	12/13/05 - 12/20/05	12/13/05 - 12/20/05	12/13/05 - 12/20/05
52	12/20/05 - 12/28/05	12/20/05 - 12/28/05	12/20/05 - 12/28/05	12/20/05 - 12/28/05	12/20/05 - 12/28/05

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-IX.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

AIR PARTICULATE (GROSS BETA & I-131)

COLLECTION PERIOD	72	73
1	12/29/04 - 01/04/05	12/29/04 - 01/04/05
2	01/04/05 - 01/12/05	01/04/05 - 01/12/05
3	01/12/05 - 01/18/05	01/12/05 - 01/18/05
4	01/18/05 - 01/25/05	01/18/05 - 01/25/05
5	01/25/05 - 02/01/05	01/25/05 - 02/01/05
6	02/01/05 - 02/08/05	02/01/05 - 02/08/05
7	02/08/05 - 02/15/05	02/08/05 - 02/15/05
8	02/15/05 - 02/22/05	02/15/05 - 02/22/05
9	02/22/05 - 03/02/05	02/22/05 - 03/02/05
10	03/02/05 - 03/08/05	03/02/05 - 03/08/05
11	03/08/05 - 03/15/05	03/08/05 - 03/15/05
12	03/15/05 - 03/22/05	03/15/05 - 03/22/05
13	03/22/05 - 03/29/05	03/22/05 - 03/29/05
14	03/29/05 - 04/05/05	03/29/05 - 04/05/05
15	04/05/05 - 04/12/05	04/05/05 - 04/12/05
16	04/12/05 - 04/19/05	04/12/05 - 04/19/05
17	04/19/05 - 04/26/05	04/19/05 - 04/26/05
18	04/26/05 - 05/03/05	04/26/05 - 05/03/05
19	05/03/05 - 05/10/05	05/03/05 - 05/10/05
20	05/10/05 - 05/18/05	05/10/05 - 05/18/05
21	05/18/05 - 05/24/05	05/18/05 - 05/24/05
22	05/24/05 - 06/01/05	05/24/05 - 06/01/05
23	06/01/05 - 06/07/05	06/01/05 - 06/07/05
24	06/07/05 - 06/15/05	06/07/05 - 06/15/05
25	06/15/05 - 06/21/05	06/15/05 - 06/21/05
26	06/21/05 - 06/29/05	06/21/05 - 06/29/05
27	06/29/05 - 07/07/05	06/29/05 - 07/07/05
28	07/07/05 - 07/13/05	07/07/05 - 07/13/05
29	07/13/05 - 07/19/05	07/13/05 - 07/19/05
30	07/19/05 - 07/26/05	07/19/05 - 07/26/05
31	07/26/05 - 08/03/05	07/26/05 - 08/03/05
32	08/03/05 - 08/10/05	08/03/05 - 08/10/05
33	08/10/05 - 08/16/05	08/10/05 - 08/16/05
34	08/16/05 - 08/23/05	08/16/05 - 08/23/05
35	08/23/05 - 08/30/05	08/23/05 - 08/30/05
36	08/30/05 - 09/07/05	08/30/05 - 09/07/05
37	09/07/05 - 09/13/05	09/07/05 - 09/13/05
38	09/13/05 - 09/21/05	09/13/05 - 09/21/05
39	09/21/05 - 09/27/05	09/21/05 - 09/27/05
40	09/27/05 - 10/05/05	09/27/05 - 10/05/05
41	10/05/05 - 10/12/05	10/05/05 - 10/12/05
42	10/12/05 - 10/19/05	10/12/05 - 10/19/05
43	10/19/05 - 10/26/05	10/19/05 - 10/26/05
44	10/26/05 - 11/02/05	10/26/05 - 11/02/05
45	11/02/05 - 11/08/05	11/02/05 - 11/08/05
46	11/08/05 - 11/16/05	11/08/05 - 11/16/05
47	11/16/05 - 11/22/05	11/16/05 - 11/22/05
48	11/22/05 - 11/30/05	11/22/05 - 11/30/05
49	11/30/05 - 12/07/05	11/30/05 - 12/07/05
50	12/07/05 - 12/13/05	12/07/05 - 12/13/05
51	12/13/05 - 12/20/05	12/13/05 - 12/20/05
52	12/20/05 - 12/28/05	12/20/05 - 12/28/05

