

AmerGen Energy Company, LLC
Oyster Creek
US Route 9 South
PO Box 388
Forked River, NJ 08731-0388

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Attention: Document Control Desk
Washington, DC 20555

Subject: Oyster Creek Generating Station
Docket No. 50-219
Radiological Environmental Operating Report - 2002

Enclosed is a copy of the Oyster Creek Radiological Environmental Operating Report for the calendar year 2002. This submittal is made in accordance with Oyster Creek Generating Station Technical Specification 6.9.1.e.

If you should have any questions or require any further information, please contact Mr. John Rogers, of my staff, at 609-971-4893.

Very truly yours,



Ernest J. Harkness P.E., Vice President
Oyster Creek Generating Station

EJH/JJR
Enclosure

cc: Administrator, Region I
NRC Project Manager
NRC Sr. Resident Inspector

JE25

Docket No: 50-219

OYSTER CREEK GENERATING STATION UNIT 1

Annual Radiological
Environmental Operating Report

1 January Through 31 December 2002

Prepared By
Teledyne Brown Engineering
Environmental Services

AmerGenSM
An Exelon/British Energy Company

Oyster Creek Generating Station
Forked River, NJ 08731

May 2003

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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 2002 through 31 December 2002. During that time period, 938 analyses were performed on 810 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 in two surface water indicator stations and at the control station.

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 levels consistent with those detected in previous years. All strontium-89 results were below the minimum detectable activity. Strontium-90 activity was detected in all 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 $\frac{1}{4}$ mile west of the highway and $1\frac{1}{4}$ miles east of the Parkway. The site property extends about $2\frac{1}{2}$ 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), ICN Pharmaceutical, and Environmental Inc. (Midwest Labs) on samples collected during the period 01 January 2002 through 31 December 2002.

A. Objective 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 Normandeu Associates, RMC Environmental Services Division (RMC). This section describes the general collection methods used to obtain environmental samples for the OCGS REMP in 2002. 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), semi-annually 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 new unused 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 two locations (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 two to three cubic feet 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). Location 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 814 calcium sulfate (CaSO_4) thermoluminescent dosimeters (TLD). The TLD locations were placed on and around the OCGS site 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 (6, 8, 22, 68, 73, 74, 75, 78, 79, 81, 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 locations consisting of 10 locations (3, 9, 11, 71, 72, 88, 89, 90, 92, and T1) representing special interest areas such as population centers, state parks, etc.

The balance of two locations (C and 14) representing control locations.

Indicator TLDs were placed systematically, with at least one station in each of 16 meteorological compass sectors (in a ring), typically within 0.25 miles of the OCGS, or as close as reasonable highway access would

permit. TLDs were also placed in each of the 16 sectors within a five mile radius of the OCGS, in areas of public interest, and population centers. Background locations were located greater than twenty miles distant from the OCGS and generally in an upwind direction from the OCGS. Two TLDs –each comprised of three CaSO₄ 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 ICN for analysis.

B. Sample Analysis

This section describes the general analytical methodologies used by TBE and Midwest Labs to analyze the environmental samples for radioactivity for the OCGS REMP in 2002. 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, silt, 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

The radiological and direct radiation data collected from past years was used for comparison and trending with 2002 operational data. For the purpose of this report, OCGS preoperational data was not used due to it's collection 35 years ago. Several factors were important in the interpretation of the data:

1. Lower Limit of Detection and Minimum Detectable Activity

The lower limit of detection (LLD) was defined as the smallest concentration of radioactive material in a sample that would yield a

net count (above background) that would be detected with only a 5% probability of falsely concluding that a blank observation represents a "real" signal. The LLD was intended as a before the fact estimate of a system (including instrumentation, procedure and sample type) and not as an after the fact criteria for the presence of activity. All analyses were designed to achieve the required 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 effecting a negative number. An MDA was reported in all cases where positive activity was not detected.

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

For surface and well water 11 nuclides, Mn-54, Co-58, Fe-59, Co-60, Zn-65, Zr-95, Nb-95, Cs-134, Cs-137, Ba-140, and La-140 were reported.

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 six nuclides, K-40, Mn-54, Co-58, Co-60, Cs-134, and Cs-137 were reported.

For air particulate six nuclides, Be-7, Mn-54, Co-58, Co-60, Cs-134, and Cs-137 were reported.

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

For vegetation four nuclides, K-40, I-131, Cs-134, and Cs-137, 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 2002 the OCGS REMP had a sample recovery rate in excess of 99%. Exceptions are listed below:

Beginning on 03 Sep 02, the charcoal cartridge efficiency (98% efficiency) on Air Iodine samples was incorporated into the analysis result. Prior to this, an efficiency of 100 % was used. All calculated MDAs were well below LLDs.

Two vegetable gardens planted at the site boundary, Stations 35 and 66, failed after the initial harvest on 06 Aug 02 due to a regional severe drought. One cabbage sample was harvested and analyzed from Station 66 on 10 Sep 02, but no other vegetables were available for collection and analysis during this collection period. Broadleaf vegetation was collected at Stations 35 and 66 in lieu of vegetable samples on 10 Sep 02 and on 10 Oct 02.

In October 2002, during the third quarter TLD change out, the field Control TLDs were lost. The Field Control dosimeters monitor the quantity of dose received during the exchange period. ICN TLD numbers 2016953 and 2016954 were lost, presumably in the field, during dosimeter exchange. The dose recorded by the Field Control badges that is subtracted from other exposed dosimeters is usually less than 1 mR. CAP # 2003-0583 was written to investigate and document this event.

ICN TLDs were lost at Station 86 during the first quarter of 2002 and at Station 61 during the second quarter of 2002 due to vandalism.

Station 72 failed to operate after running for 12 hours and 48 minutes. The volume of air that passed through this filter was only 58.7 cubic meters because of a blown fuse.

Each program exception was reviewed 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

Beginning the second quarter 2002, Teledyne Brown Engineering Environmental Services became the primary laboratory and Environmental Inc. (Midwest Labs) became the QC laboratory. Prior to that, Environmental Inc. was the primary analysis laboratory and Teledyne Brown Engineering was the QC laboratory.

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-1.1, 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-1.2, 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 activity was detected in two samples at concentrations of 131 pCi/l and 166 pCi/l. The highest MDA was calculated at <178 pCi/l.

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 tautog and flounder (bottom feeder) and weakfish, striped bass, white perch, sea bass, bluefish, and puffer (predator) were collected at two locations (93 and 94) semiannually. Location 93 could be affected by Oyster Creek's effluent releases. The following analysis was performed:

Gamma Spectrometry

The edible portion of fish samples from two 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 3,480 to 5,900 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 portion 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 1,120 to 1,420 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 portion of crab samples from one location was analyzed for gamma emitting nuclides (Table C-III.2, Appendix C). Naturally occurring potassium-40 was found at a concentration of 1,520 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 K-40, and the fission product Cs-137.

Potassium-40 was found at all stations and ranged from 806 to 16,300 pCi/kg dry. Concentrations of the fission product Cs-137 were found in two sediment samples. Location 23 had an average concentration of 21 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 2002.

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 On-Site locations (Group I) ranged from 9 to 34 E-3 pCi/m³ with a mean of 17 E-3 pCi/m³. The results from the Intermediate Distance location (Group II) ranged from 8 to 35 E-3 pCi/m³ with a mean of 17 E-3 pCi/m³. The results from the Distant locations (Group III) ranged from 7 to 32 E-3 pCi/m³ with a mean of 17 E-3 pCi/m³. Comparison of the 2002 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 2002 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 58 to 84 E-3 pCi/m³. 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 but one sample. The values ranged from 3 to 121 pCi/kg wet.

Gamma Spectrometry

Each vegetation sample from locations 35, 36, and 66 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 1,640 to 4,030 pCi/l. Cs-137 activity detected in two 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 814 (CaSO₄) thermoluminescent dosimeters. Forty-four TLD locations were monitored around the site. Results of TLD measurements are listed in Tables C-VIII.1 to C-VIII.3, Appendix C.

Most TLD measurements were below 20 mR/standard quarter, with a range of 6.7 to 21.6 mR/standard quarter. 2002 gamma radiation data was plotted from the control location 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).

Land Use Survey

A Land Use Survey was conducted during 2002 around the Oyster Creek Generating Station (OCGS). The purpose of the survey was to determine the location of animals producing milk for human consumption in each of the sixteen meteorological sections out to a distance of 5 miles from the OCGS. 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 Buildings			
Sector	Residence	Garden	Milk Farm
1 WSW	-	-	10.1
2 SW	-	-	20.3
3 NW	-	-	17.7
4 NNE	-	-	5.9

V. References

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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, 2002**

Name of Facility: OYSTER CREEK GENERATING STATION				DOCKET NUMBER: 50-219		REPORTING PERIOD: 2002		
Location of Facility: OCEAN COUNTY, NJ				INDICATOR CONTROL LOCATION WITH HIGHEST ANNUAL MEAN				
MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	MEAN* (F) RANGE	MEAN* (F) RANGE	MEAN* (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
SURFACE WATER (PCI/LITER)	TRITIUM	28	3000	147 (5/16) (<94/327)	142 (4/12) (<94/207)	214 (1/2) (<101/327)	24 INDICATOR BARNEGAT BAY 2.1 MILES SE OF SITE	0
	GAMMA MN-54	28	15	3 (0/16) (<0.9/<6)	4 (0/12) (<1/<6)	4 (0/12) (<1/<6)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 SSW OF SITE	0
	CO-58		15	4 (0/16) (<1/<6)	4 (0/12) (<1/<7)	4 (0/12) (<1/<7)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 SSW OF SITE	0
	CO-60		15	3 (0/16) (<0.9/<6)	4 (0/12) (<1/<6)	4 (0/12) (<1/<6)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 SSW OF SITE	0
	FE-59		30	8 (0/16) (<2/<12)	8 (0/12) (<2/<14)	8 (0/2) (<5/<11)	24 INDICATOR BARNEGAT BAY 2.1 MILES SE OF SITE	0
	ZN-65		30	7 (0/16) (<2/<12)	8 (0/12) (<2/<15)	8 (0/12) (<2/<15)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 SSW OF SITE	0
	ZR-95		30	6 (0/16) (<2/<11)	7 (0/12) (<2/<11)	7 (0/12) (<2/<11)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 SSW OF SITE	0
	NB-95		15	4 (0/16) (<1/<6)	4 (0/12) (<1/<7)	5 (0/2) (<4/<6)	23 INDICATOR BARNEGAT BAY 3.6 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, 2002**

Name of Facility: OYSTER CREEK GENERATING STATION		DOCKET NUMBER: 50-219							
Location of Facility: OCEAN COUNTY, NJ		REPORTING PERIOD: 2002							
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		15	4 (0/16) (<0.9/<8)	4 (0/12) (<0.9/<7)	4 (0/12) (<0.9/<8)	33 INDICATOR ROUTE 9 BRIDGE 0.4 MILES ESE OF SITE	0	
	CS-137		18	4 (0/16) (<0.9/<7)	4 (0/12) (<1/<6)	4 (0/12) (<1/<6)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 SSW OF SITE	0	
	BA-140		60	<24 (0/16) (<10/<45)	<26 (0/12) (<10/<43)	<36 (0/2) (<27/<45)	24 INDICATOR BARNEGAT BAY 2.1 MILES SE OF SITE	0	
	LA-140		15	8 (0/16) (<2/<15)	7 (0/12) (<2/<13)	12 (0/2) (<10/<14)	23 INDICATOR BARNEGAT BAY 3.6 MILES ENE OF SITE	0	
WELL WATER (PCI/LITER)	TRITIUM	12	2000	130 (2/8) (<86/<178)	124 (0/4) (<86/<178)	132 (1/4) (<86/132)	38 INDICATOR OCEAN TOWNSHIP MUA PUMP STA 1.3 MILES SSW OF SITE	0	
	GAMMA MN-54	12	15	3 (0/8) (<1/<5)	4 (0/4) (<2/<6)	4 (0/4) (<2/<6)	37 CONTROL LACEY MUA PUMPING STATION 2.2 MILES NNE OF SITE	0	
	CO-58		15	3 (0/8) (<1/<6)	4 (0/4) (<2/<6)	4 (0/4) (<2/<6)	37 CONTROL LACEY MUA PUMPING STATION 2.2 MILES NNE OF SITE	0	
	CO-60		15	3 (0/8) (<1/<5)	4 (0/4) (<2/<5)	4 (0/4) (<2/<5)	37 CONTROL LACEY MUA PUMPING STATION 2.2 MILES NNE OF SITE	0	

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**TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR
THE OYSTER CREEK GENERATING STATION, 2002**

Name of Facility: OYSTER CREEK GENERATING STATION		DOCKET NUMBER: 50-219						
Location of Facility: OCEAN COUNTY, NJ		REPORTING PERIOD: 2002						
MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR	CONTROL	LOCATION WITH HIGHEST ANNUAL MEAN	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
				LOCATIONS	LOCATION			
				MEAN* (F) RANGE	MEAN* (F) RANGE	MEAN* (F) RANGE		
	FE-59		30	7 (0/8) (<3/<11)	9 (0/4) (<5/<13)	9 (0/4) (<5/<13)	37 CONTROL LACEY MUA PUMPING STATION 2.2 MILES NNE OF SITE	0
	ZN-65		30	6 (0/8) (<2/<11)	8 (0/4) (<4/<13)	8 (0/4) (<4/<13)	37 CONTROL LACEY MUA PUMPING STATION 2.2 MILES NNE OF SITE	0
	ZR-95		30	7 (0/8) (<2/<10)	8 (0/4) (<6/<10)	8 (0/4) (<6/<10)	37 CONTROL LACEY MUA PUMPING STATION 2.2 MILES NNE OF SITE	0
	NB-95		15	4 (0/8) (<1/<6)	5 (0/4) (<3/<7)	5 (0/4) (<3/<7)	37 CONTROL LACEY MUA PUMPING STATION 2.2 MILES NNE OF SITE	0
	CS-134		15	3 (0/8) (<0.9/<6)	4 (0/4) (<2/<6)	4 (0/4) (<2/<6)	37 CONTROL LACEY MUA PUMPING STATION 2.2 MILES NNE OF SITE	0
	CS-137		18	<3.5 (0/8) (<1/<5)	<3.6 (0/4) (<2/<6)	<3.6 (0/4) (<2/<6)	37 CONTROL LACEY MUA PUMPING STATION 2.2 MILES NNE OF SITE	0
	BA-140		60	<22 (0/8) (<13/<40)	<32 (0/4) (<17/<45)	<32 (0/4) (<17/<45)	37 CONTROL LACEY MUA PUMPING STATION 2.2 MILES NNE OF SITE	0
	LA-140		15	7 (0/8) (<4/<13)	10 (0/4) (<3/<15)	10 (0/4) (<3/<15)	37 CONTROL LACEY MUA PUMPING STATION 2.2 MILES NNE 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, 2002**

Name of Facility: OYSTER CREEK GENERATING STATION				DOCKET NUMBER: 50-219				
Location of Facility: OCEAN COUNTY, NJ				REPORTING PERIOD: 2002				
MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR	CONTROL	LOCATION WITH HIGHEST ANNUAL MEAN		
				LOCATIONS MEAN* (F) RANGE	LOCATION MEAN* (F) RANGE	MEAN* (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
BOTTOM FEEDER (FISH) (PCI/KG WET)	GAMMA K-40	2	N/A	4210 (2/2) (3480/4940)	N/A	4210 (2/2) (3480/4940)	93 INDICATOR DISCHARGE CANAL 0.1 MILES WSW OF SITE	0
	MN-54		130	33 (0/2) (<14/<52)	N/A	33 (0/2) (<14/<52)	93 INDICATOR DISCHARGE CANAL 0.1 MILES WSW OF SITE	0
	CO-58		130	37 (0/2) (<20/<54)	N/A	37 (0/2) (<20/<54)	93 INDICATOR DISCHARGE CANAL 0.1 MILES WSW OF SITE	0
	CO-60		130	33 (0/2) (<14/<53)	N/A	33 (0/2) (<14/<53)	93 INDICATOR DISCHARGE CANAL 0.1 MILES WSW OF SITE	0
	FE-59		260	98 (0/2) (<54/<142)	N/A	98 (0/2) (<54/<142)	93 INDICATOR DISCHARGE CANAL 0.1 MILES WSW OF SITE	0
	ZN-65		260	71 (0/2) (<33/<109)	N/A	71 (0/2) (<33/<109)	93 INDICATOR DISCHARGE CANAL 0.1 MILES WSW OF SITE	0
	CS-134		130	29 (0/2) (<13/<44)	N/A	29 (0/2) (<13/<44)	93 INDICATOR DISCHARGE CANAL 0.1 MILES WSW OF SITE	0
	CS-137		150	33 (0/2) (<15/<52)	N/A	33 (0/2) (<15/<52)	93 INDICATOR DISCHARGE CANAL 0.1 MILES WSW 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)

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**TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR
THE OYSTER CREEK GENERATING STATION, 2002**

Name of Facility: OYSTER CREEK GENERATING STATION				DOCKET NUMBER: 50-219				
Location of Facility: OCEAN COUNTY, NJ				REPORTING PERIOD: 2002				
MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR	CONTROL	LOCATION WITH HIGHEST ANNUAL MEAN	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
				LOCATIONS MEAN* (F) RANGE	LOCATION MEAN* (F) RANGE	LOCATION MEAN* (F) RANGE		
PREDATOR (FISH) (PCI/KG WET)	GAMMA K-40	9	N/A	4686 (5/5) (4040/5900)	4578 (4/4) (3770/5530)	4686 (5/5) (4040/5900)	93 INDICATOR DISCHARGE CANAL 0 1 MILES WSW OF SITE	0
	MN-54		130	19 (0/5) (<12/<29)	25 (0/4) (<10/<48)	25 (0/4) (<10/<48)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20 0 SSW OF SITE	0
	CO-58		130	26 (0/5) (<15/<42)	35 (0/4) (<13/<72)	35 (0/4) (<13/<72)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20 0 SSW OF SITE	0
	CO-60		130	18 (0/5) (<11/<25)	24 (0/4) (<10/<48)	24 (0/4) (<10/<48)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 SSW OF SITE	0
	FE-59		260	63 (0/5) (<41/<102)	97 (0/4) (<35/<205)	97 (0/4) (<35/<205)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20 0 SSW OF SITE	0
	ZN-65		260	45 (0/5) (<27/<68)	56 (0/4) (<22/<109)	56 (0/4) (<22/<109)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 SSW OF SITE	0
	CS-134		130	18 (0/5) (<11/<28)	24 (0/4) (<10/<49)	24 (0/4) (<10/<49)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20 0 SSW OF SITE	0
	CS-137		150	20 (0/5) (<11/<29)	27 (0/4) (<10/<56)	27 (0/4) (<10/<56)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20 0 SSW OF SITE	0

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

**TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR
THE OYSTER CREEK GENERATING STATION, 2002**

Name of Facility: OYSTER CREEK GENERATING STATION		DOCKET NUMBER: 50-219		REPORTING PERIOD: 2002		INDICATOR CONTROL LOCATION WITH HIGHEST ANNUAL MEAN		
Location of Facility: OCEAN COUNTY, NJ								
MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	MEAN* (F) RANGE	MEAN* (F) RANGE	MEAN* (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
CLAMS (PCI/KG WET)	GAMMA K-40	6	N/A	1328 (4/4) (1140/1420)	1215 (2/2) (1120/1310)	1375 (2/2) (1340/1410)	24 INDICATOR BARNEGAT BAY 2.1 MILES SE OF SITE	0
	MN-54		130	17 (0/4) (<13/<21)	20 (0/2) (<14/<27)	20 (0/2) (<14/<27)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20 0 SSW OF SITE	0
	CO-58		130	21 (0/4) (<16/<28)	25 (0/2) (<16/<33)	25 (0/2) (<16/<33)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 SSW OF SITE	0
	CO-60		130	16 (0/4) (<14/<17)	17 (0/2) (<13/<21)	17 (0/2) (<13/<21)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20 0 SSW OF SITE	0
	FE-59		260	51 (0/4) (<34/<70)	56 (0/2) (<33/<79)	56 (0/2) (<33/<79)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 SSW OF SITE	0
	ZN-65		260	36 (0/4) (<32/<43)	36 (0/2) (<26/<47)	38 (0/2) (<34/<43)	23 INDICATOR BARNEGAT BAY 3.6 ENE OF SITE	0
	CS-134		130	14 (0/4) (<11/<18)	17 (0/2) (<13/<22)	17 (0/2) (<13/<22)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 SSW OF SITE	0
	CS-137		150	17 (0/4) (<15/<20)	18 (0/2) (<15/<22)	18 (0/2) (<15/<22)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20 0 SSW OF SITE	0

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**TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR
THE OYSTER CREEK GENERATING STATION, 2002**

Name of Facility: OYSTER CREEK GENERATING STATION		DOCKET NUMBER: 50-219		REPORTING PERIOD: 2002		INDICATOR CONTROL LOCATION WITH HIGHEST ANNUAL MEAN		
Location of Facility: OCEAN COUNTY, NJ								
MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	MEAN* (F) RANGE	MEAN* (F) RANGE	MEAN* (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
A-7 CRABS (PCI/KG WET)	GAMMA K-40	1	N/A	1520 (1/1) (1520)	N/A	1520 (1/1) (1520)	93 INDICATOR DISCHARGE CANAL 0.1 MILES WSW OF SITE	0
	MN-54		130	17 (0/1) (<17)	N/A	17 (0/1) (<17)	93 INDICATOR DISCHARGE CANAL 0.1 MILES WSW OF SITE	0
	CO-58		130	26 (0/1) (<26)	N/A	26 (0/1) (<26)	93 INDICATOR DISCHARGE CANAL 0.1 MILES WSW OF SITE	0
	CO-60		130	15 (0/1) (<15)	N/A	15 (0/1) (<15)	93 INDICATOR DISCHARGE CANAL 0.1 MILES WSW OF SITE	0
	FE-59		260	81 (0/1) (<81)	N/A	81 (0/1) (<81)	93 INDICATOR DISCHARGE CANAL 0.1 MILES WSW OF SITE	0
	ZN-65		260	36 (0/1) (<36)	N/A	36 (0/1) (<36)	93 INDICATOR DISCHARGE CANAL 0.1 MILES WSW OF SITE	0
	CS-134		130	15 (0/1) (<15)	N/A	15 (0/1) (<15)	93 INDICATOR DISCHARGE CANAL 0.1 MILES WSW OF SITE	0
	CS-137		150	17 (0/1) (<17)	N/A	17 (0/1) (<17)	93 INDICATOR DISCHARGE CANAL 0.1 MILES WSW OF SITE	0

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**TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR
THE OYSTER CREEK GENERATING STATION, 2002**

Name of Facility: OYSTER CREEK GENERATING STATION		DOCKET NUMBER: 50-219		REPORTING PERIOD: 2002		LOCATION WITH HIGHEST ANNUAL MEAN		
Location of Facility: OCEAN COUNTY, NJ								
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	MEAN* (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
SEDIMENT (PCI/KG DRY)	GAMMA K-40	8	N/A	6396 (6/6) (806/16300)	8290 (2/2) (2580/14000)	9365 (2/2) (2430/16300)	23 INDICATOR BARNEGAT BAY 3.6 MILES ENE OF SITE	0
				MN-54	N/A	11 (0/6) (<6/<18)	20 (0/2) (<17/<22)	20 (0/2) (<17/<22)
	CO-58	N/A	12 (0/6) (<6/<20)	23 (0/2) (<18/<28)	23 (0/2) (<18/<28)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 SSW OF SITE	0	
	CO-60	N/A	11 (0/6) (<5/<20)	18 (0/2) (<17/<20)	18 (0/2) (<17/<20)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 SSW OF SITE	0	
	CS-134	150	10 (0/6) (<5/<16)	17 (0/2) (<14/<20)	17 (0/2) (<14/<20)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 SSW OF SITE	0	
	CS-137	180	13 (2/6) (<6/26)	20 (0/2) (<16/<24)	21 (2/2) (16/26)	23 INDICATOR BARNEGAT BAY 3.6 MILES ENE OF SITE	0	
AIR PARTICULATE (E-3 PCI/CU.METER)	GROSS BETA	364	10	17 (312/312) (7/35)	18 (52/52) (9/32)	18 (52/52) (9/34)	20 INDICATOR FINNINGER FARM 0.7 MILES E OF SITE	0
	SR-89	28	N/A	2.7 (0/24) (<0.2/<6.6)	2.6 (0/4) (<0.2/<5.5)	3.2 (0/4) (<0.2/<6.6)	66 INDICATOR OCGS DISCHARGE CANAL 0.4 MILES SE OF SITE	0

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**TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR
THE OYSTER CREEK GENERATING STATION, 2002**