FIGURE C-1
MEAN COBALT-60 CONCENTRATION IN CLAMS
OYSTER CREEK GENERATING STATION, 1983 - 2005

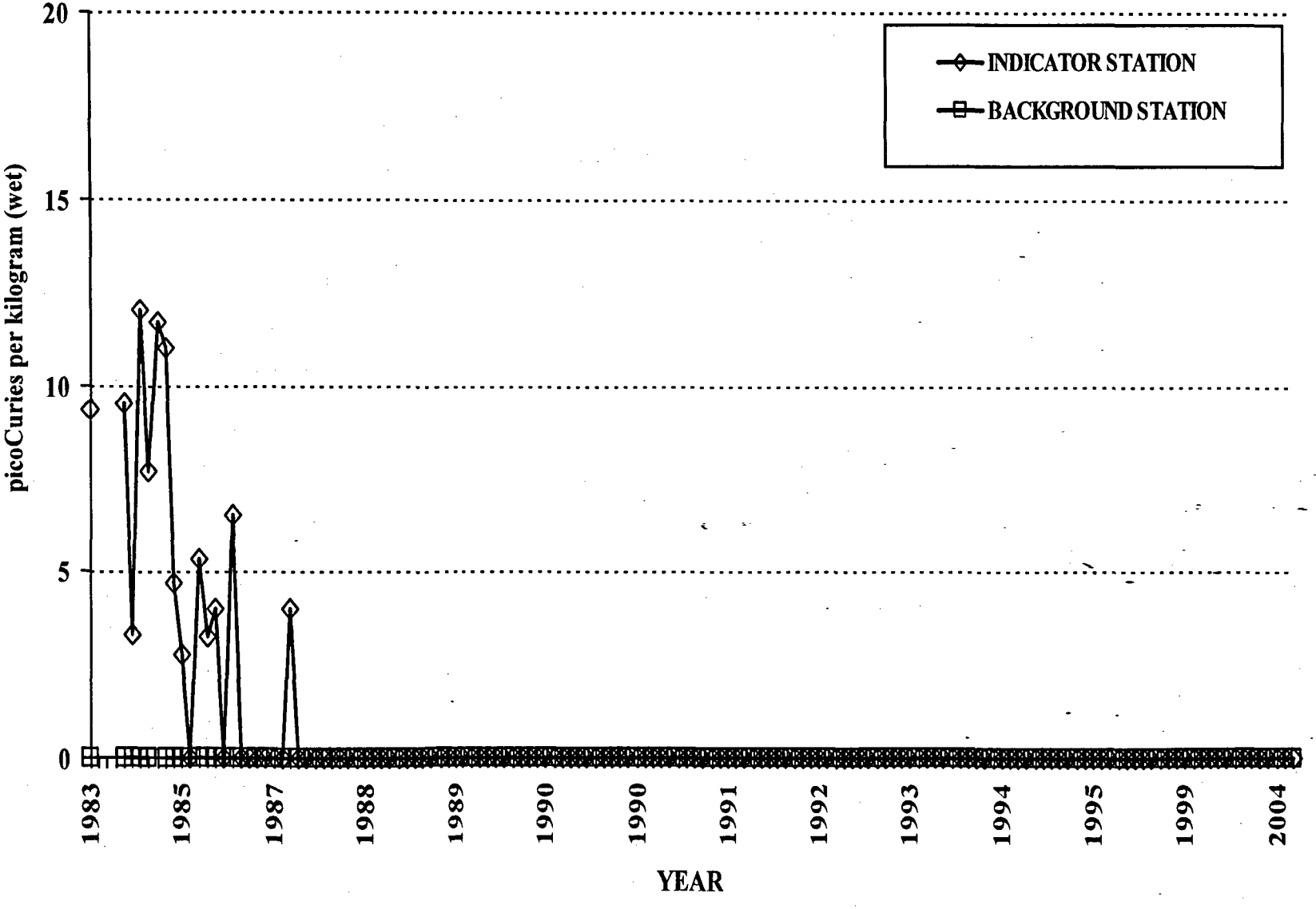


FIGURE C-2
MEAN COBALT-60 CONCENTRATION IN AQUATIC SEDIMENT
OYSTER CREEK GENERATING STATION, 1984 - 2005

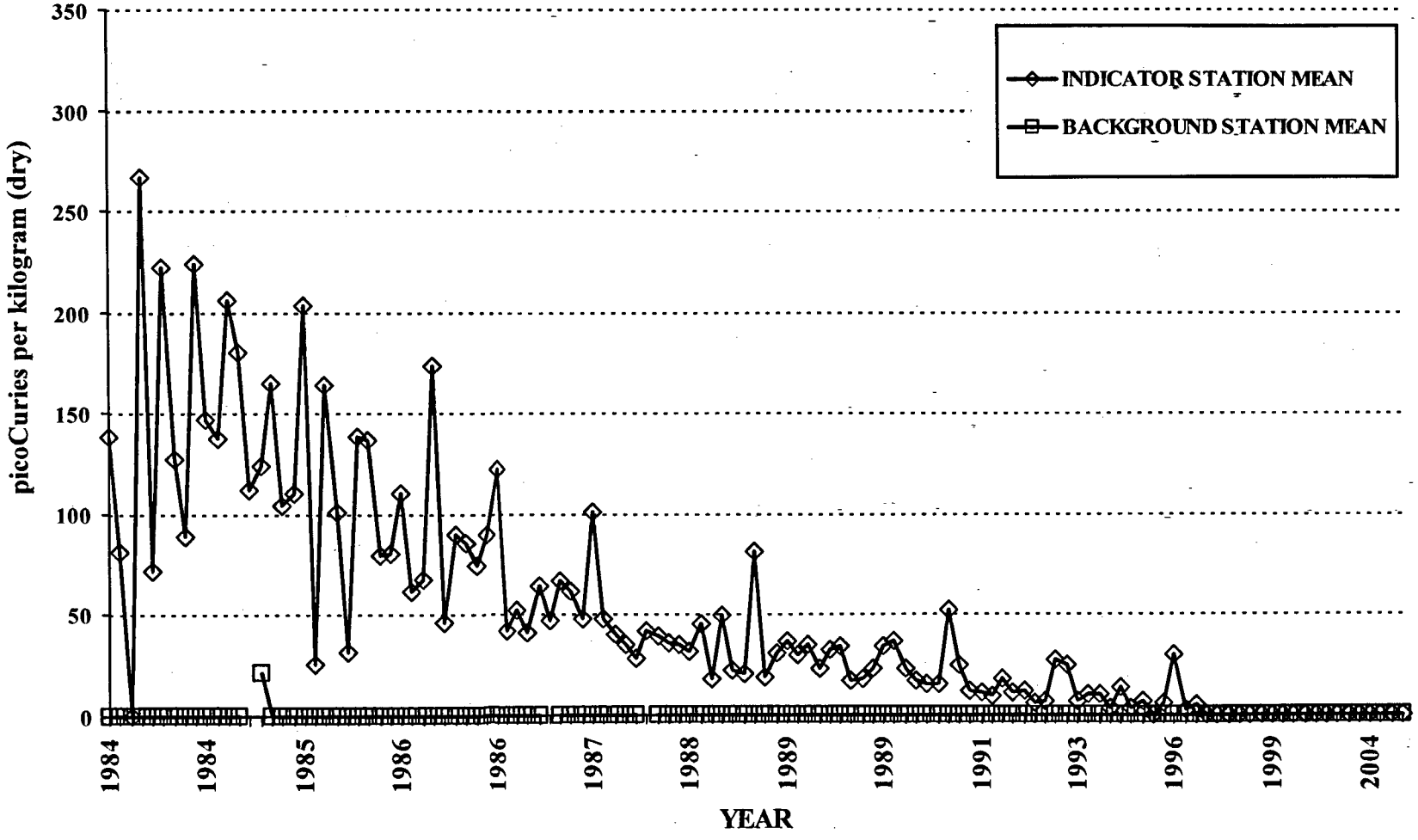


FIGURE C-3
MEAN CESIUM-137 CONCENTRATION IN AQUATIC SEDIMENT
OYSTER CREEK GENERATING STATION, 1984 - 2005

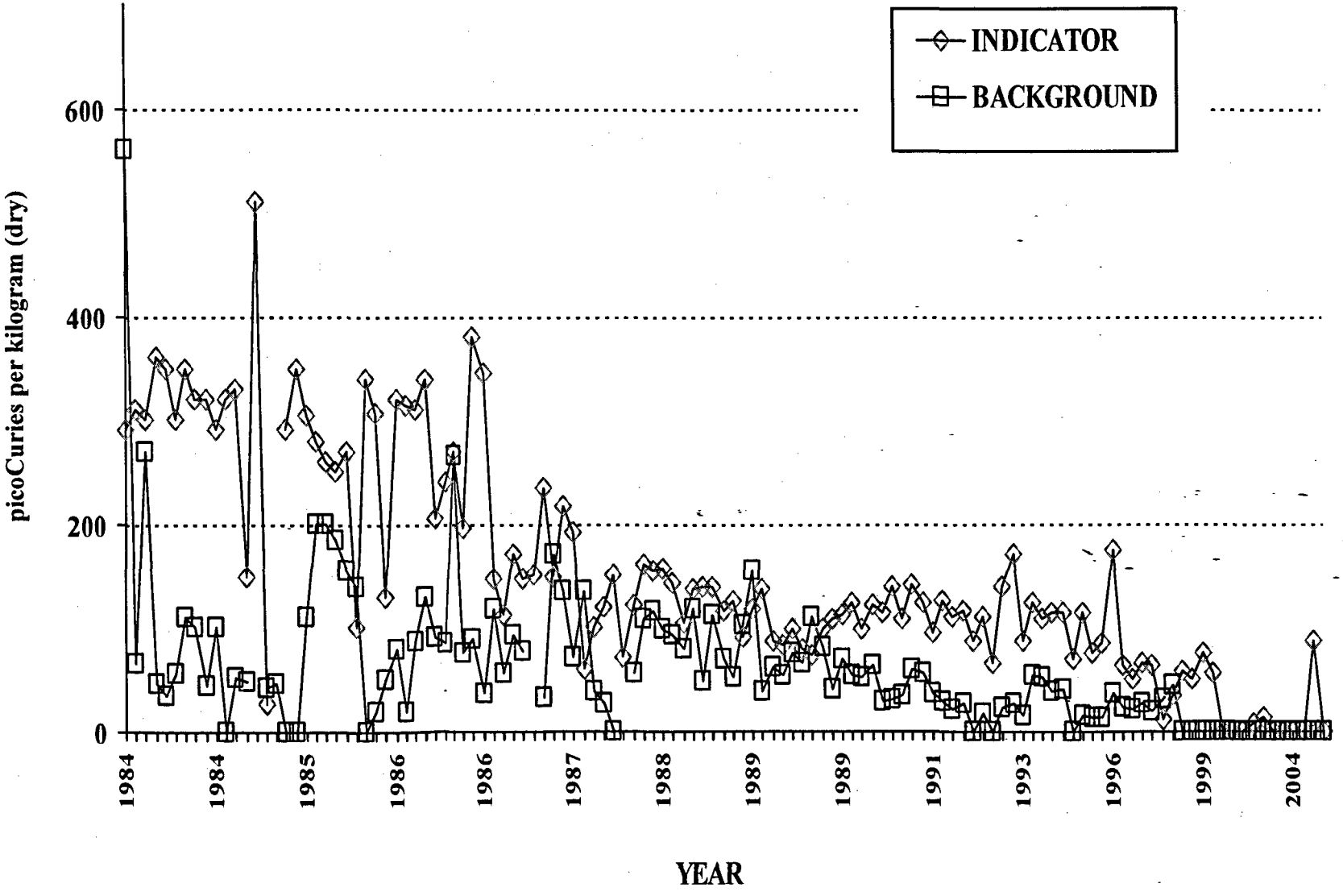


FIGURE C-4