Name of Facility: OYSTER CREEK GENERATING STATION		DOCKET NUMBER: 50-219						
Location of Facility: OCEAN COUNTY, NJ		REPORTING PERIOD: 2002						
MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR	CONTROL	LOCATION WITH HIGHEST ANNUAL MEAN	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
				LOCATIONS MEAN* (F) RANGE	LOCATION MEAN* (F) RANGE	LOCATION MEAN* (F) RANGE		
	SR-90	28	N/A	1.3 (0/24) (<0.1/<4.4)	4.7 (0/4) (<0.1/<15)	4.7 (0/4) (<0.1/<15)	C CONTROL GPU ENERGY OFFICE 24.7 MILES NW OF SITE	0
	GAMMA BE-7	28	N/A	71 (24/24) (60/84)	64 (4/4) (58/67)	79 (4/4) (76/84)	20 INDICATOR FINNINGER FARM 0.7 MILES E OF SITE	0
	MN-54		N/A	0.4 (0/24) (<0.2/<1.0)	0.3 (0/4) (<0.2/<0.3)	0.5 (0/4) (<0.3/<1.0)	66 INDICATOR OCGS DISCHARGE CANAL 0.4 MILES SE OF SITE	0
	CO-58		N/A	0.5 (0/24) (<0.2/<1.3)	0.4 (0/4) (<0.2/<0.4)	0.6 (0/4) (<0.2/<1.3)	66 INDICATOR OCGS DISCHARGE CANAL 0.4 MILES SE OF SITE	0
	CO-60		N/A	0.5 (0/24) (<0.2/<1.2)	0.3 (0/4) (<0.3/<0.5)	0.6 (0/4) (<0.4/<1.2)	66 INDICATOR OCGS DISCHARGE CANAL 0.4 MILES SE OF SITE	0
	CS-134		50	0.4 (0/24) (<0.2/<0.8)	0.3 (0/4) (<0.2/<0.3)	0.5 (0/4) (<0.3/<0.8)	66 INDICATOR OCGS DISCHARGE CANAL 0.4 MILES SE OF SITE	0
	CS-137		60	0.4 (0/24) (<0.1/<0.9)	0.3 (0/4) (<0.2/<0.3)	0.5 (0/4) (<0.2/<0.9)	66 INDICATOR OCGS DISCHARGE CANAL 0.4 MILES SE OF SITE	0
AIR IODINE (E-3 PCI/CU METER)	I-131	364	70	8 (0/312) (<1/<119)	7 (0/52) (<1/<36)	10 (0/52) (<2/<119)	72 INDICATOR LACEY ROAD 1.9 MILES NNE OF SITE	0

A-9

* 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, 2002**

Name of Facility: OYSTER CREEK GENERATING STATION				DOCKET NUMBER: 50-219				
Location of Facility: OCEAN COUNTY, NJ				REPORTING PERIOD: 2002				
MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR	CONTROL	LOCATION WITH HIGHEST ANNUAL MEAN		NUMBER OF NONROUTINE REPORTED MEASUREMENTS
				LOCATIONS MEAN* (F) RANGE	LOCATION MEAN* (F) RANGE	MEAN* (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	
VEGETATION (PCI/KG WET)	SR-89	16	N/A	23 (0/9) (<3/<64)	14 (0/7) (<7/<25)	32 (0/4) (<12/<64)	35 INDICATOR OCGS DISCHARGE CANAL 0.4 MILES ESE OF SITE	0
	SR-90	16	N/A	32 (7/9) (3/121)	68 (7/7) (3/12)	41 (3/4) (<38/84)	35 INDICATOR OCGS DISCHARGE CANAL 0.4 MILES ESE OF SITE	0
	GAMMA K-40	16	N/A	2804 (9/9) (1640/4030)	4340 (7/7) (2790/6860)	4340 (7/7) (2790/6860)	35 INDICATOR OCGS DISCHARGE CANAL 0.4 MILES ESE OF SITE	0
	I-131		60	358 (0/9) (<28/<1150)	168 (0/7) (<23/<400)	467 (0/4) (<62/<1150)	35 INDICATOR OCGS DISCHARGE CANAL 0.4 MILES ESE OF SITE	0
	CS-134		60	26 (0/9) (<7/<49)	11 (0/7) (<6/<22)	33 (0/4) (<18/<49)	35 INDICATOR OCGS DISCHARGE CANAL 0.4 MILES ESE OF SITE	0
	CS-137		80	30 (2/9) (<9/<47)	11 (0/7) (<6/<23)	37 (1/4) (28/<47)	35 INDICATOR OCGS DISCHARGE CANAL 0.4 MILES ESE OF SITE	0
DIRECT RADIATION (MILLI-ROENTGEN/STD QUARTER)	TLD-QUARTERLY	174	N/A	12.4 (166/166) (6.7/21.6)	12.7 (8/8) (11.0/14.8)	19.9 (4/4) (18.4/21.6)	55 INDICATOR OCGS SWITCHYARD 0.3 MILES W OF SITE	0

A-10

* 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)

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 that the station is located and a narrative description	

TABLE B-2: Radiological Environmental Monitoring Program – Sampling Locations, Distance and Direction,
Oyster Creek Generating Station, 2002

<u>Sample Medium</u>	<u>Station Code</u>	<u>Distance (miles)</u>	<u>Azimuth (degrees)</u>	<u>Description</u>
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	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, GPU Energy office in rear parking lot, Cookstown, NJ
TLD	11	8.2	152	SSE of site, 80 th 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
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

TABLE B-2: Radiological Environmental Monitoring Program – Sampling Locations, Distance and Direction,
Oyster Creek Generating Station, 2002

Sample Medium	Station Code	Distance (miles)	Azimuth (degrees)	Description
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 Bndge, 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
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

TABLE B-2: Radiological Environmental Monitoring Program – Sampling Locations, Distance and Direction, Oyster Creek Generating Station, 2002

Sample Medium	Station Code	Distance (miles)	Azimuth (degrees)	Description
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 3 rd 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, 2002

Sample Medium	Analysis	Sampling Method	Collection Procedure Number	Sample Size	Analytical Procedure Number
Surface Water	Gamma Spectroscopy	Grab Sample.	2120-IMP-4522.06 Oyster Creek sample collection procedure – surface water RMC-ER5 Collection of water samples for radiological analysis (Oyster Creek Generating Station)	1 gallon	TBE, PRO-042-5 Determination of gamma emitting radioisotopes Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Surface Water	Tritium	Grab Sample.	2120-IMP-4522.06 Oyster Creek sample collection procedure – surface water RMC-ER5 Collection of water samples for radiological analysis (Oyster Creek Generating Station)	1 gallon	TBE, PRO-052-35 Determination of tritium in water by liquid scintillation Env. Inc., T-02 Determination of tritium in water (direct method)
Well Water	Gamma Spectroscopy	Monthly samples composited quarterly .	2120-IMP-4522.10 Oyster Creek sample collection procedure – well water	1 gallon	TBE, PRO-042-5 Determination of gamma emitting radioisotopes Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Well Water	Tritium	Monthly samples composited quarterly .	2120-IMP-4522.10 Oyster Creek sample collection procedure – well water	1 gallon	TBE, PRO-052-35 Determination of tritium in water 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	2120-IMP-4522.14 Oyster Creek sample collection procedure - fish RMC-ER6 Collection of fish samples for radiological analysis (Oyster Creek Generating Station)	1000 grams (wet)	TBE, PRO-042-5 Determination of gamma emitting radioisotopes 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.	2120-IMP-4522.16 Oyster Creek sample collection procedure – clams and crabs RMC-ER6 Collection of fish samples for radiological analysis (Oyster Creek Generating Station)	1000 grams (wet)	TBE, PRO-042-5 Determination of gamma emitting radioisotopes Env. Inc , GS-01 Determination of gamma emitters by gamma spectroscopy
Sediment	Gamma Spectroscopy	Semi-annual grab samples	2120-IMP-4522.03 Oyster Creek collection procedure – aquatic sediment RMC-ER7 Collection of sediment samples for radiological analysis (Oyster Creek Generating Station)	1000 grams (dry)	TBE, PRO-042-5 Determination of gamma emitting radioisotopes 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, 2002

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	2120-IMP-4522.05 Oyster Creek sample collection procedure – air particulate and air iodine	1 filter (approximately 700 cubic meters weekly)	TBE, PRO-032-10 Gross beta and/or alpha activity in air particulate filters (direct count method) 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	2120-IMP-4522.05 Oyster Creek sample collection procedure – air particulate and air iodine	13 filters (approximately 9100 cubic meters)	TBE, PRO-042-5 Determination of gamma emitting radioisotopes Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Air Particulates	Strontium-89/90	Quarterly composite of each station	2120-IMP-4522.05 Oyster Creek sample collection procedure – air particulate and air iodine	13 filters (approximately 9100 cubic meters)	TBE, PRO-032-24R Determination of radiostrontium in composited air particulate filters
Air Iodine	Gamma Spectroscopy	One-week composite of continuous air sampling through charcoal filter	2120-IMP-4522.05 Oyster Creek sample collection procedure – air particulate and air iodine	1 filter (approximately 700 cubic meters weekly)	TBE, PRO-042-5 Determination of gamma emitting radioisotopes 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.	2120-IMP-4522.04 Oyster Creek sample collection procedure – food products and broadleaf vegetables	1000 grams	TBE, PRO-042-5 Determination of gamma emitting radioisotopes Env. Inc , GS-01 Determination of gamma emitters by gamma spectroscopy
Vegetation	Strontium-89/90	Grab sample during growing season.	2120-IMP-4522.04 Oyster Creek sample collection procedure – food products and broadleaf vegetables	1000 grams	TBE, PRO-032-23R Determination of radiostrontium in feedstuff and forage
TLD	Thermoluminescence Dosimetry	Quarterly TLDs comprised of two Panasonic 814 (containing 3 each CaSO ₄ elements)	2120-IMP-4522.02 Oyster Creek sample collection procedure – Thermoluminescent Dosimetry	2 dosimeters	ICN Pharmaceutical