MEAN WEEKLY GROSS BETA CONCENTRATIONS IN AIR PARTICULATES OYSTER CREEK GENERATING STATION, 2005

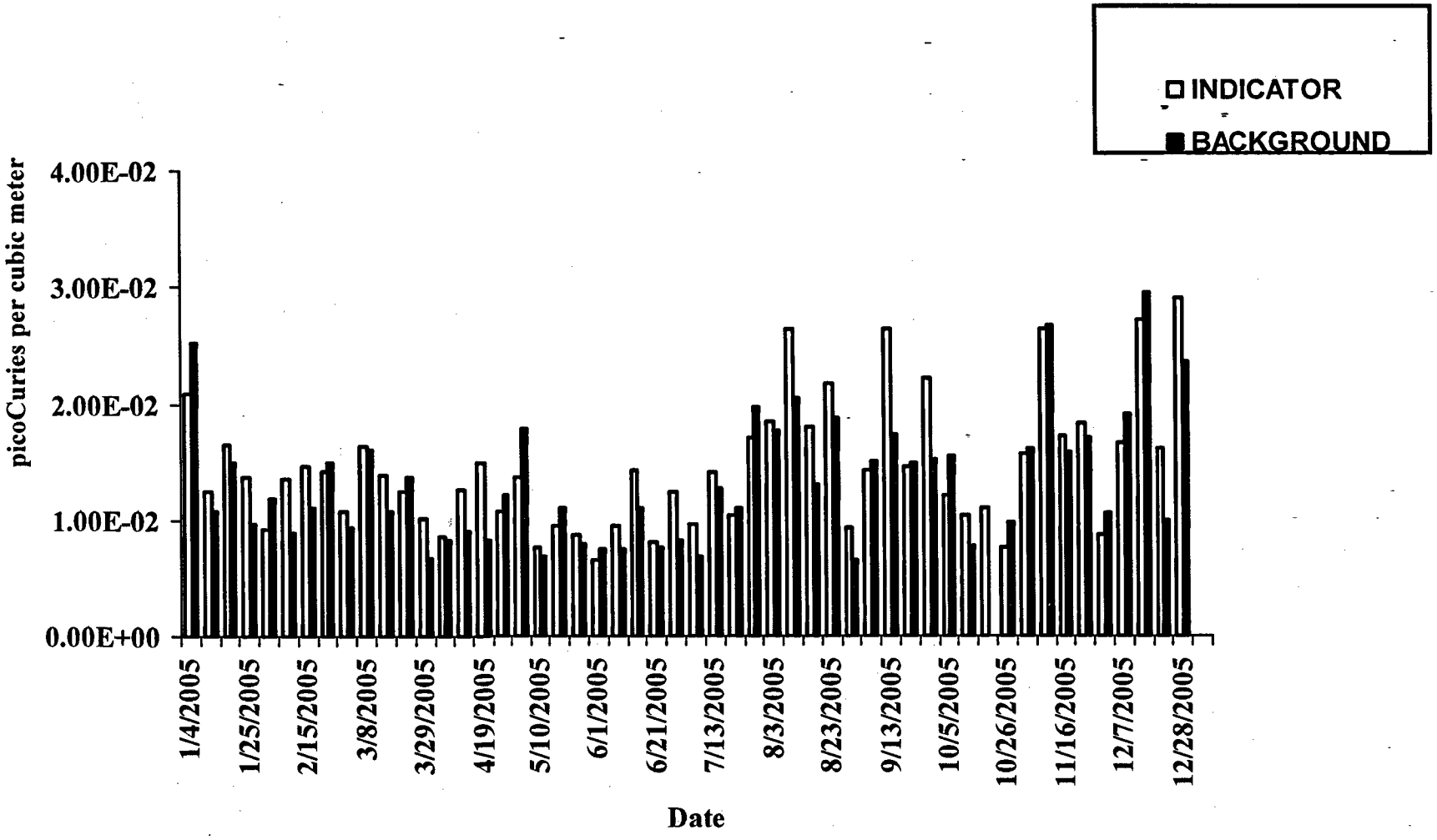
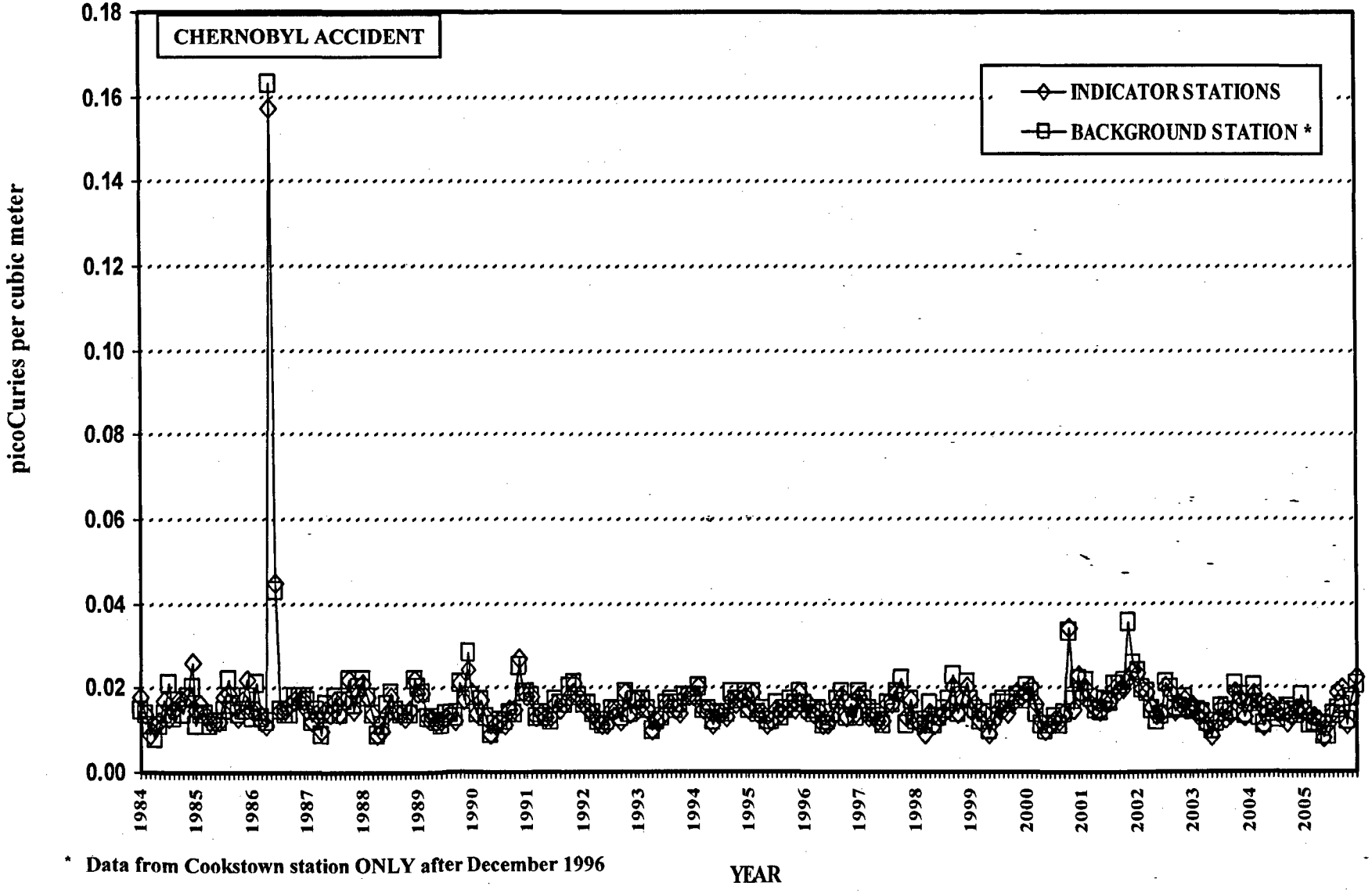


FIGURE C-5
MEAN MONTHLY GROSS BETA CONCENTRATIONS IN AIR PARTICULATES OYSTER CREEK GENERATING STATION, 1984 - 2005



* Data from Cookstown station ONLY after December 1996

FIGURE C-6
MEAN QUARTERLY TLD GAMMA DOSE
OYSTER CREEK GENERATING STATION, 2005

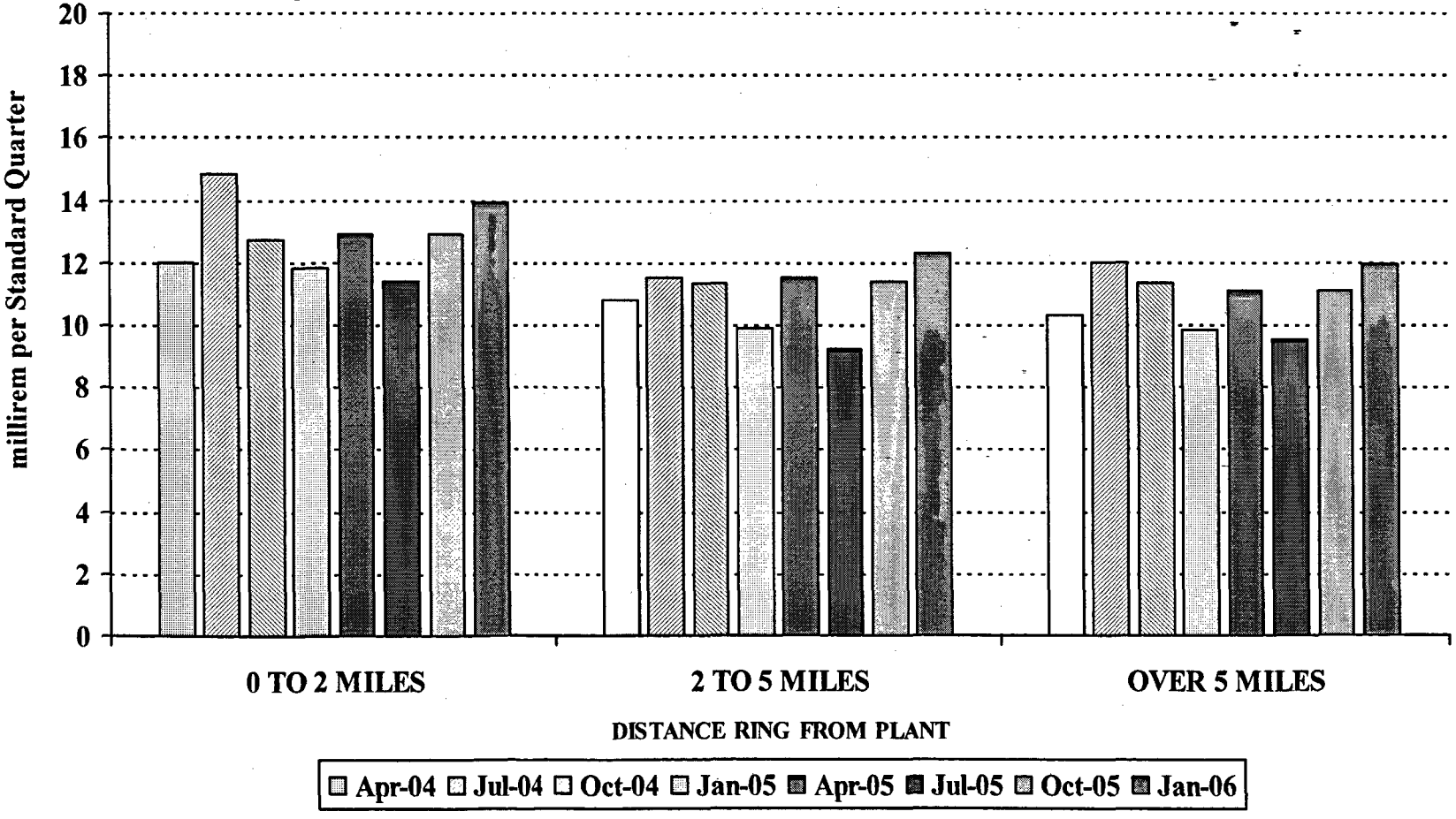
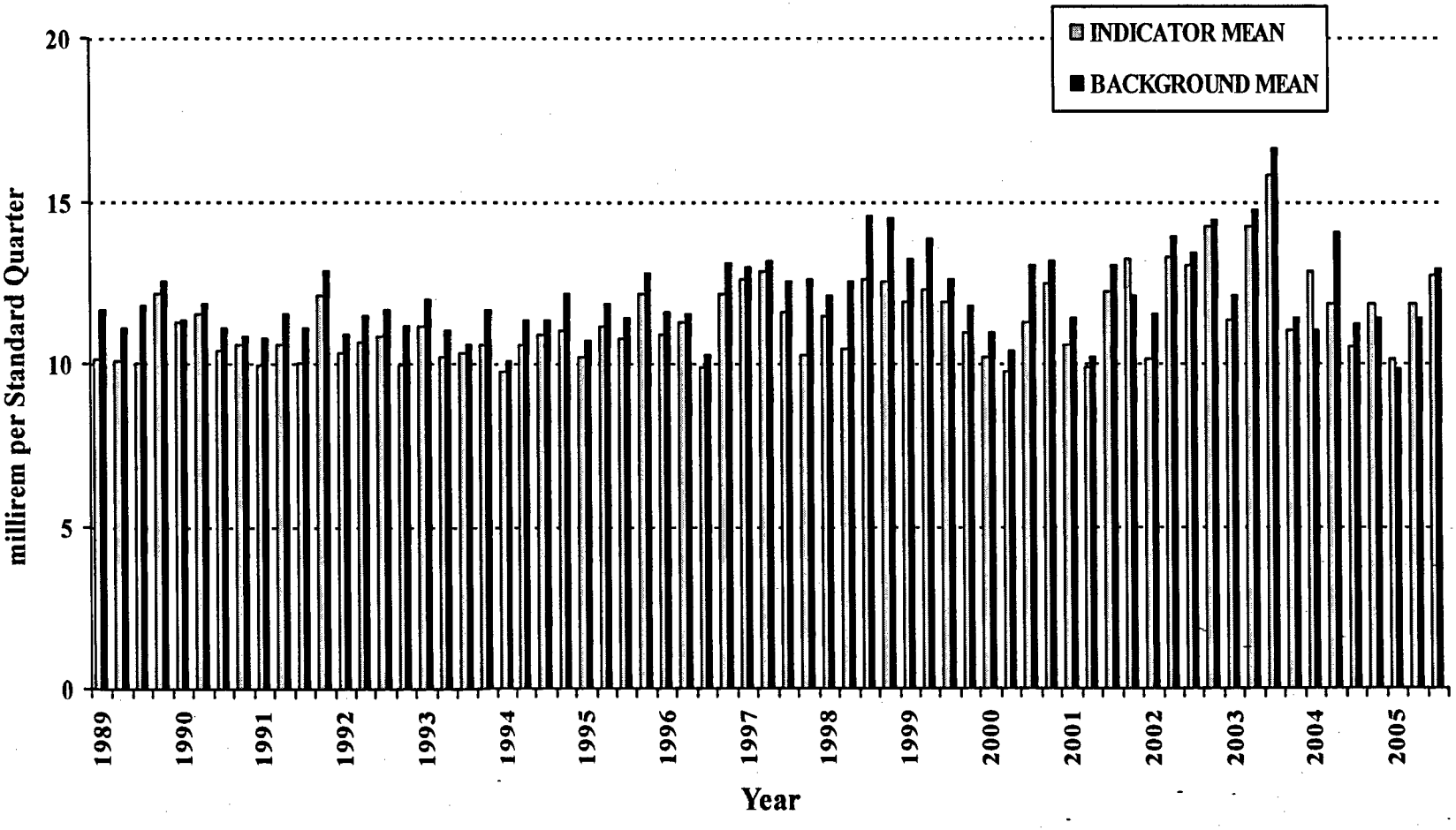


FIGURE C-7
MEAN QUARTERLY TLD GAMMA DOSE
OYSTER CREEK GENERATING STATION, 1989 – 2005 *



* Harshaw Model 110 TLDs were used during the first quarter of 2001. Panasonic Model 814 TLDs were used in the second, third, and fourth quarters of 2001.

APPENDIX D

DATA TABLES
QC LABORATORY

The following section contains data illustrating the analyses performed by the quality control laboratory, Teledyne Brown Engineering (TBE). Duplicate samples were obtained from several locations and media and split between the primary laboratory, Environmental Inc. (Env) and TBE. Comparison of the results for most media were within expected ranges.

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TABLE D-I.1 CONCENTRATIONS OF TRITIUM IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	24	QCA	QCB
04/25/05	< 192	< 175	< 141
10/03/05	< 174	< 191	< 177
MEAN*	183 ± 25	183 ± 23	159 ± 51

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

TABLE D-I.2 CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
24	04/25/05	< 4	< 4	< 10	< 5	< 10	< 4	< 8	< 4	< 4	< 22	< 7
	10/03/05	< 4	< 6	< 12	< 5	< 10	< 5	< 9	< 4	< 5	< 38	< 12
	MEAN*	4 ± 0	5 ± 3	11 ± 3	5 ± 0	10 ± 0	5 ± 1	8 ± 1	4 ± 0	4 ± 1	30 ± 23	10 ± 7
QCA	04/25/05	< 1	< 1	< 2	< 2	< 2	< 1	< 2	< 1	< 1	< 6	< 2
	10/03/05	< 5	< 5	< 11	< 4	< 10	< 5	< 9	< 4	< 4	< 35	< 10
	MEAN*	3 ± 5	3 ± 5	7 ± 12	3 ± 4	6 ± 11	3 ± 5	5 ± 9	3 ± 4	3 ± 4	20 ± 42	6 ± 11
QCB	04/25/05	< 2	< 3	< 5	< 4	< 6	< 6	< 6	< 3	< 3	< 10	< 2
	10/03/05	< 7	< 8	< 17	< 8	< 11	< 6	< 16	< 9	< 4	< 30	< 5
	MEAN*	4 ± 8	6 ± 7	11 ± 17	6 ± 6	9 ± 7	6 ± 1	11 ± 14	6 ± 9	3 ± 3	20 ± 29	3 ± 4

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

TABLE D-II.1 CONCENTRATIONS OF TRITIUM IN WELL WATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	1	QCA	QCB
01/21/05 - 03/17/05	< 197	< 196	< 143
04/05/05 - 06/24/05	< 163	< 165	< 162
07/26/05 - 09/27/05	< 181	< 179	< 177
10/26/05 - 12/13/05	< 157	< 158	< 162
MEAN*	175 ± 36	175 ± 34	161 ± 28

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

TABLE D-II.2 CONCENTRATIONS OF GAMMA EMITTERS IN WELL WATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
1	01/21 - 03/17/05	< 4	< 5	< 10	< 6	< 9	< 5	< 9	< 5	< 5	< 24	< 9
	04/05 - 06/24/05	< 5	< 6	< 14	< 5	< 11	< 9	< 11	< 6	< 6	< 48	< 14
	07/26 - 09/27/05	< 6	< 6	< 14	< 7	< 14	< 6	< 12	< 5	< 6	< 50	< 14
	10/26 - 12/13/05	< 4	< 3	< 7	< 3	< 6	< 4	< 5	< 3	< 4	< 19	< 5
	MEAN*	4.6 ± 2.2	5.0 ± 2.5	11 ± 7.0	5.2 ± 2.8	10 ± 6.3	6.0 ± 4.3	9.0 ± 5.7	4.7 ± 2.4	5.1 ± 2.4	35 ± 32	11 ± 8.8
QCA	01/21 - 03/17/05	< 5	< 5	< 7	< 4	< 8	< 5	< 8	< 4	< 4	< 25	< 9
	04/05 - 06/24/05	< 5	< 5	< 10	< 7	< 8	< 5	< 8	< 3	< 4	< 28	< 6
	07/26 - 09/27/05	< 4	< 5	< 9	< 4	< 10	< 5	< 9	< 4	< 4	< 49	< 16
	10/26 - 12/13/05	< 4	< 5	< 8	< 4	< 9	< 5	< 7	< 4	< 4	< 21	< 9
	MEAN*	4.6 ± 1.1	4.8 ± 0.5	8.7 ± 2.2	4.9 ± 3.4	9 ± 1.8	5.0 ± 0.6	8.1 ± 1.5	3.6 ± 1.3	3.9 ± 0.3	31 ± 26	9.6 ± 8.8
QCB	01/21 - 03/17/05	< 4	< 3	< 8	< 4	< 4	< 4	< 6	< 3	< 4	< 11	< 2
	04/05 - 06/24/05	< 4	< 4	< 12	< 4	< 5	< 5	< 7	< 4	< 4	< 44	< 10
	07/26 - 09/27/05	< 5	< 5	< 12	< 3	< 5	< 4	< 5	< 4	< 4	< 32	< 7
	10/26 - 12/13/05	< 4	< 4	< 9	< 3	< 6	< 4	< 9	< 4	< 2	< 30	< 11
	MEAN*	4.4 ± 0.4	4.1 ± 2.0	10 ± 4.2	3.6 ± 0.9	5.2 ± 1.7	4.2 ± 1.0	6.6 ± 3.5	3.6 ± 1.0	3.6 ± 1.9	29 ± 27	7.3 ± 7.8

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

TABLE D-III.1 CONCENTRATIONS OF GAMMA EMITTERS IN CLAM SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137
24	04/25/05	1250 ± 721	< 40	< 42	< 90	< 35	< 73	< 48	< 46
QCA	04/25/05	1670 ± 533	< 40	< 39	< 54	< 33	< 70	< 37	< 37
QCB	04/25/05	1591 ± 332	< 21	< 20	< 25	< 17	< 12	< 15	< 20