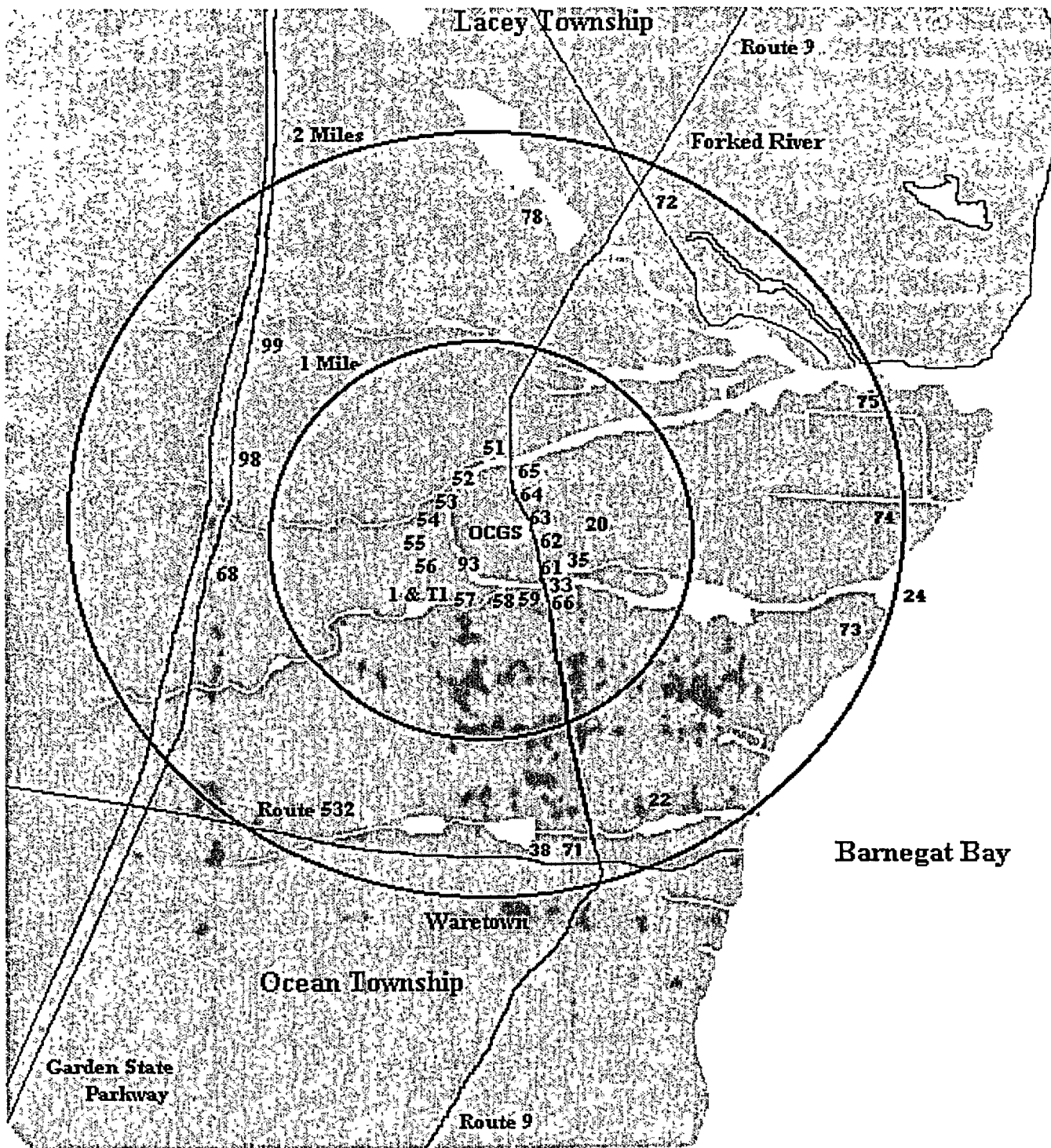


Figure B-1

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

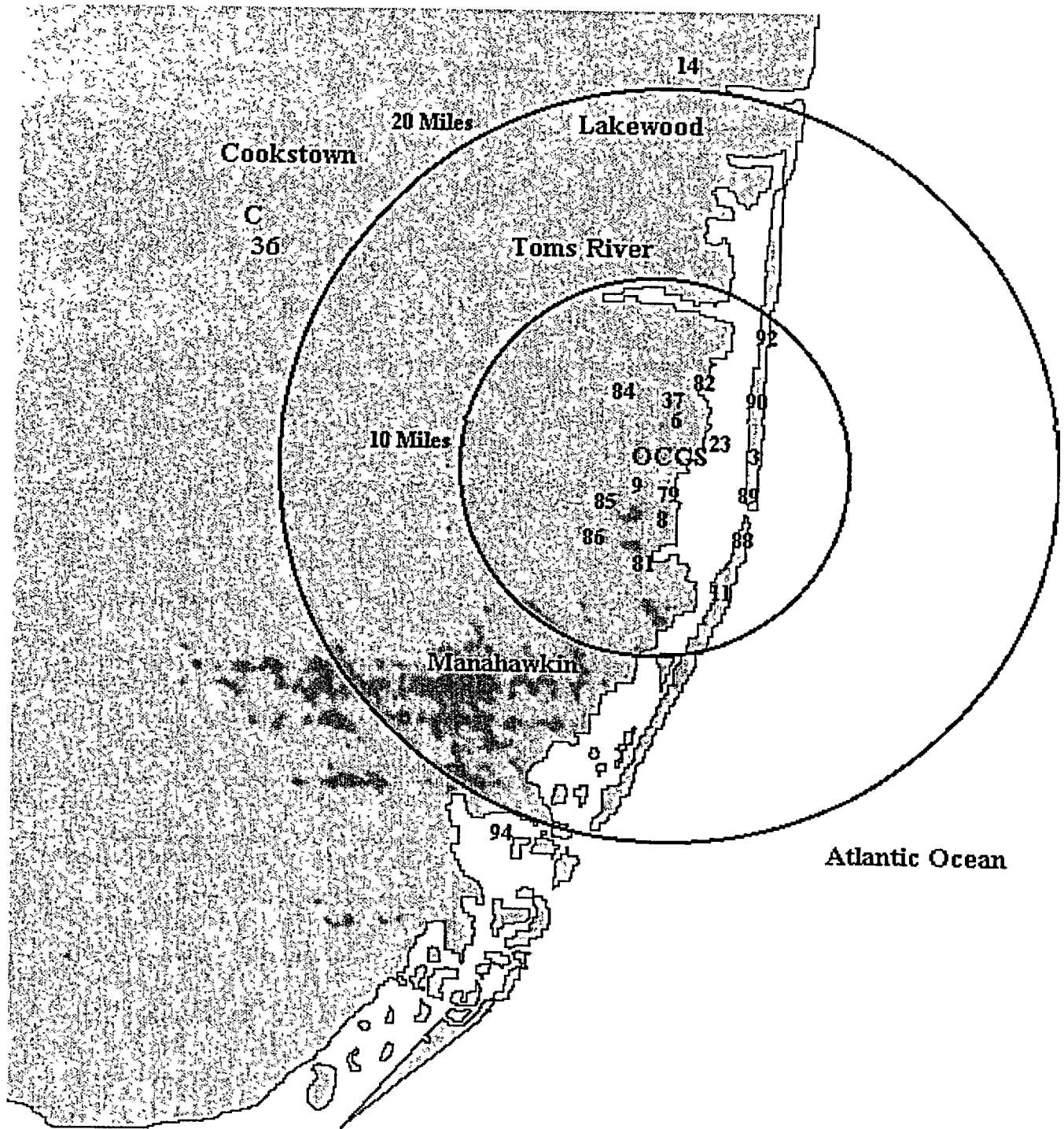


Figure B-2

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, 2002**

RESULTS IN UNITS OF PCI/LITER \pm 2 SIGMA

COLLECTION PERIOD	23	24	33	94
JAN			< 113	< 113
FEB			< 94	< 94
MAR			< 98	< 99
APR	< 102	< 101	138 \pm 65	114 \pm 63
MAY			< 106	< 107
JUN			95 \pm 60	< 95
JUL			160 \pm 83	207 \pm 84
AUG			195 \pm 77	196 \pm 79
SEP	< 162	327 \pm 87	< 121	125 \pm 77
OCT			< 159	< 169
NOV			< 183	< 189
DEC			< 194	< 191
MEAN*	132 \pm 85	214 \pm 320	138 \pm 78	142 \pm 89

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

TABLE C-1.2 CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2002

RESULTS IN UNITS OF PCI/LITER \pm 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95	Nb-95	Cs-134	Cs-137	Ba-140	La-140
C-2	23 JAN											
	FEB											
	MAR											
	APR	< 4	< 5	< 10	< 4	< 9	< 8	< 6	< 4	< 4	< 41	< 14
	MAY											
	JUN											
	JUL											
	AUG											
	SEP	< 2	< 3	< 6	< 2	< 5	< 5	< 4	< 2	< 2	< 32	< 10
	OCT											
	NOV											
	DEC											
	MEAN*		3 \pm 3	4 \pm 3	8 \pm 5	3 \pm 3	7 \pm 7	6 \pm 4	5 \pm 3	3 \pm 3	3 \pm 3	36 \pm 12
C-2	24 JAN											
	FEB											
	MAR											
	APR	< 4	< 5	< 11	< 4	< 10	< 8	< 6	< 4	< 4	< 45	< 15
	MAY											
	JUN											
	JUL											
	AUG											
	SEP	< 2	< 2	< 5	< 2	< 4	< 4	< 3	< 2	< 2	< 27	< 9
	OCT											
	NOV											
	DEC											
	MEAN*		3 \pm 3	4 \pm 4	8 \pm 8	3 \pm 4	7 \pm 9	6 \pm 7	4 \pm 4	3 \pm 4	3 \pm 3	36 \pm 26

* 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, 2002

RESULTS IN UNITS OF PCI/LITER \pm 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95	Nb-95	Cs-134	Cs-137	Ba-140	La-140
33	JAN	< 3	< 3	< 4	< 2	< 4	< 5	< 4	< 3	< 4	< 15	< 2
	FEB	< 3	< 2	< 6	< 3	< 4	< 6	< 3	< 3	< 2	< 11	< 2
	MAR	< 5	< 5	< 8	< 6	< 10	< 11	< 6	< 8	< 5	< 11	< 3
	APR	< 6	< 6	< 12	< 5	< 12	< 9	< 6	< 6	< 6	< 29	< 9
	MAY	< 5	< 5	< 12	< 5	< 11	< 9	< 6	< 5	< 7	< 40	< 13
	JUN	< 6	< 6	< 11	< 5	< 12	< 9	< 6	< 6	< 6	< 26	< 8
	JUL	< 4	< 4	< 9	< 4	< 8	< 8	< 5	< 4	< 4	< 26	< 8
	AUG	< 3	< 4	< 8	< 3	< 7	< 6	< 4	< 3	< 4	< 24	< 7
	SEP	< 2	< 2	< 4	< 1	< 3	< 3	< 2	< 1	< 2	< 17	< 6
	OCT	< 0.9	< 1	< 2	< 0.9	< 2	< 2	< 1	< 0.9	< 0.9	< 10	< 3
	NOV	< 2	< 2	< 6	< 2	< 4	< 4	< 2	< 2	< 2	< 21	< 7
	DEC	< 2	< 2	< 9	< 3	< 8	< 3	< 2	< 2	< 2	< 11	< 3
		MEAN*	3 \pm 3	3 \pm 3	7 \pm 6	3 \pm 3	7 \pm 7	6 \pm 6	4 \pm 4	4 \pm 4	4 \pm 4	20 \pm 18
94	JAN	< 2	< 1	< 6	< 3	< 5	< 4	< 3	< 3	< 4	< 18	< 2
	FEB	< 4	< 4	< 6	< 4	< 4	< 6	< 3	< 3	< 5	< 22	< 3
	MAR	< 3	< 4	< 8	< 3	< 8	< 6	< 6	< 4	< 4	< 30	< 7
	APR	< 6	< 6	< 12	< 5	< 13	< 10	< 6	< 7	< 6	< 30	< 9
	MAY	< 3	< 3	< 7	< 3	< 6	< 6	< 4	< 3	< 3	< 26	< 9
	JUN	< 6	< 6	< 12	< 6	< 14	< 10	< 6	< 7	< 6	< 30	< 9
	JUL	< 4	< 5	< 10	< 4	< 9	< 8	< 5	< 4	< 4	< 26	< 9
	AUG	< 6	< 7	< 14	< 6	< 15	< 11	< 7	< 6	< 6	< 38	< 13
	SEP	< 2	< 2	< 5	< 2	< 4	< 3	< 2	< 2	< 2	< 18	< 6
	OCT	< 4	< 4	< 10	< 4	< 8	< 9	< 5	< 3	< 4	< 43	< 13
	NOV	< 1	< 1	< 2	< 1	< 2	< 2	< 1	< 0.9	< 1	< 10	< 3
	DEC	< 2	< 2	< 5	< 2	< 4	< 4	< 3	< 2	< 2	< 16	< 5
		MEAN*	4 \pm 4	4 \pm 4	8 \pm 7	4 \pm 3	8 \pm 9	7 \pm 6	4 \pm 4	4 \pm 4	4 \pm 3	26 \pm 19

C-3

* 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, 2002**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	1	37	38
JAN - MAR	131 ± 55	< 86	< 86
APR - JUN	< 98	< 97	< 97
JUL - SEP	< 131	< 133	166 ± 86
OCT - DEC	< 151	< 178	< 178
MEAN*	128 ± 44	124 ± 83	132 ± 94

* 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, 2002

RESULTS IN UNITS OF PCI/LITER \pm 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95	Nb-95	Cs-134	Cs-137	Ba-140	La-140
C-5 1	JAN											
	FEB	< 5	< 4	< 5	< 4	< 5	< 10	< 4	< 3	< 4	< 14	< 5
	MAR											
	APR	< 3	< 3	< 8	< 3	< 6	< 6	< 4	< 3	< 3	< 23	< 8
	MAY											
	JUN											
	JUL	< 5	< 5	< 11	< 5	< 11	< 9	< 6	< 6	< 5	< 40	< 13
	AUG											
	SEP											
	OCT	< 1	< 1	< 3	< 1	< 2	< 3	< 1	< 1	< 1	< 13	< 4
	NOV											
	DEC											
		MEAN*	3 \pm 3	4 \pm 3	7 \pm 7	3 \pm 3	6 \pm 7	7 \pm 6	4 \pm 4	3 \pm 4	4 \pm 3	22 \pm 25
37	JAN											
	FEB	< 2	< 2	< 5	< 2	< 4	< 7	< 3	< 4	< 2	< 17	< 3
	MAR											
	APR	< 4	< 5	< 10	< 4	< 9	< 8	< 5	< 4	< 4	< 31	< 11
	MAY											
	JUN											
	JUL	< 6	< 6	< 13	< 5	< 13	< 10	< 7	< 5	< 6	< 45	< 15
	AUG											
	SEP											
	OCT	< 3	< 3	< 8	< 3	< 6	< 6	< 4	< 2	< 3	< 34	< 12
	NOV											
	DEC											
		MEAN*	4 \pm 3	4 \pm 4	9 \pm 7	4 \pm 3	8 \pm 8	8 \pm 4	5 \pm 4	4 \pm 3	4 \pm 3	32 \pm 23