TABLE D-IV.1 CONCENTRATIONS OF GAMMA EMITTERS IN SEDIMENT SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

RESULTS IN UNITS OF PCI/KG DRY ± 2 SIGMA

STC	COLLECTION PERIOD	Be-7	K-40	Mn-54	Co-58	Co-60	Cs-134	Cs-137	Ra-226	Th-232
24	04/25/05	< 363	709 ± 411	< 35	< 33	< 26	< 30	< 32	< 959	246 ± 131
	10/03/05	< 352	1990 ± 534	< 37	< 40	< 40	< 30	< 42	804 ± 693	246 ± 107
	MEAN*	358 ± 16	1350 ± 1812	36 ± 3	37 ± 10	33 ± 20	30 ± 0	37 ± 15	882 ± 219	246 ± 0
QCA	04/25/05	< 266	674 ± 374	< 28	< 28	< 28	< 27	< 31	< 734	219 ± 93
	10/03/05	< 433	1830 ± 600	< 39	< 39	< 48	< 41	< 41	< 1050	< 232
	MEAN*	350 ± 236	1252 ± 1635	34 ± 15	33 ± 16	38 ± 27	34 ± 20	36 ± 14	892 ± 447	226 ± 173
QCB	04/25/05	< 112	940 ± 210	< 14	< 15	< 11	< 15	< 12	< 798	NA
	10/03/05	< 386	3605 ± 568	< 19	< 41	< 24	< 15	< 25	< 448	NA
	MEAN*	249 ± 388	2272 ± 3770	17 ± 7	28 ± 35	17 ± 18	15 ± 1	19 ± 18	623 ± 496	

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

TABLE D-V.1 CONCENTRATIONS OF STRONTIUM AND GAMMA EMITTERS IN VEGETATION SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2005

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC		COLLECTION PERIOD	Sr-89	Sr-90	K-40	I-131	Cs-134	Cs-137	Ba-140	La-140
36	CABBAGE	SEPTEMBER	< 15	4 ± 1	2370 325	< 23	< 12	< 14	< 77	< 19
	COLLARDS	SEPTEMBER	< 21	39 ± 3	4250 360	< 23	< 12	< 13	< 61	< 18
	KALE	SEPTEMBER	< 19	32 ± 3	4710 406	< 17	< 9	< 10	< 60	< 10
		MEAN*	18 ± 6	25 ± 37	3777 ± 2479	21 ± 7	11 ± 4	12 ± 5	66 ± 19	16 ± 9
QCA	CABBAGE	SEPTEMBER	< 13	5 ± 1	2220 ± 352	< 27	< 15	< 17	< 74	< 25
	COLLARDS	SEPTEMBER	< 20	31 ± 3	3870 ± 397	< 20	< 11	< 12	< 57	< 13
	KALE	SEPTEMBER	< 18	38 ± 3	5040 ± 437	< 24	< 12	< 15	< 65	< 22
		MEAN*	17 ± 6	25 ± 36	3710 ± 2834	23 ± 7	13 ± 3	15 ± 5	65 ± 17	20 ± 13
QCB	CABBAGE	SEPTEMBER	< 2	< 1	2052 ± 289	< 19	< 17	< 14	< 33	< 8
	COLLARDS	SEPTEMBER	< 5	5 ± 2	4656 ± 417	< 18	< 12	< 13	< 46	< 6
	KALE	SEPTEMBER	< 11	9 ± 3	4701 ± 424	< 18	< 14	< 11	< 56	< 7
		MEAN*	6 ± 9	5 ± 7	3803 ± 3033	18 ± 2	14 ± 5	13 ± 3	45 ± 23	7 ± 3

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

APPENDIX E

INTER-LABORATORY COMPARISON PROGRAM

TABLE E-1 **ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM**
TELEDYNE BROWN ENGINEERING, 2005
(PAGE 1 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
March 2005	E4522-396	Milk	Sr-89	pCi/L	96.9	107	0.91	A
			Sr-90	pCi/L	16.9	17.9	0.94	A
	E4523-396	Milk	I-131	pCi/L	82.7	92.3	0.90	A
			Ce-141	pCi/L	217	229	0.95	A
			Cr-51	pCi/L	314	334	0.94	A
			Cs-134	pCi/L	123	139	0.89	A
			Cs-137	pCi/L	125	130	0.96	A
			Co-58	pCi/L	110	115	0.96	A
			Mn-54	pCi/L	158	160	0.99	A
			Fe-59	pCi/L	118	111	1.06	A
			Zn-65	pCi/L	191	198	0.96	A
			Co-60	pCi/L	140	144	0.97	A
	E4525-396	AP	Ce-141	pCi	150	172	0.87	A
			Cr-51	pCi	278	250	1.11	A
			Cs-134	pCi	105	104	1.01	A
			Cs-137	pCi	95.6	97.1	0.98	A
			Co-58	pCi	84.4	86.3	0.98	A
			Mn-54	pCi	112	120	0.93	A
			Fe-59	pCi	92.8	83.2	1.12	A
			Zn-65	pCi	162	148	1.09	A
			Co-60	pCi	102	108	0.94	A
	E4524-396	Charcoal	I-131	pCi	67.4	60.7	1.11	A
June 2005	E4630-396	Milk	Sr-89	pCi/L	89.4	88.1	1.01	A
			Sr-90	pCi/L	11.6	11.4	1.02	A
	E4631-396	Milk	I-131	pCi/L	82.3	86.9	0.95	A
			Ce-141	pCi/L	91.6	92.4	0.99	A
			Cr-51	pCi/L	278	303	0.92	A
			Cs-134	pCi/L	81.1	95.0	0.85	A
			Cs-137	pCi/L	180	189	0.95	A
			Mn-54	pCi/L	124	125	0.99	A
			Fe-59	pCi/L	61.1	63.9	0.96	A
			Zn-65	pCi/L	156	155	1.01	A
			Co-60	pCi/L	136	145	0.94	A
	E4633-396	AP	Ce-141	pCi	79.2	64.2	1.23	W
			Cr-51	pCi	263	210	1.25	W
			Cs-134	pCi	69.7	66.1	1.05	A
			Cs-137	pCi	135	131	1.03	A
			Mn-54	pCi	94.9	87.0	1.09	A
			Fe-59	pCi	48	44.4	1.09	A
			Zn-65	pCi	120	108	1.11	A
			Co-60	pCi	104	101	1.03	A
	E4632-396	Charcoal	I-131	pCi	88.9	92.5	0.96	A

TABLE E-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING, 2005
(PAGE 2 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
September 2005	E4766-396	Milk	Sr-89	pCi/L	135.0	146.0	0.92	A
			Sr-90	pCi/L	9.7	11.5	0.84	A
	E4767-396	Milk	I-131	pCi/L	87.5	94.3	0.93	A
			Ce-141	pCi/L	203	233	0.87	A
			Cr-51	pCi/L	279	338	0.83	A
			Cs-134	pCi/L	102	122.0	0.84	A
			Cs-137	pCi/L	178	195	0.91	A
			Co-58	pCi/L	55.3	63.4	0.87	A
			Mn-54	pCi/L	81.8	92.0	0.89	A
			Fe-59	pCi/L	59.9	61.0	0.98	A
			Zn-65	pCi/L	120	123	0.98	A
			Co-60	pCi/L	146	167	0.87	A
	E4769-396	AP	Ce-141	pCi	193	169	1.14	A
			Cr-51	pCi	267	246	1.09	A
			Cs-134	pCi	78.4	88.8	0.88	A
			Cs-137	pCi	166	142	1.17	A
			Co-58	pCi	53.7	46.0	1.17	A
			Mn-54	pCi	81.6	66.8	1.22	W
			Fe-59	pCi	59.6	44.3	1.35	N (1)
			Zn-65	pCi	107	89.6	1.19	A
			Co-60	pCi	133	122	1.09	A
	E4768-396	Charcoal	I-131	pCi	63.9	64.2	1.00	A
December 2005	E4766-396	Milk	Sr-89	pCi/L	114	128	0.89	A
			Sr-90	pCi/L	11.6	10.3	1.13	A
	E4767-396	Milk	I-131	pCi/L	79.6	74.6	1.07	A
			Ce-141	pCi/L	202	224	0.90	A
			Cr-51	pCi/L	185	193	0.96	A
			Cs-134	pCi/L	74.9	87.3	0.86	A
			Cs-137	pCi/L	177	189	0.94	A
			Co-58	pCi/L	73.9	77.5	0.95	A
			Mn-54	pCi/L	152	152	1.00	A
			Fe-59	pCi/L	97.5	82.4	1.18	A
			Zn-65	pCi/L	161	154	1.05	A
			Co-60	pCi/L	102	111	0.92	A
	E4633-396	AP	Ce-141	pCi	221	201	1.10	A
			Cr-51	pCi	195	173	1.13	A
			Cs-134	pCi	68.4	78.3	0.87	A
			Cs-137	pCi	194	170	1.14	A
			Co-58	pCi	77.4	69.4	1.12	A
			Mn-54	pCi	171	137	1.25	W
			Fe-59	pCi	94.2	73.9	1.27	W
			Zn-65	pCi	173	138	1.25	W
			Co-60	pCi	109	99.1	1.10	A

TABLE E-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING, 2005
(PAGE 3 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
December 2005	E4632-396	Charcoal	I-131	pCi	73.3	73.3	1.00	A

(1) New technician - AP not counted in petri dish resulted in high Fe-59 activity. Counting in petri dish, the Fe-59 would have been acceptable as evidenced by the 4Q05 AP recount data. NCR 06-01

(a) Teledyne Brown Engineering reported result.