* 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, 2002

RESULTS IN UNITS OF PCI/LITER \pm 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95	Nb-95	Cs-134	Cs-137	Ba-140	La-140
38	JAN											
	FEB	< 4	< 3	< 6	< 4	< 4	< 10	< 6	< 4	< 5	< 15	< 6
	MAR											
	APR	< 3	< 4	< 7	< 3	< 7	< 6	< 4	< 3	< 3	< 24	< 8
	MAY											
	JUN											
	JUL	< 4	< 5	< 10	< 4	< 10	< 8	< 5	< 5	< 5	< 35	< 11
	AUG											
	SEP											
	OCT	< 1	< 1	< 7	< 2	< 4	< 2	< 1	< 1	< 1	< 14	< 4
	NOV											
	DEC											
	MEAN*	3 \pm 3	3 \pm 3	7 \pm 3	3 \pm 2	6 \pm 5	6 \pm 6	4 \pm 4	3 \pm 3	4 \pm 3	22 \pm 19	7 \pm 6

* 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 & BOTTOM FEEDER (FISH)
SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2002**

RESULTS IN UNITS OF PCI/KG WET \pm 2 SIGMA

STC	COLLECTION PERIOD	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137
93	PREDATOR								
	04/15 - 04/15/02	4650 \pm 344	< 17	< 18	< 40	< 16	< 41	< 14	< 17
	04/15 - 04/15/02	4040 \pm 306	< 14	< 17	< 41	< 15	< 34	< 13	< 16
	09/10 09/10/02	4750 \pm 421	< 12	< 15	< 43	< 11	< 27	< 11	< 11
	09/11 09/11/02	4090 \pm 438	< 29	< 42	< 102	< 25	< 68	< 28	< 29
	09/12 09/12/02	5900 \pm 486	< 25	< 36	< 90	< 24	< 56	< 21	< 25
	MEAN*	4686 \pm 1501	19 \pm 14	26 \pm 25	63 \pm 60	18 \pm 12	45 \pm 34	18 \pm 14	20 \pm 14
93	BOTTOM FEEDER								
	04/18 - 04/18/02	3480 \pm 724	< 52	< 54	< 142	< 53	< 109	< 44	< 52
	09/12 09/12/02	4940 \pm 481	< 14	< 20	< 54	< 14	< 33	< 13	< 15
	MEAN*	4210 \pm 2065	33 \pm 53	37 \pm 49	98 \pm 125	33 \pm 56	71 \pm 108	29 \pm 43	33 \pm 53
94	PREDATOR								
	10/04 - 10/04/02	3770 \pm 298	< 16	< 21	< 61	< 15	< 37	< 14	< 15
	10/04 - 10/04/02	5530 \pm 447	< 25	< 34	< 85	< 24	< 57	< 22	< 24
	10/04 - 10/04/02	4380 \pm 377	< 10	< 13	< 35	< 10	< 22	< 10	< 10
	10/04 - 10/04/02	4630 \pm 823	< 48	< 72	< 205	< 48	< 109	< 49	< 56
	MEAN*	4578 \pm 1461	25 \pm 33	35 \pm 53	97 \pm 150	24 \pm 34	56 \pm 76	24 \pm 35	27 \pm 42

* 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, 2002

RESULTS IN UNITS OF PCI/KG WET \pm 2 SIGMA

STC	COLLECTION PERIOD	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137
23	CLAMS								
	04/16 - 04/16/02	1420 \pm 220	< 16	< 16	< 40	< 16	< 34	< 14	< 16
	09/10 - 09/10/02	1140 \pm 292	< 21	< 28	< 70	< 17	< 43	< 18	< 20
	MEAN*	1280 \pm 396	18 \pm 7	22 \pm 16	55 \pm 41	16 \pm 2	38 \pm 13	16 \pm 6	18 \pm 5
24	CLAMS								
	04/16 - 04/16/02	1410 \pm 238	< 13	< 16	< 34	< 14	< 32	< 11	< 15
	09/10 - 09/10/02	1340 \pm 255	< 17	< 22	< 62	< 16	< 36	< 15	< 16
	MEAN*	1375 \pm 99	15 \pm 4	19 \pm 9	48 \pm 40	15 \pm 3	34 \pm 6	13 \pm 5	16 \pm 1
94	CLAMS								
	04/17 - 04/17/02	1310 \pm 210	< 14	< 16	< 33	< 13	< 26	< 13	< 15
	09/12 - 09/12/02	1120 \pm 250	< 27	< 33	< 79	< 21	< 47	< 22	< 22
	MEAN*	1215 \pm 269	20 \pm 19	25 \pm 24	56 \pm 65	17 \pm 11	36 \pm 30	17 \pm 12	18 \pm 10
93	CRABS								
04/18 - 04/18/02	1520 \pm 236	< 17	< 26	< 81	< 15	< 36	< 15	< 17	

* 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, 2002

RESULTS IN UNITS OF PCI/KG DRY \pm 2 SIGMA

STC	COLLECTION PERIOD	Be-7	K-40	Mn-54	Co-58	Co-60	Cs-134	Cs-137
23	04/16/02	< 131	2430 \pm 227	< 13	< 13	< 13	< 11	16 \pm 10
	09/10/02	< 182	16300 \pm 455	< 18	< 20	< 20	< 16	26 \pm 17
	MEAN*	157 \pm 72	9365 \pm 19615	16 \pm 8	17 \pm 9	16 \pm 9	13 \pm 7	21 \pm 15
24	04/16/02	< 98	806 \pm 148	< 10	< 11	< 10	< 9	< 10
	09/11/02	< 96	14600 \pm 455	< 9	< 10	< 8	< 8	< 10
	MEAN*	97 \pm 3	7703 \pm 19508	10 \pm 2	10 \pm 1	9 \pm 2	9 \pm 2	10 \pm 0
33	04/16/02	< 113	2990 \pm 211	< 12	< 12	< 11	< 11	< 12
	09/11/02	< 57	1250 \pm 222	< 6	< 6	< 5	< 5	< 6
	MEAN*	85 \pm 79	2120 \pm 2461	9 \pm 8	9 \pm 10	8 \pm 8	8 \pm 8	9 \pm 10
94	04/17/02	< 162	14000 \pm 420	< 17	< 18	< 17	< 14	< 16
	09/12/02	< 280	2580 \pm 366	< 22	< 28	< 20	< 20	< 24
	MEAN*	221 \pm 167	8290 \pm 16150	20 \pm 7	23 \pm 14	18 \pm 4	17 \pm 8	20 \pm 10

* 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, 2002

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

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

(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, 2002

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*
12/31/01 - 02/04/02	12	32	24 ± 13	12/31/01 - 02/04/02	15	28	23 ± 9	12/31/01 - 02/04/02	15	27	24 ± 10
02/04/02 - 03/04/02	16	29	20 ± 10	02/04/02 - 03/04/02	15	26	19 ± 7	02/04/02 - 03/04/02	15	28	20 ± 11
03/04/02 - 04/01/02	14	27	19 ± 9	03/04/02 - 04/01/02	13	25	19 ± 8	03/04/02 - 04/01/02	15	26	19 ± 8
04/01/02 - 04/29/02	14	19	16 ± 3	04/01/02 - 04/29/02	13	19	15 ± 4	04/01/02 - 04/29/02	11	18	15 ± 5
04/29/02 - 06/03/02	12	15	14 ± 3	04/29/02 - 06/03/02	12	15	13 ± 2	04/29/02 - 06/03/02	10	15	12 ± 3
06/03/02 - 07/01/02	9	18	14 ± 7	06/03/02 - 07/01/02	9	30	15 ± 11	06/03/02 - 07/01/02	8	18	14 ± 8
07/01/02 - 08/05/02	11	34	20 ± 17	07/01/02 - 08/05/02	10	35	20 ± 16	07/01/02 - 08/05/02	13	32	21 ± 15
08/05/02 - 09/02/02	14	25	18 ± 8	08/05/02 - 09/02/02	13	27	19 ± 9	08/05/02 - 09/02/02	13	28	19 ± 11
09/02/02 - 09/30/02	10	20	15 ± 6	09/02/02 - 09/30/02	8	19	14 ± 7	09/02/02 - 09/30/02	7	18	15 ± 7
09/30/02 - 11/04/02	10	28	17 ± 13	09/30/02 - 11/04/02	11	28	16 ± 12	09/30/02 - 11/04/02	9	26	15 ± 11
11/04/02 - 12/02/02	13	24	18 ± 8	11/04/02 - 12/02/02	11	23	17 ± 8	11/04/02 - 12/02/02	11	25	18 ± 10
12/02/02 - 12/30/02	13	18	15 ± 4	12/02/02 - 12/30/02	12	19	16 ± 5	12/02/02 - 12/30/02	11	18	15 ± 5
12/31/01 - 12/30/02	9	34	17 ± 6	12/31/01 - 12/30/02	8	35	17 ± 6	12/31/01 - 12/30/02	7	32	17 ± 7

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* 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, 2002

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

STC	COLLECTION			STC	COLLECTION		
	PERIOD	Sr-89	Sr-90		PERIOD	Sr-89	Sr-90
3	12/31/01 - 03/25/02	< 0.2	< 0.2	72	12/31/01 - 03/25/02	< 0.3	< 0.2
	03/25/02 - 07/01/02	< 0.4	< 0.1		03/25/02 - 07/01/02	< 1.0	< 0.3
	07/01/02 - 09/30/02	< 3.7	< 1.4		07/01/02 - 09/30/02	< 4.0	< 1.0
	09/30/02 - 12/30/02	< 5.2	< 3.1		09/30/02 - 12/30/02	< 5.6	< 3.6
	MEAN*	2.4 ± 4.9	1.2 ± 2.8		MEAN*	2.7 ± 5.0	1.3 ± 3.2
20	12/31/01 - 03/25/02	< 0.2	< 0.1	73	12/31/01 - 03/25/02	< 0.2	< 0.1
	03/25/02 - 07/01/02	< 0.5	< 0.1		03/25/02 - 07/01/02	< 0.7	< 0.2
	07/01/02 - 09/30/02	< 4.4	< 1.0		07/01/02 - 09/30/02	< 4.3	< 1.0
	09/30/02 - 12/30/02	< 5.6	< 3.3		09/30/02 - 12/30/02	< 5.7	< 3.4
	MEAN*	2.7 ± 5.5	1.1 ± 3.0		MEAN*	2.7 ± 5.4	1.2 ± 3.0
66	12/31/01 - 03/25/02	< 0.2	< 0.2	C	12/31/01 - 03/25/02	< 0.2	< 0.1
	03/25/02 - 07/01/02	< 0.7	< 0.2		03/25/02 - 07/01/02	< 0.5	< 0.1
	07/01/02 - 09/30/02	< 5.2	< 1.4		07/01/02 - 09/30/02	< 4.1	< 1.5
	09/30/02 - 12/30/02	< 6.6	< 4.4		09/30/02 - 12/30/02	< 5.5	< 3.6
	MEAN*	3.2 ± 6.4	1.5 ± 3.9		MEAN*	2.6 ± 5.3	4.7 ± 13.9
71	12/31/01 - 03/25/02	< 0.3	< 0.2				
	03/25/02 - 07/01/02	< 0.4	< 0.1				
	07/01/02 - 09/30/02	< 4.3	< 1.5				
	09/30/02 - 12/30/02	< 5.8	< 3.0				
	MEAN*	2.7 ± 5.5	1.2 ± 2.7				

* 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, 2002**

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

STC	COLLECTION PERIOD	Be-7	Mn-54	Co-58	Co-60	Cs-134	Cs-137
3	12/31 - 03/25/02	62 \pm 10	< 0.2	< 0.2	< 0.4	< 0.3	< 0.1
	03/25 - 07/01/02	69 \pm 5	< 0.3	< 0.4	< 0.3	< 0.3	< 0.3
	07/01 - 09/30/02	69 \pm 7	< 0.4	< 0.5	< 0.4	< 0.4	< 0.4
	09/30 - 12/30/02	66 \pm 45	< 0.4	< 0.5	< 0.5	< 0.3	< 0.4
	MEAN*	66 \pm 7	0.3 \pm 0.2	0.4 \pm 0.3	0.4 \pm 0.2	0.3 \pm 0.1	0.3 \pm 0.3
20	12/31 - 04/01/02	76 \pm 10	< 0.2	< 0.4	< 0.3	< 0.3	< 0.5
	04/01 - 07/01/02	84 \pm 6	< 0.3	< 0.4	< 0.2	< 0.2	< 0.3
	07/01 - 09/30/02	78 \pm 6	< 0.3	< 0.4	< 0.3	< 0.3	< 0.3
	09/30 - 12/30/02	78 \pm 51	< 0.9	< 1.2	< 1.2	< 0.7	< 0.8
	MEAN*	79 \pm 7	0.4 \pm 0.6	0.6 \pm 0.8	0.5 \pm 0.9	0.4 \pm 0.45	0.5 \pm 0.5
66	12/31 - 04/01/02	77 \pm 11	< 0.3	< 0.2	< 0.4	< 0.4	< 0.2
	04/01 - 07/01/02	73 \pm 5	< 0.4	< 0.6	< 0.4	< 0.4	< 0.4
	07/01 - 09/30/02	82 \pm 8	< 0.4	< 0.4	< 0.4	< 0.3	< 0.4
	09/30 - 12/30/02	74 \pm 68	< 1.0	< 1.3	< 1.2	< 0.8	< 0.9
	MEAN*	77 \pm 8	0.5 \pm 0.6	0.6 \pm 1.0	0.6 \pm 0.8	0.5 \pm 0.5	0.5 \pm 0.6
71	12/31 - 04/01/02	73 \pm 9	< 0.3	< 0.2	< 0.4	< 0.4	< 0.2
	04/01 - 07/01/02	72 \pm 5	< 0.4	< 0.5	< 0.3	< 0.4	< 0.4
	07/01 - 09/30/02	65 \pm 5	< 0.3	< 0.4	< 0.4	< 0.2	< 0.2
	09/30 - 12/30/02	73 \pm 53	< 1.0	< 1.1	< 0.8	< 0.7	< 0.8
	MEAN*	71 \pm 8	0.5 \pm 0.6	0.6 \pm 0.8	0.5 \pm 0.5	0.4 \pm 0.4	0.4 \pm 0.6
72	12/31 - 04/01/02	70 \pm 10	< 0.2	< 0.2	< 0.3	< 0.3	< 0.1
	04/01 - 07/01/02	67 \pm 4	< 0.2	< 0.3	< 0.2	< 0.2	< 0.2
	07/01 - 09/30/02	77 \pm 7	< 0.3	< 0.3	< 0.3	< 0.2	< 0.2
	09/30 - 12/30/02	77 \pm 52	< 0.6	< 1.1	< 0.7	< 0.6	< 0.8
	MEAN*	73 \pm 10	0.3 \pm 0.4	0.5 \pm 0.8	0.4 \pm 0.5	0.3 \pm 0.3	0.3 \pm 0.6
73	12/31 - 04/01/02	65 \pm 10	< 0.2	< 0.3	< 0.3	< 0.3	< 0.2
	04/01 - 07/01/02	64 \pm 5	< 0.3	< 0.4	< 0.3	< 0.3	< 0.3
	07/01 - 09/30/02	60 \pm 5	< 0.3	< 0.5	< 0.3	< 0.3	< 0.3
	09/30 - 12/30/02	62 \pm 41	< 0.8	< 0.9	< 0.8	< 0.6	< 0.7
	MEAN*	63 \pm 5	0.4 \pm 0.5	0.5 \pm 0.6	0.4 \pm 0.5	0.4 \pm 0.3	0.4 \pm 0.4
C	12/31 - 04/01/02	64 \pm 11	< 0.2	< 0.2	< 0.3	< 0.3	< 0.2
	04/01 - 07/01/02	58 \pm 4	< 0.3	< 0.4	< 0.3	< 0.3	< 0.3
	07/01 - 09/30/02	67 \pm 5	< 0.3	< 0.4	< 0.3	< 0.3	< 0.3
	09/30 - 12/30/02	67 \pm 26	< 0.3	< 0.4	< 0.5	< 0.2	< 0.3
	MEAN*	64 \pm 9	0.3 \pm 0.1	0.4 \pm 0.2	0.3 \pm 0.2	0.3 \pm 0.1	0.3 \pm 0.1

* 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, 2002

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

WEEK	GROUP I		GROUP II			GROUP III	
	20	66	71	72	73	C	3
1	< 5	< 6	< 6	< 7	< 5	< 6	< 6
2	< 5	< 6	< 7	< 6	< 7	< 4	< 4
3	< 3	< 5	< 4	< 4	< 4	< 3	< 3
4	< 4	< 4	< 3	< 3	< 3	< 4	< 4
5	< 2	< 2	< 3	< 3	< 3	< 2	< 2
6	< 5	< 6	< 5	< 5	< 4	< 6	< 6
7	< 4	< 5	< 5	< 5	< 5	< 3	< 4
8	< 3	< 3	< 5	< 5	< 5	< 3	< 3
9	< 7	< 8	< 5	< 5	< 5	< 6	< 7
10	< 3	< 3	< 3	< 3	< 3	< 2	< 3
11	< 2	< 3	< 2	< 2	< 2	< 2	< 2
12	< 3	< 4	< 3	< 3	< 3	< 3	< 3
13	< 4	< 6	< 7	< 5	< 4	< 4	< 3
14	< 2	< 3	< 3	< 4	< 3	< 3	< 3
15	< 6	< 7	< 6	< 6	< 6	< 6	< 6
16	< 12	< 13	< 12	< 12	< 11	< 12	< 15
17	< 9	< 9	< 9	< 9	< 8	< 6	< 7
18	< 8	< 8	< 7	< 7	< 6	< 8	< 9
19	< 6	< 7	< 4	< 5	< 4	< 5	< 5
20	< 8	< 9	< 6	< 6	< 6	< 7	< 8
21	< 9	< 6	< 5	< 9	< 5	< 5	< 9
22	< 6	< 6	< 7	< 119 (1)	< 6	< 5	< 6
23	< 10	< 10	< 8	< 10	< 8	< 9	< 10
24	< 8	< 9	< 5	< 8	< 7	< 7	< 8
25	< 8	< 8	< 4	< 7	< 6	< 7	< 8
26	< 8	< 9	< 7	< 8	< 3	< 2	< 4
27	< 16	< 18	< 18	< 21	< 16	< 15	< 16
28	< 7	< 8	< 9	< 9	< 8	< 7	< 7
29	< 4	< 5	< 4	< 5	< 4	< 5	< 5
30	< 11	< 12	< 9	< 9	< 9	< 9	< 10
31	< 7	< 8	< 5	< 5	< 5	< 7	< 11
32	< 7	< 8	< 5	< 5	< 5	< 6	< 7
33	< 7	< 12	< 9	< 10	< 8	< 9	< 9
34	< 13	< 9	< 8	< 12	< 11	< 12	< 8
35	< 5	< 6	< 6	< 5	< 5	< 3	< 7
36	< 19	< 21	< 18	< 18	< 17	< 17	< 19
37	< 7	< 8	< 7	< 7	< 7	< 6	< 7
38	< 15	< 17	< 9	< 9	< 9	< 14	< 15
39	< 19	< 21	< 24	< 24	< 23	< 18	< 19
40	< 5	< 6	< 7	< 7	< 6	< 5	< 5
41	< 3	< 4	< 3	< 5	< 5	< 3	< 6
42	< 17	< 19	< 9	< 13	< 13	< 16	< 17
43	< 12	< 14	< 14	< 14	< 13	< 11	< 12
44	< 22	< 25	< 69	< 10	< 10	< 20	< 22
45	< 6	< 7	< 3	< 3	< 3	< 6	< 6
46	< 5	< 6	< 2	< 12	< 8	< 5	< 5
47	< 4	< 5	< 3	< 3	< 3	< 4	< 4
48	< 3	< 5	< 4	< 4	< 2	< 3	< 3
49	< 3	< 3	< 3	< 6	< 5	< 4	< 4
50	< 1	< 1	< 1	< 3	< 4	< 1	< 1
51	< 9	< 10	< 5	< 5	< 8	< 8	< 9
52	< 5	< 6	< 5	< 5	< 6	< 5	< 5
MEAN*	7 ± 9	8 ± 10	8 ± 19	10 ± 32	7 ± 8	7 ± 9	7 ± 10

(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-VII.1 CONCENTRATIONS OF STRONTIUM AND GAMMA EMITTERS IN VEGETATION SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2002

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	08/07/02 Cabbage	< 24	4 ± 2	2710 ± 204	< 62	< 18	28 ± 6	< 127	< 40
35	08/07/02 Collards	< 38	8 ± 3	4030 ± 325	< 102	< 31	< 36	< 197	< 13
35	09/10/02 Broadleaf	< 28	84 ± 5	2220 ± 514	< 1150	< 49	< 47	< 1040	< 344
35	10/10/02 Broadleaf	< 12	36 ± 3	1640 ± 368	< 554	< 34	< 37	< 675	< 217
	MEAN*	26 ± 22	41 ± 81	2650 ± 2037	467 ± 1014	33 ± 25	37 ± 16	510 ± 859	154 ± 312

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* 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, 2002

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	08/06/02 Cabbage	< 10	6 ± 1	2880 ± 153	< 23	< 5	< 6	< 45	< 15
36	08/06/02 Collards	< 14	12 ± 1	3820 ± 211	< 50	< 15	< 13	< 103	< 31
36	09/10/02 Cabbage	< 8	3 ± 1	3000 ± 427	< 400	< 22	< 23	< 485	< 149
36	09/10/02 Mustard Greens	< 25	5 ± 2	6860 ± 279	< 164	< 7	< 8	< 173	< 53
36	09/10/02 Collards	< 23	9 ± 3	6080 ± 372	< 326	< 13	< 15	< 353	< 106
36	10/10/02 Cabbage	< 7	4 ± 1	2790 ± 139	< 96	< 5	< 5	< 106	< 33
36	10/10/02 Collards	< 11	9 ± 2	4950 ± 221	< 115	< 7	< 7	< 136	< 44
	MEAN*	14 ± 14	7 ± 6	4340 ± 3302	168 ± 285	11 ± 13	11 ± 13	200 ± 318	62 ± 96

* 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, 2002

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	08/07/02 Cabbage	< 30	< 5	3000 ± 175	< 28	< 7	15 ± 4	< 60	< 18
66	08/07/02 Collards	< 11	4 ± 1	3060 ± 338	< 91	< 27	< 27	< 187	< 57
66	09/10/02 Broadleaf	< 23	121 ± 8	2090 ± 284	< 483	< 23	< 26	< 520	< 164
66	09/10/02 Cabbage	< 11	3 ± 1	2770 ± 298	< 147	< 7	< 9	< 172	< 54
66	10/10/02 Broadleaf	< 3	29 ± 1	3720 ± 458	< 602	< 36	< 41	< 690	< 228
	MEAN*	16 ± 21	32 ± 102	2928 ± 1173	270 ± 511	20 ± 25	23 ± 25	326 ± 533	104 ± 176