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

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

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

TABLE E-2 ERA ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING, 2005
(PAGE 1 OF 1)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Control Limits	Evaluation (c)
May 2005	Rad 61	Water	Sr-89	pCi/L	37.5	41.3	32.6 - 50.0	A
			Sr-90	pCi/L	5.37	5.92	0.00 - 14.6	A
			Ba-133	pCi/L	88.6	88.4	73.1 - 104	A
			Cs-134	pCi/L	70.5	78.6	69.9 - 87.3	A
			Cs-137	pCi/L	201	201	184 - 218	A
			Co-60	pCi/L	37.5	37.0	28.3 - 45.7	A
			Zn-65	pCi/L	122	118	97.6 - 138	A
			Gr-A	pCi/L	35.5	37.0	21.0 - 53.0	A
			Gr-B	pCi/L	35.6	34.2	25.5 - 42.9	A
			H-3	pCi/L	24600	24400	20200 - 28600	A
	Rad 61	Water	I-131	pCi/L	13.6	15.5	10.3 - 20.7	A
November 2005	Rad 63	Water	Sr-89	pCi/L	18.0	19.0	10.3 - 27.7	A
			Sr-90	pCi/L	16.6	16.0	7.37 - 24.7	A
			Ba-133	pCi/L	31.7	31.2	22.5 - 39.9	A
			Cs-134	pCi/L	30.8	33.9	25.2 - 42.6	A
			Cs-137	pCi/L	26.8	28.3	19.6 - 37.0	A
			Co-60	pCi/L	83.9	84.1	75.4 - 92.8	A
			Zn-65	pCi/L	109	105	86.8 - 123	A
			Gr-A	pCi/L	19.5	23.3	13.2 - 33.4	A
			Gr-B	pCi/L	34.0	39.1	30.4 - 47.8	A
			H-3	pCi/L	12400	12200	10100 - 14300	A
	Rad 63	Water	I-131	pCi/L	17.8	17.4	12.2 - 22.6	A

(a) Teledyne Brown Engineering reported result.

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

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

TABLE E-3 DOE's MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)
TELEDYNE BROWN ENGINEERING, 2005
(PAGE 1 OF 2)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Acceptance Range	Evaluation (c)
April 2005	05-MaW13	Water	Cs-134	Bq/L	108	127	88.90 - 165.10	A
			Cs-137	Bq/L	305	332	232.40 - 461.60	A
			Co-57	Bq/L	215	227	158.90 - 295.10	A
			Co-60	Bq/L	241	251	175.70 - 326.30	A
			H-3	Bq/L	283	280	196.00 - 364.00	A
			Mn-54	Bq/L	314	331	231.70 - 430.30	A
			Sr-90	Bq/L	0.093		no range given (1)	A
			Zn-65	Bq/L	509	496	347.20 - 644.80	A
	MaS13	Soil	Cs-134	Bq/L	655	759	531.30 - 986.70	A
			Cs-137	Bq/L	310	315	220.50 - 409.50	A
			Co-57	Bq/L	234	242	169.40 - 314.60	A
			Co-60	Bq/L	219	212	148.40 - 275.60	A
			Mn-54	Bq/L	512	485	339.50 - 630.50	A
			K-40	Bq/L	642	604	422.80 - 785.20	A
			Zn-65	Bq/L	890	810	567.00 - 1053	A
	GrW13	Water	Gr-A	Bq/L	0.601	0.525	>0.0 - 1.05	A
			Gr-B	Bq/L	1.54	1.67	0.84 - 2.51	A
	RdF13	AP	Cs-134	Bq/sample	3.26	3.51	2.46 - 4.56	A
			Cs-137	Bq/sample	2.05	2.26	1.58 - 2.94	A
			Co-57	Bq/sample	4.78	4.92	3.44 - 6.40	A
			Co-60	Bq/sample	3.02	3.03	2.12 - 3.94	A
			Mn-54	Bq/sample	3.31	3.33	2.33 - 4.33	A
			Sr-90	Bq/sample	1.15	1.35	0.95 - 1.76	A
			Zn-65	Bq/sample	3.14	3.14	2.20 - 4.08	A
	GrF13	AP	Gr-A	Bq/sample	0.0764	0.232	>0.0 - 0.46	A
			Gr-B	Bq/sample	0.305	0.297	0.15 - 0.45	A
April 2005	RdV13	Vegetation	Cs-134	Bq/kg	5.45	5	3.50 - 6.50	A
			Cs-137	Bq/kg	4.80	4.1	2.88 - 5.34	A
			Co-57	Bq/kg	13.4	9.88	6.92 - 12.84	A
			Co-60	Bq/kg	3.67	3.15	2.21 - 4.10	A
			Mn-54	Bq/kg	6.45	5.18	3.63 - 6.73	A
			Sr-90	Bq/kg	1.49	1.65	1.16 - 2.15	A
			Zn-65	Bq/kg	7.71	6.29	4.40 - 8.18	A
October 2005	05-MaW14	Water	Cs-134	Bq/L	142	167	116.90 - 217.10	A
			Cs-137	Bq/L	302	333	233.10 - 432.90	A
			Co-57	Bq/L	251	272	190.40 - 353.60	A
			Co-60	Bq/L	243	261	182.70 - 339.30	A
			H-3	Bq/L	547	527	368.90 - 685.10	A
			Mn-54	Bq/L	383	418	292.60 - 543.40	A
			Sr-90	Bq/L	8.75	8.98	6.29 - 11.67	A
			Zn-65	Bq/L	324	330	231.00 - 429.00	A

TABLE E-3 DOE's MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)
TELEDYNE BROWN ENGINEERING, 2005
(PAGE 2 OF 2)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Acceptance Range	Evaluation (c)
October, 2005	MaS14	Soil	Cs-134	Bq/L	494	568	397.60 - 738.40	A
			Cs-137	Bq/L	446	439	307.30 - 570.70	A
			Co-57	Bq/L	506	524	366.80 - 681.20	A
			Co-60	Bq/L	289	287	200.90 - 373.10	A
			Mn-54	Bq/L	460	439	307.30 - 570.70	A
			K-40	Bq/L	626	604	422.80 - 785.20	A
			Sr-90	Bq/L	571	757	529.90 - 984.10	W (2)
			Zn-65	Bq/L	889	823	576.10 - 1070	A
	GrW14	Water	Gr-A	Bq/L	0.858	0.79	0.21 - 1.38	A
			Gr-B	Bq/L	1.22	1.35	0.85 - 1.92	A
October 2005	RdF14	AP	Cs-134	Bq/sample	4.11	3.85	2.70 - 5.01	A
			Cs-137	Bq/sample	3.16	3.23	2.26 - 4.20	A
			Co-57	Bq/sample	6.14	6.2	4.34 - 8.06	A
			Co-60	Bq/sample	2.86	2.85	2.00 - 3.71	A
			Mn-54	Bq/sample	4.54	4.37	3.06 - 5.68	A
			Sr-90	Bq/sample	2.12	2.25	1.58 - 2.93	A
			Zn-65	Bq/sample	4.28	4.33	3.03 - 5.63	A
	GrF14	AP	Gr-A	Bq/sample	0.304	0.482	>0.0 - 0.80	A
			Gr-B	Bq/sample	0.858	0.827	0.55 - 1.22	A
	RdV13	Vegetation	Cs-134	Bq/kg	4.35	4.09	2.86 - 5.32	A
			Cs-137	Bq/kg	5.99	5.4	3.80 - 7.06	A
			Co-57	Bq/kg	17.0	13.30	9.31 - 17.29	W
			Co-60	Bq/kg	4.87	4.43	3.10 - 5.76	A
			Mn-54	Bq/kg	7.40	6.57	4.60 - 8.54	A
			Sr-90	Bq/kg	2.03	2.42	1.69 - 3.15	A
			Zn-65	Bq/kg	11.8	10.2	7.14 - 13.26	A

(1) The Sr-90 in water was a MAPEP false positive test. The TBE reported result of 0.093 ± 0.0908 Bq/L was the forced Sr-90 activity and uncertainty, as required by MAPEP. The MDC for the sample was 0.145 pCi/L.

(2) NCR 05-18 asigned to investigate low bias in Sr-90 in soil - pending fusion procedure development.

(a) Teledyne Brown Engineering reported result.