* 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, 2002

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	11.9 ± 1.8	11.4 ± 2.3	11.0 ± 2.3	13.0 ± 2.4	12.4 ± 1.1
14	13.5 ± 2.6	12.8 ± 0.9	12.0 ± 1.6	14.8 ± 1.9	14.3 ± 1.7
1	13.4 ± 3.8	15.1 ± 1.2	10.8 ± 1.1	14.6 ± 1.2	13.0 ± 1.9
T1	13.9 ± 4.1	15.1 ± 1.2	10.8 ± 1.1	14.5 ± 1.1	15.1 ± 9.3
3	10.7 ± 4.1	12.0 ± 6.4	7.8 ± 0.9	12.3 ± 1.4	10.6 ± 1.3
6	11.9 ± 7.2	16.4 ± 19.1	7.7 ± 0.0	12.6 ± 1.8	10.8 ± 0.7
8	11.1 ± 4.9	12.6 ± 0.9	7.7 ± 0.0	13.1 ± 1.1	11.0 ± 2.0
9	11.9 ± 5.2	13.6 ± 0.9	8.1 ± 2.2	13.5 ± 1.1	12.2 ± 1.5
11	11.1 ± 4.5	12.4 ± 1.1	7.9 ± 1.6	12.9 ± 1.7	11.0 ± 1.2
22	10.4 ± 5.5	11.8 ± 1.2	6.7 ± 1.3	13.0 ± 1.1	10.1 ± 1.5
51	14.0 ± 3.8	16.2 ± 1.9	11.6 ± 1.7	14.3 ± 1.0	14.1 ± 3.6
52	15.7 ± 3.1	17.4 ± 1.1	13.7 ± 1.6	16.2 ± 1.5	15.6 ± 1.0
53	15.4 ± 4.1	17.6 ± 1.7	13.7 ± 1.6	16.7 ± 1.4	13.6 ± 1.4
54	11.7 ± 3.7	13.6 ± 0.9	9.7 ± 2.2	12.8 ± 0.8	10.6 ± 0.7
55	19.9 ± 2.6	21.6 ± 1.2	18.4 ± 2.5	19.9 ± 2.1	19.8 ± 2.0
56	18.0 ± 2.0	18.9 ± 2.0	16.6 ± 2.6	18.3 ± 1.4	18.4 ± 4.6
57	14.9 ± 2.7	16.5 ± 1.7	13.7 ± 2.1	15.6 ± 1.9	13.9 ± 2.9
58	15.7 ± 3.2	17.4 ± 2.3	15.1 ± 15.1	16.4 ± 1.9	13.8 ± 1.5
59	14.1 ± 4.7	14.6 ± 0.0	11.2 ± 1.9	13.8 ± 2.2	16.9 ± 10.9
61	12.2 ± 3.1	13.1 ± 1.1	10.0 ± 1.9	12.1 ± 1.0	13.4 ± 1.2
62	13.2 ± 1.2	13.5 ± 1.4	(1)	12.5 ± 0.9	13.6 ± 1.9
63	12.4 ± 3.7	12.6 ± 0.9	10.0 ± 1.9	12.6 ± 1.7	14.5 ± 0.8
64	12.6 ± 2.8	12.9 ± 1.2	10.6 ± 1.2	12.8 ± 1.0	13.9 ± 1.6
65	12.3 ± 3.0	13.3 ± 0.9	10.2 ± 2.1	12.4 ± 1.7	13.4 ± 1.3
66	10.8 ± 2.6	10.2 ± 1.9	9.3 ± 1.1	12.2 ± 2.4	11.4 ± 2.7
68	12.0 ± 4.4	11.4 ± 0.9	9.3 ± 1.2	12.7 ± 0.8	14.5 ± 1.2
71	12.2 ± 2.9	11.1 ± 1.1	10.8 ± 1.1	13.2 ± 1.8	13.6 ± 1.3
72	11.3 ± 2.9	9.9 ± 1.1	10.3 ± 2.5	13.0 ± 1.6	12.1 ± 1.9
73	10.9 ± 3.9	9.5 ± 1.7	8.9 ± 1.3	12.2 ± 1.5	12.9 ± 3.0
74	11.2 ± 3.0	11.0 ± 0.9	9.1 ± 1.3	12.3 ± 0.8	12.2 ± 2.4
75	12.5 ± 3.5	13.1 ± 1.8	9.9 ± 1.7	13.3 ± 1.3	13.6 ± 0.9
78	11.1 ± 4.4	11.7 ± 1.1	7.9 ± 0.9	11.8 ± 1.8	12.9 ± 3.3
79	11.2 ± 3.0	11.4 ± 0.9	9.2 ± 3.2	11.3 ± 0.4	12.8 ± 1.0
81	10.9 ± 3.8	12.0 ± 1.1	8.1 ± 1.1	11.6 ± 1.0	12.0 ± 2.0
82	11.6 ± 3.2	12.4 ± 1.4	9.3 ± 2.1	12.0 ± 1.5	12.9 ± 2.0
84	11.6 ± 3.4	13.3 ± 1.7	9.7 ± 2.1	10.7 ± 1.6	12.8 ± 2.7
85	10.9 ± 3.2	11.2 ± 0.0	8.6 ± 1.6	12.2 ± 1.7	11.7 ± 4.2
86	10.2 ± 4.8	(1)	10.0 ± 1.3	12.7 ± 1.3	7.9 ± 0.7
88	10.0 ± 5.3	9.4 ± 1.7	6.7 ± 0.0	11.1 ± 1.1	13.0 ± 1.9
89	10.1 ± 3.5	9.2 ± 1.2	8.3 ± 15.8	12.3 ± 2.2	10.7 ± 0.8
90	10.1 ± 2.9	9.2 ± 1.2	8.7 ± 1.9	11.9 ± 0.8	10.7 ± 2.0
92	11.6 ± 3.5	11.2 ± 1.2	9.3 ± 2.2	12.7 ± 1.4	13.2 ± 1.4
98	13.0 ± 4.8	13.1 ± 1.1	10.0 ± 1.6	15.9 ± 12.2	13.1 ± 0.8
99	11.3 ± 3.4	12.5 ± 0.9	8.8 ± 1.3	12.2 ± 1.6	11.5 ± 1.7

(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, 2002

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	15.3 \pm 5.7	12.2 \pm 3.0	11.3 \pm 4.0	12.1 \pm 2.0
APR-JUN	12.3 \pm 5.5	8.8 \pm 1.9	8.9 \pm 2.8	11.5 \pm 1.4
JUL-SEP	14.6 \pm 4.8	12.5 \pm 2.3	12.7 \pm 1.9	13.9 \pm 2.5
OCT-DEC	14.4 \pm 4.7	12.0 \pm 3.1	12.2 \pm 3.0	13.4 \pm 2.7

TABLE C-VIII.3 SUMMARY OF THE AMBIENT DOSIMETRY PROGRAM FOR OYSTER CREEK GENERATING STATION, 2002

RESULTS IN UNITS OF MILLI-ROENTGEN/STD. QUARTER

LOCATION	SAMPLES ANALYZED	PERIOD MINIMUM	PERIOD MAXIMUM	PERIOD MEAN ± 2 s.d.
SITE BOUNDARY	63	9.3	21.6	14.2 \pm 5.5
MIDDLE DISTANCE	63	6.7	16.4	11.4 \pm 4.0
SPECIAL INTEREST	40	6.7	15.1	11.3 \pm 4.2
CONTROL	8	11.0	14.8	12.7 \pm 2.6

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

MIDDLE DISTANCE STATIONS - 6, 8, 22, 68, 73, 74, 75, 78, 79, 81, 82, 84, 85, 86, 98, 99

SPECIAL INTEREST - 3, 9, 11, 71, 72, 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, 2002SURFACE WATER (TRITIUM LIQUID SCINTILLATION)

COLLECTION PERIOD	23	24	33	94
JAN			01/02/02	01/02/02
FEB			02/13/02	02/13/02
MAR			03/12/02	03/12/02
APR	04/09/02	04/09/02	04/09/02	04/09/02
MAY			03/05/02	03/05/02
JUN			06/04/02	06/04/02
JUL			07/05/02	07/05/02
AUG			08/02/02	08/02/02
SEP	09/04/02	09/04/02	09/04/02	09/04/02
OCT			10/02/02	10/02/02
NOV			11/05/02	11/05/02
DEC			12/03/02	12/03/02

SURFACE WATER (GAMMA SPECTROSCOPY)

COLLECTION PERIOD	23	24	33	94
JAN			01/02/02	01/02/02
FEB			02/13/02	02/13/02
MAR			03/12/02	03/12/02
APR	04/09/02	04/09/02	04/09/02	04/09/02
MAY			03/05/02	03/05/02
JUN			06/04/02	06/04/02
JUL			07/05/02	07/05/02
AUG			08/02/02	08/02/02
SEP	09/04/02	09/04/02	09/04/02	09/04/02
OCT			10/02/02	10/02/02
NOV			11/05/02	11/05/02
DEC			12/03/02	12/03/02

WELL WATER (TRITIUM & GAMMA SPECTROSCOPY)

COLLECTION PERIOD	1	37	38
JAN-MAR	02/19/02		02/15/02
APR-JUN	03/27/02 - 05/10/02	03/27/02 - 05/10/02	03/27/02 - 05/10/02
JUL-SEP	06/06/02 - 08/12/02	06/06/02 - 08/12/02	06/06/02 - 08/12/02
OCT-DEC	09/06/02 - 11/07/02	09/06/02 - 11/07/02	09/06/02 - 11/07/02

AIR PARTICULATE (GAMMA SPECTROSCOPY)

COLLECTION PERIOD	C	3	20	66
JAN-MAR	12/31/01 - 04/01/02	12/31/01 - 04/01/02	12/31/01 - 04/01/02	12/31/01 - 04/01/02
APR-JUN	03/25/02 - 07/01/02	04/01/02 - 07/01/02	04/01/02 - 07/01/02	04/01/02 - 07/01/02
JUL-SEP	07/01/02 - 09/30/02	07/01/02 - 09/30/02	07/01/02 - 09/30/02	07/01/02 - 09/30/02
OCT-DEC	09/30/02 - 12/30/02	09/30/02 - 12/30/02	09/30/02 - 12/30/02	09/30/02 - 12/30/02

COLLECTION PERIOD	71	72	73
JAN-MAR	12/31/01 - 04/01/02	12/31/01 - 04/01/02	12/31/01 - 04/01/02
APR-JUN	04/01/02 - 07/01/02	03/25/02 - 07/01/02	04/01/02 - 07/01/02
JUL-SEP	07/01/02 - 09/30/02	07/01/02 - 09/30/02	07/01/02 - 09/30/02
OCT-DEC	09/30/02 - 12/30/02	09/30/02 - 12/30/02	09/30/02 - 12/30/02

TABLE C-IX.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2002

AIR PARTICULATE (GROSS BETA & I-131)

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

TABLE C-IX.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2002

AIR PARTICULATE (GROSS BETA & I-131)