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

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

TABLE E-4 **ERA[a] STATISTICAL SUMMARY PROFICIENCY TESTING PROGRAM ENVIRONMENTAL, INC., 2005**

Lab Code	Date	Analysis	Concentration (pCi/L) Laboratory Result[b]	ERA Result[c]	Control Limits	Acceptance
STW-1051	02/15/05	Sr-89	28.0 ± 1.2	29.4	20.7 - 38.1	Pass
STW-1051	02/15/05	Sr-90	25.1 ± 0.7	24.4	15.7 - 33.1	Pass
STW-1052	02/15/05	Ba-133	52.9 ± 2.8	53.4	44.2 - 62.6	Pass
STW-1052	02/15/05	Co-60	54.4 ± 0.4	56.6	47.9 - 65.3	Pass
STW-1052	02/15/05	Cs-134	67.7 ± 1.8	64.9	56.2 - 73.6	Pass
STW-1052	02/15/05	Cs-137	39.6 ± 1.8	40.2	31.5 - 48.9	Pass
STW-1052	02/15/05	Zn-65	159.7 ± 3.0	161.0	133.0 - 189.0	Pass
STW-1053	02/15/05	Gr. Alpha	55.1 ± 1.8	67.9	38.5 - 97.3	Pass
STW-1053	02/15/05	Gr. Beta	46.8 ± 1.3	51.1	38.5 - 97.3	Pass
STW-1054	02/15/05	Ra-226	13.7 ± 1.5	14.1	10.4 - 17.8	Pass
STW-1054	02/15/05	Ra-228	13.3 ± 0.6	13.7	7.8 - 19.6	Pass
STW-1054	02/15/05	Uranium	5.1 ± 0.2	5.0	0.0 - 10.2	Pass
STW-1055	05/17/05	Sr-89	45.1 ± 4.1	41.3	32.6 - 50.0	Pass
STW-1055	05/17/05	Sr-90	7.5 ± 0.9	5.9	0.0 - 14.6	Pass
STW-1056	05/17/05	Ba-133	87.1 ± 2.0	88.4	73.1 - 104.0	Pass
STW-1056	05/17/05	Co-60	38.4 ± 0.8	37.0	28.3 - 45.7	Pass
STW-1056	05/17/05	Cs-134	75.3 ± 0.7	78.6	69.9 - 87.3	Pass
STW-1056	05/17/05	Cs-137	201.0 ± 8.4	194.0	184.0 - 218.0	Pass
STW-1056	05/17/05	Zn-65	130.0 ± 6.7	118.0	97.6 - 138.0	Pass
STW-1057	05/17/05	Gr. Alpha	42.7 ± 2.9	37.0	21.0 - 53.0	Pass
STW-1057	05/17/05	Gr. Beta	34.0 ± 0.4	34.2	25.5 - 42.9	Pass
STW-1058	05/17/05	I-131	14.7 ± 0.5	15.5	10.3 - 20.7	Pass
STW-1059	05/17/05	Ra-226	6.6 ± 0.1	7.6	5.6 - 9.5	Pass
STW-1059	05/17/05	Ra-228	19.3 ± 0.7	18.9	10.7 - 27.1	Pass
STW-1059	05/17/05	Uranium	9.6 ± 0.1	10.1	4.9 - 15.3	Pass
STW-1060	05/17/05	H-3	24100.0 ± 109.0	24400.0	20200.0 - 28600.0	Pass
STW-1067	08/16/05	Sr-89	29.1 ± 3.0	28.0	19.3 - 36.7	Pass
STW-1067	08/16/05	Sr-90	36.0 ± 0.6	33.8	25.1 - 42.5	Pass
STW-1068	08/16/05	Ba-133	107.0 ± 1.7	106.0	87.7 - 124.0	Pass
STW-1068	08/16/05	Co-60	15.2 ± 0.2	13.5	4.8 - 22.2	Pass
STW-1068	08/16/05	Cs-134	89.1 ± 0.3	92.1	83.4 - 101.0	Pass
STW-1068	08/16/05	Cs-137	72.1 ± 1.0	72.7	64.0 - 81.4	Pass
STW-1068	08/16/05	Zn-65	67.4 ± 1.4	65.7	54.3 - 77.1	Pass
STW-1069	08/16/05	Gr. Alpha	44.3 ± 1.5	55.7	31.6 - 79.8	Pass
STW-1069	08/16/05	Gr. Beta	58.4 ± 2.1	61.3	44.0 - 78.6	Pass
STW-1070	08/16/05	Ra-226	16.6 ± 1.5	16.6	12.3 - 20.9	Pass
STW-1070	08/16/05	Ra-228	6.2 ± 0.3	6.2	3.5 - 8.9	Pass
STW-1070	08/16/05	Uranium	4.5 ± 0.1	4.5	0.0 - 9.7	Pass

TABLE E-4 **ERA[a] STATISTICAL SUMMARY PROFICIENCY TESTING PROGRAM**
ENVIRONMENTAL, INC., 2005

Lab Code	Date	Analysis	Concentration (pCi/L) Laboratory Result[b]	ERA Result[c]	Control Limits	Acceptance
STW-1072	11/15/05	Sr-89	20.6 ± 0.4	19.0	10.3 - 27.7	Pass
STW-1072	11/15/05	Sr-90	15.0 ± 0.3	16.0	7.3 - 24.7	Pass
STW-1073	11/15/05	Ba-133	31.8 ± 1.8	31.2	22.5 - 39.9	Pass
STW-1073	11/15/05	Co-60	85.0 ± 1.4	84.1	75.4 - 92.8	Pass
STW-1073	11/15/05	Cs-134	37.2 ± 2.1	33.9	25.2 - 42.6	Pass
STW-1073	11/15/05	Cs-137	27.8 ± 0.7	28.3	19.6 - 37.0	Pass
STW-1073	11/15/05	Zn-65	109.0 ± 1.0	105.0	86.8 - 123.0	Pass
STW-1074 [d]	11/15/05	Gr. Alpha	41.1 ± 1.2	23.3	13.2 - 33.4	Fail
STW-1074	11/15/05	Gr. Beta	42.7 ± 0.5	39.1	30.4 - 47.8	Pass
STW-1075	11/15/05	I-131	20.5 ± 0.6	17.4	12.2 - 22.6	Pass
STW-1076	11/15/05	Ra-226	7.8 ± 0.6	8.3	6.2 - 10.5	Pass
STW-1076 [e]	11/15/05	Ra-228	5.5 ± 0.6	3.5	2.0 - 5.0	Fail
STW-1076	11/15/05	Uranium	15.5 ± 0.3	16.1	10.9 - 21.3	Pass
STW-1077	11/15/05	H-3	12500.0 ± 238.0	12200.0	10100.0 - 14300.0	Pass

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

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

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

[d] The original samples were calculated using an Am-241 efficiency. The samples were spiked with Th-232. Samples were recounted and calculated using the Th-232 efficiency. Results of the recount: 27.01 ± 2.35 pCi/L.

[e] Decay of short-lived radium daughters contributed to a higher counting rate. Delay of counting for 100 minutes provided better results. The reported result was the average of the first cycle of 100 minutes, the average of the second cycle counts was 4.01 pCi/L

TABLE E-5 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)[a] ENVIRONMENTAL, INC., 2005

Lab Code	Date	Analysis	Concentration [b] Laboratory result	Known Activity	Control Limits [a]	Acceptance
STW-1045	01/01/05	Gr. Alpha	0.45 ± 0.10	0.53	0.00 - 1.05	Pass
STW-1045	01/01/05	Gr. Beta	1.90 ± 0.10	1.67	0.84 - 2.51	Pass
STW-1046	01/01/05	Am-241	1.62 ± 0.12	1.72	1.20 - 2.24	Pass
STW-1046	01/01/05	Co-57	239.40 ± 1.20	227.00	158.90 - 295.10	Pass
STW-1046	01/01/05	Co-60	248.70 ± 1.00	251.00	175.70 - 326.30	Pass
STW-1046	01/01/05	Cs-134	115.50 ± 1.80	127.00	88.90 - 165.10	Pass
STW-1046	01/01/05	Cs-137	328.50 ± 1.70	332.00	232.40 - 431.60	Pass
STW-1046	01/01/05	Fe-55	64.90 ± 7.00	75.90	53.13 - 98.67	Pass
STW-1046	01/01/05	H-3	304.00 ± 9.70	280.00	196.00 - 364.00	Pass
STW-1046	01/01/05	Mn-54	334.80 ± 1.90	331.00	231.70 - 430.30	Pass
STW-1046	01/01/05	Ni-63	7.10 ± 1.60	9.00	0.00 - 20.00	Pass
STW-1046	01/01/05	Pu-238	0.01 ± 0.02	0.02	0.00 - 1.00	Pass
STW-1046	01/01/05	Pu-239/40	2.50 ± 0.14	2.40	1.68 - 3.12	Pass
STW-1046	01/01/05	Sr-90	0.70 ± 0.80	0.00	0.00 - 5.00	Pass
STW-1046	01/01/05	Tc-99	43.20 ± 1.40	42.90	30.03 - 55.77	Pass
STW-1046	01/01/05	U-233/4	3.31 ± 0.20	3.24	2.27 - 4.21	Pass
STW-1046	01/01/05	U-238	3.38 ± 0.20	3.33	2.33 - 4.33	Pass
STW-1046	01/01/05	Zn-65	538.40 ± 3.80	496.00	347.20 - 644.80	Pass
STVE-1047	01/01/05	Co-57	10.60 ± 0.20	9.88	6.92 - 12.84	Pass
STVE-1047	01/01/05	Co-60	3.00 ± 0.20	3.15	2.21 - 4.10	Pass
STVE-1047	01/01/05	Cs-134	4.80 ± 0.40	5.00	3.50 - 6.50	Pass
STVE-1047	01/01/05	Cs-137	4.10 ± 0.30	4.11	2.88 - 5.34	Pass
STVE-1047	01/01/05	Mn-54	5.10 ± 0.30	5.18	3.63 - 6.73	Pass
STVE-1047	01/01/05	Zn-65	6.20 ± 0.50	6.29	4.40 - 8.18	Pass
STSO-1048	01/01/05	Am-241	96.60 ± 10.00	109.00	76.30 - 141.70	Pass
STSO-1048	01/01/05	Co-57	264.00 ± 2.00	242.00	169.40 - 314.60	Pass
STSO-1048	01/01/05	Co-60	226.50 ± 2.20	212.00	148.40 - 275.60	Pass
STSO-1048	01/01/05	Cs-134	760.60 ± 3.70	759.00	531.30 - 986.70	Pass
STSO-1048	01/01/05	Cs-137	336.20 ± 3.60	315.00	220.50 - 409.50	Pass
STSO-1048	01/01/05	K-40	663.70 ± 18.00	604.00	422.80 - 785.20	Pass
STSO-1048	01/01/05	Mn-54	541.30 ± 3.90	485.00	339.50 - 630.50	Pass
STSO-1048	01/01/05	Ni-63	924.30 ± 17.20	1220.00	854.00 - 1586.00	Pass
STSO-1048	01/01/05	Pu-238	0.60 ± 0.80	0.48	0.00 - 1.00	Pass
STSO-1048	01/01/05	Pu-239/40	78.00 ± 4.80	89.50	62.65 - 116.35	Pass
STSO-1048	01/01/05	Sr-90	514.60 ± 18.70	640.00	448.00 - 832.00	Pass
STSO-1048	01/01/05	U-233/4	47.90 ± 4.00	62.50	43.75 - 81.25	Pass
STSO-1048	01/01/05	U-238	226.30 ± 8.60	249.00	174.30 - 323.70	Pass
STSO-1048	01/01/05	Zn-65	851.30 ± 7.30	810.00	567.00 - 1053.00	Pass
STAP-1050	01/01/05	Gr. Alpha	0.11 ± 0.03	0.23	0.00 - 0.46	Pass
STAP-1050	01/01/05	Gr. Beta	0.38 ± 0.05	0.30	0.15 - 0.45	Pass

TABLE E-5 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)[a]
ENVIRONMENTAL, INC., 2005

Lab Code[c]	Date	Analysis	Concentration[b] Laboratory result	Known Activity	Control Limits[d]	Acceptance
STAP-1049	01/01/05	Am-241	0.10 ± 0.04	0.10	0.07 - 0.13	Pass
STAP-1049	01/01/05	Co-57	4.76 ± 0.64	4.92	3.44 - 6.40	Pass
STAP-1049	01/01/05	Co-60	2.84 ± 0.22	3.03	2.12 - 3.94	Pass
STAP-1049	01/01/05	Cs-134	3.54 ± 0.37	3.51	2.46 - 4.56	Pass
STAP-1049	01/01/05	Cs-137	2.20 ± 0.27	2.26	1.58 - 2.94	Pass
STAP-1049	01/01/05	Mn-54	3.15 ± 0.21	3.33	2.33 - 4.33	Pass
STAP-1049	01/01/05	Pu-238	0.16 ± 0.04	0.20	0.14 - 0.25	Pass
STAP-1049	01/01/05	Pu-239/40	0.17 ± 0.02	0.17	0.14 - 0.25	Pass
STAP-1049[e]	01/01/05	Sr-90	2.24 ± 0.34	1.35	0.95 - 1.76	Fail
STAP-1049	01/01/05	U-233/4	0.34 ± 0.02	0.34	0.24 - 0.44	Pass
STAP-1049	01/01/05	U-238	0.35 ± 0.02	0.35	0.25 - 0.46	Pass
STAP-1049	01/01/05	Zn-65	3.12 ± 0.15	3.14	2.20 - 4.08	Pass
STW-1061	07/01/05	Am-241	2.21 ± 0.13	2.23	1.56 - 2.90	Pass
STW-1061	07/01/05	Co-57	293.20 ± 7.30	272.00	190.40 - 353.60	Pass
STW-1061	07/01/05	Co-60	275.70 ± 1.30	261.00	182.70 - 339.30	Pass
STW-1061	07/01/05	Cs-134	171.80 ± 4.00	167.00	116.90 - 217.10	Pass
STW-1061	07/01/05	Cs-137	342.10 ± 2.20	333.00	233.10 - 432.90	Pass
STW-1061	07/01/05	Fe-55	167.80 ± 9.30	196.00	137.20 - 254.80	Pass
STW-1061	07/01/05	H-3	514.20 ± 12.60	527.00	368.90 - 685.10	Pass
STW-1061	07/01/05	Mn-54	437.00 ± 2.50	418.00	292.60 - 543.40	Pass
STW-1061	07/01/05	Ni-63	105.10 ± 3.60	100.00	70.00 - 130.00	Pass
STW-1061	07/01/05	Pu-238	1.64 ± 0.12	1.91	1.34 - 2.48	Pass
STW-1061	07/01/05	Pu-239/40	2.32 ± 0.13	2.75	1.93 - 3.58	Pass
STW-1061	07/01/05	Sr-90	9.20 ± 1.30	8.98	6.29 - 11.67	Pass
STW-1061	07/01/05	Tc-99	72.30 ± 2.30	66.50	46.55 - 86.45	Pass
STW-1061	07/01/05	U-233/4	4.11 ± 0.18	4.10	2.87 - 5.33	Pass
STW-1061	07/01/05	U-238	4.14 ± 0.18	4.26	2.98 - 5.54	Pass
STW-1061	07/01/05	Zn-65	364.60 ± 4.90	330.00	231.00 - 429.00	Pass
STW-1062	07/01/05	Gr. Alpha	0.57 ± 0.05	0.79	0.21 - 1.38	Pass
STW-1062	07/01/05	Gr. Beta	1.36 ± 0.05	1.35	0.85 - 1.92	Pass
STSO-1063[f]	07/01/05	Am-241	48.40 ± 3.90	81.10	56.77 - 105.43	Fail
STSO-1063	07/01/05	Co-57	608.30 ± 2.80	524.00	366.80 - 681.20	Pass
STSO-1063	07/01/05	Co-60	322.70 ± 2.40	287.00	200.90 - 373.10	Pass
STSO-1063	07/01/05	Cs-134	632.10 ± 5.20	568.00	397.60 - 738.40	Pass
STSO-1063	07/01/05	Cs-137	512.40 ± 4.20	439.00	307.30 - 570.70	Pass
STSO-1063	07/01/05	K-40	720.50 ± 19.00	604.00	422.80 - 785.20	Pass
STSO-1063	07/01/05	Mn-54	516.80 ± 5.10	439.00	307.30 - 570.70	Pass
STSO-1063	07/01/05	Ni-63	366.50 ± 13.30	445.00	311.50 - 578.50	Pass
STSO-1063	07/01/05	Pu-238	68.80 ± 15.00	60.80	42.56 - 79.04	Pass
STSO-1063	07/01/05	Pu-239/40	0.00 ± 0.00	0.00	0.00 - 0.00	
STSO-1063	07/01/05	Sr-90	602.90 ± 17.20	757.00	529.90 - 984.10	Pass
STSO-1063	07/01/05	U-233/4	61.50 ± 1.00	52.50	36.75 - 68.25	Pass
STSO-1063	07/01/05	U-238	164.50 ± 16.70	168.00	117.60 - 218.40	Pass
STSO-1063	07/01/05	Zn-65	874.70 ± 8.40	823.00	576.10 - 1070.00	Pass

TABLE E-5 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)[a] ENVIRONMENTAL, INC., 2005

Lab Code[c]	Date	Concentration[b] Analysis	Laboratory result	Known Activity	Control Limits[d]	Acceptance
STVE-1064	07/01/05	Am-241	0.18 ± 0.03	0.23	0.16 - 0.30	Pass
STVE-1064	07/01/05	Co-57	15.90 ± 0.20	13.30	9.31 - 17.29	Pass
STVE-1064	07/01/05	Co-60	4.80 ± 0.10	4.43	3.10 - 5.76	Pass
STVE-1064	07/01/05	Cs-134	4.60 ± 0.20	4.09	2.86 - 5.32	Pass
STVE-1064	07/01/05	Cs-137	5.90 ± 0.30	5.43	3.80 - 7.06	Pass
STVE-1064	07/01/05	Mn-54	7.20 ± 0.20	6.57	4.60 - 8.54	Pass
STVE-1064	07/01/05	Pu-238	0.04 ± 0.02	0.00	0.00 - 1.00	Pass
STVE-1064	07/01/05	Pu-239/40	0.13 ± 0.02	0.16	0.11 - 0.21	Pass
STVE-1064	07/01/05	Sr-90	2.80 ± 0.30	2.42	1.69 - 3.15	Pass
STVE-1064	07/01/05	U-233/4	0.28 ± 0.03	0.33	0.23 - 0.43	Pass
STVE-1064	07/01/05	U-238	0.33 ± 0.04	0.35	0.24 - 0.45	Pass
STVE-1064	07/01/05	Zn-65	11.00 ± 0.50	10.20	7.14 - 13.26	Pass
STAP-1065	07/01/05	Gr. Alpha	0.30 ± 0.04	0.48	0.00 - 0.80	Pass
STAP-1065	07/01/05	Gr. Beta	0.97 ± 0.06	0.83	0.55 - 1.22	Pass
STAP-1066	07/01/05	Am-241	0.14 ± 0.03	0.16	0.11 - 0.21	Pass
STAP-1066	07/01/05	Co-57	5.81 ± 0.17	6.20	4.34 - 8.06	Pass
STAP-1066	07/01/05	Co-60	2.79 ± 0.14	2.85	2.00 - 3.71	Pass
STAP-1066	07/01/05	Cs-134	3.67 ± 0.12	3.85	2.70 - 5.01	Pass
STAP-1066	07/01/05	Cs-137	2.93 ± 0.23	3.23	2.26 - 4.20	Pass
STAP-1066	07/01/05	Mn-54	4.11 ± 0.26	4.37	3.06 - 5.68	Pass
STAP-1066	07/01/05	Pu-238	0.11 ± 0.02	0.10	0.07 - 0.13	Pass
STAP-1066	07/01/05	Pu-239/40	0.10 ± 0.01	0.09	0.06 - 0.12	Pass
STAP-1066	07/01/05	Sr-90	2.25 ± 0.29	2.25	1.58 - 2.93	Pass
STAP-1066	07/01/05	U-233/4	0.28 ± 0.02	0.27	0.19 - 0.35	Pass
STAP-1066	07/01/05	U-238	0.28 ± 0.02	0.28	0.20 - 0.37	Pass
STAP-1066	07/01/05	Zn-65	4.11 ± 0.26	4.33	3.06 - 5.68	Pass

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

[b] Results are reported in units of Bq/kg (soil), Bq/L (water) or Bq/total sample (filters, vegetation) as requested by the Department of Energy.

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

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

[e] The strontium carbonate precipitates were redissolved and processed. The average of the three analyses was 1.34 pCi/L, although the recovery was only 30%. The result of a new analysis was 1.56 pCi/L.

[f] Incorrect sample weight used in calculation. Result of recalculation: 97.0 ± 7.8 Bq/kg.