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

FIGURE C-1
MEAN COBALT-60 CONCENTRATION IN CLAMS
OYSTER CREEK GENERATING STATION, 1983 - 2002

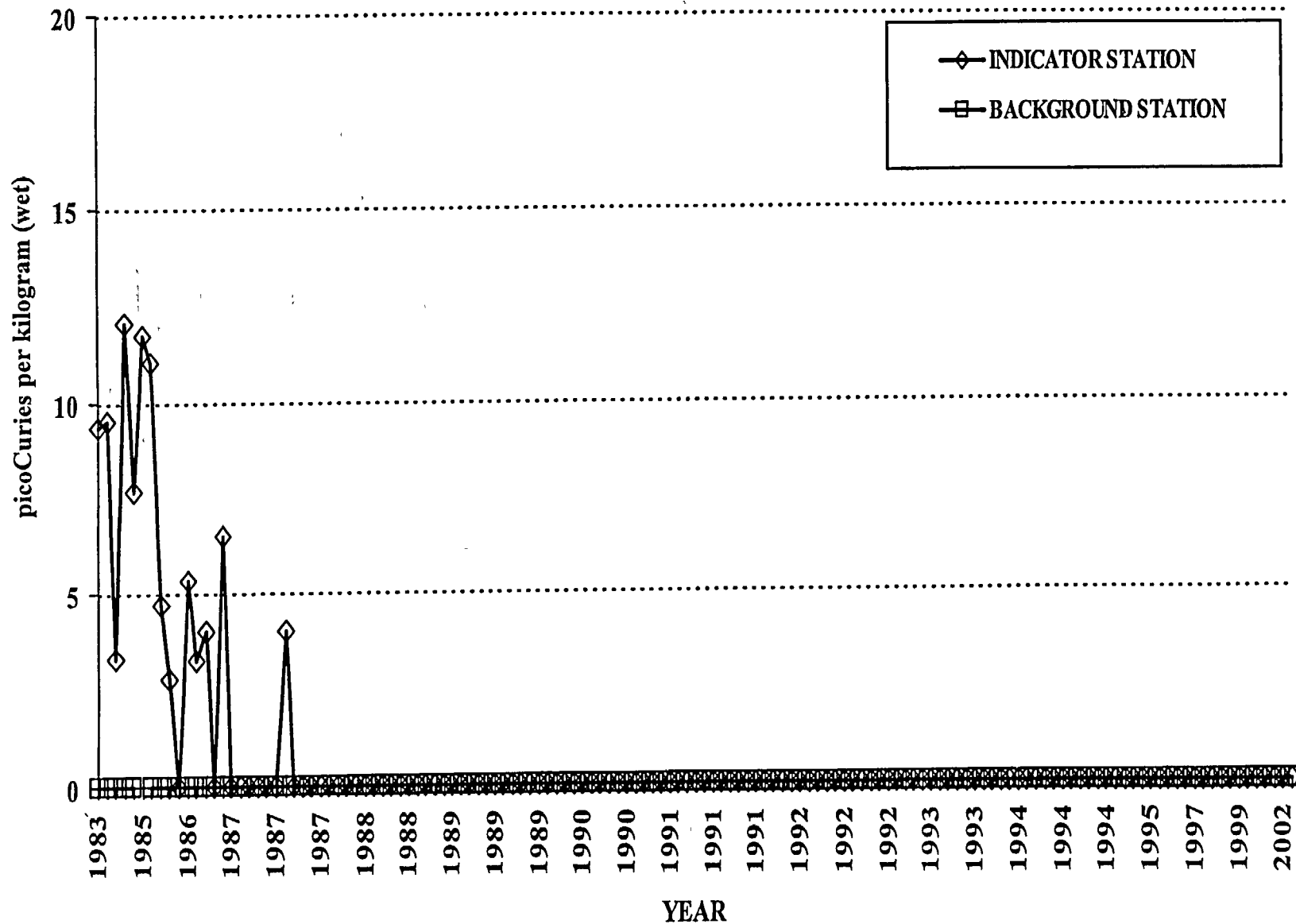


FIGURE C-2
MEAN COBALT-60 CONCENTRATION IN AQUATIC SEDIMENT
OYSTER CREEK GENERATING STATION, 1984 - 2002

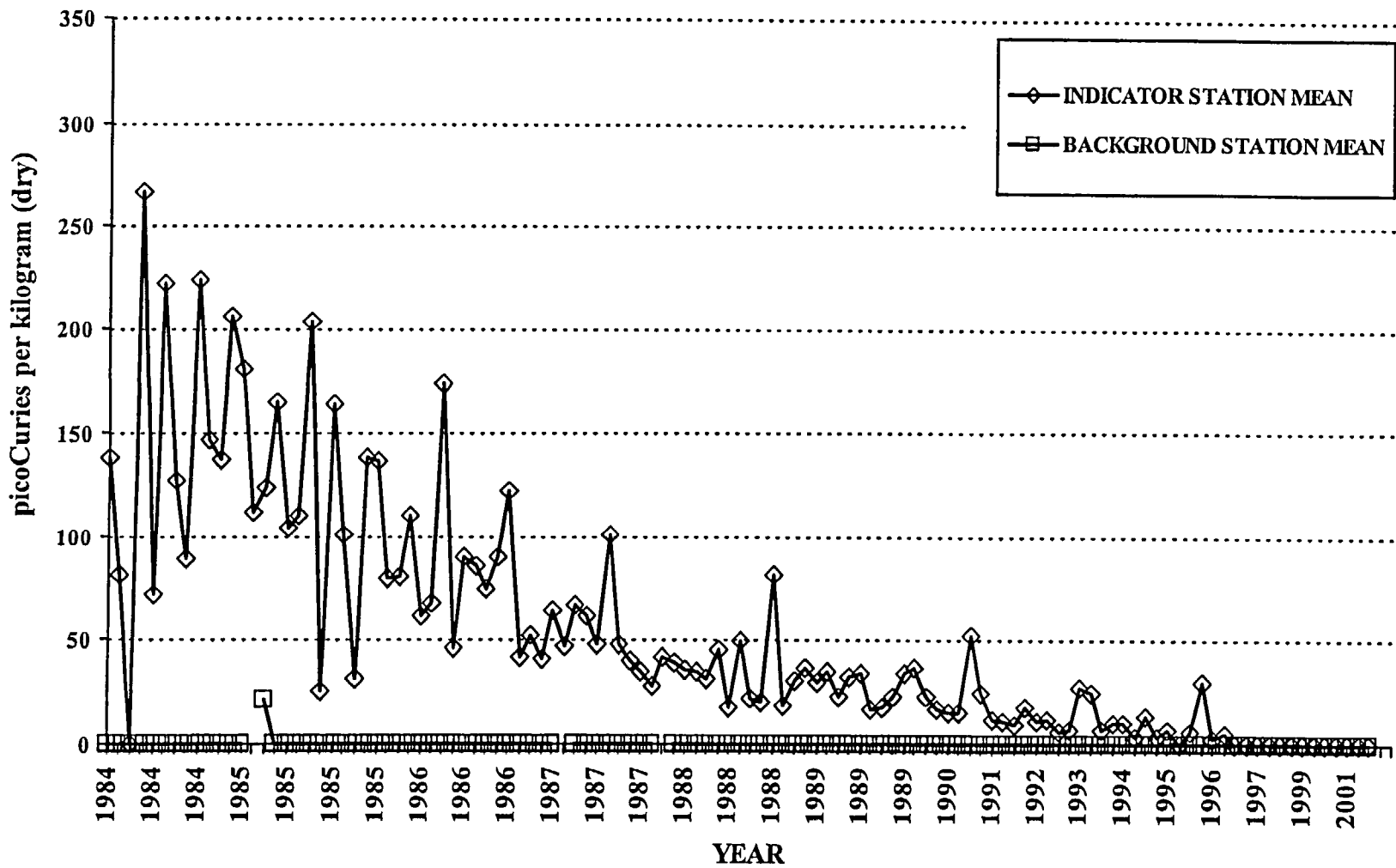


FIGURE C-3
MEAN CESIUM-137 CONCENTRATION IN AQUATIC SEDIMENT
OYSTER CREEK GENERATING STATION, 1984 - 2002

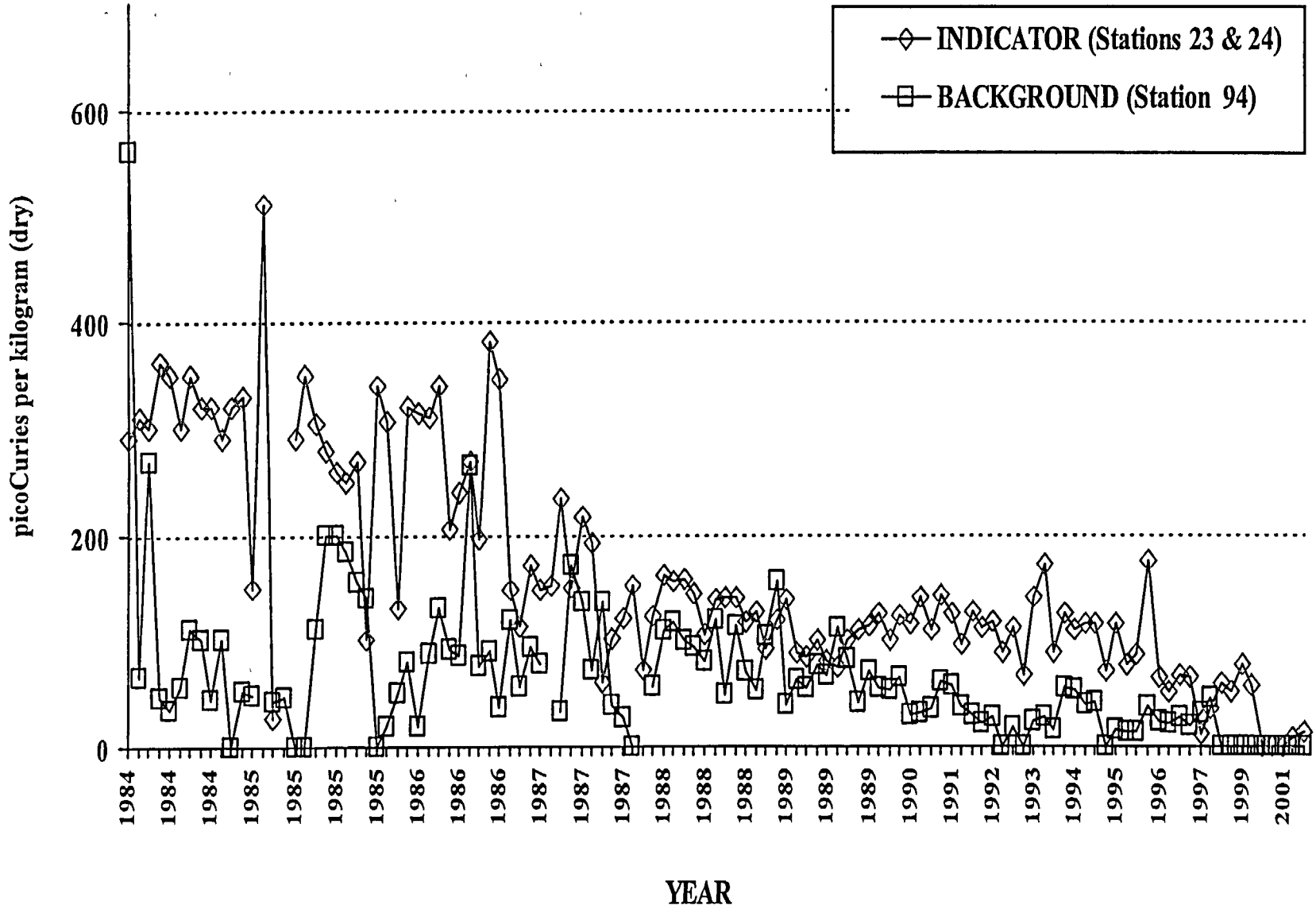


FIGURE C-4
MEAN WEEKLY GROSS BETA CONCENTRATIONS
IN AIR PARTICULATES
OYSTER CREEK GENERATING STATION, 2002

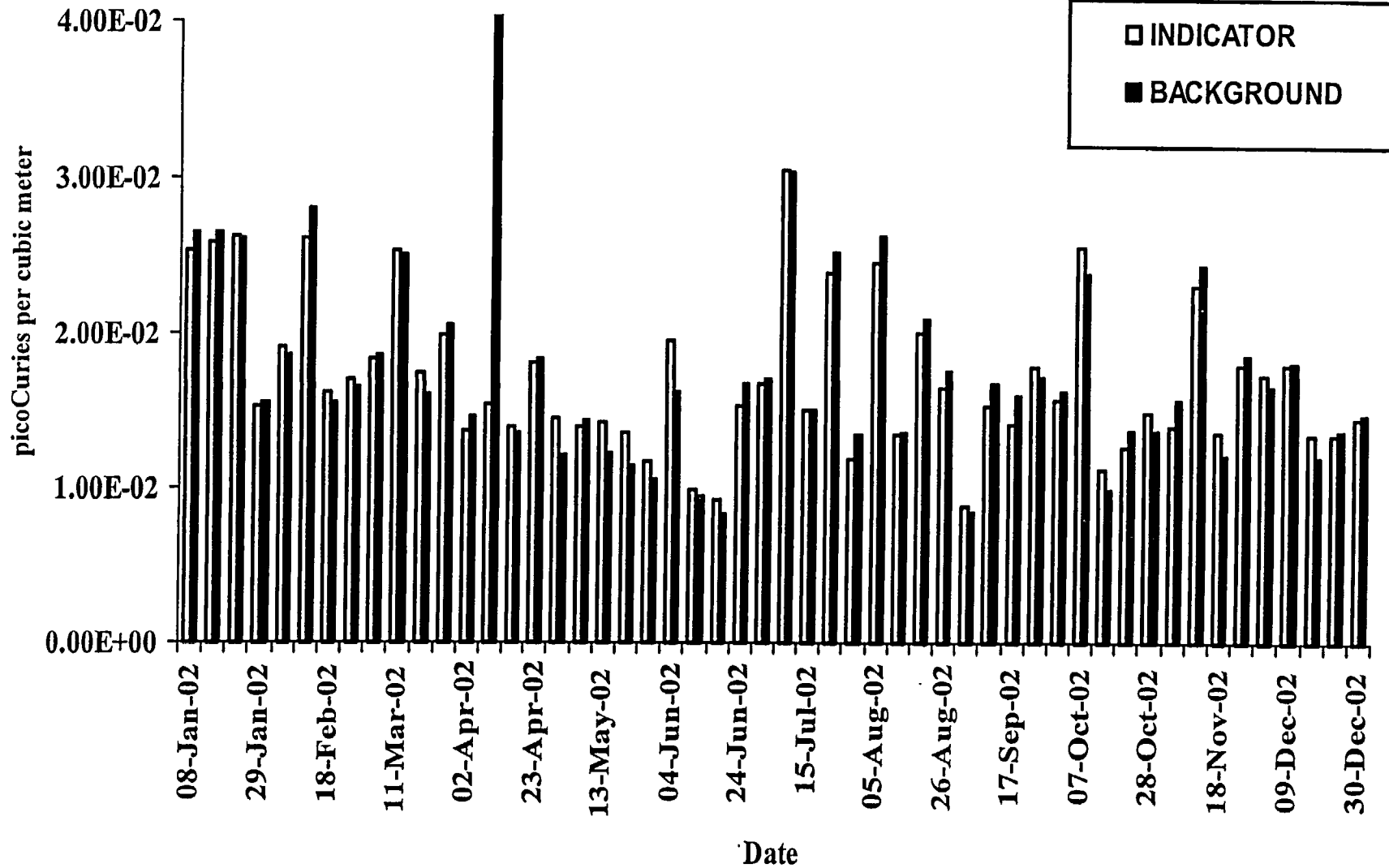
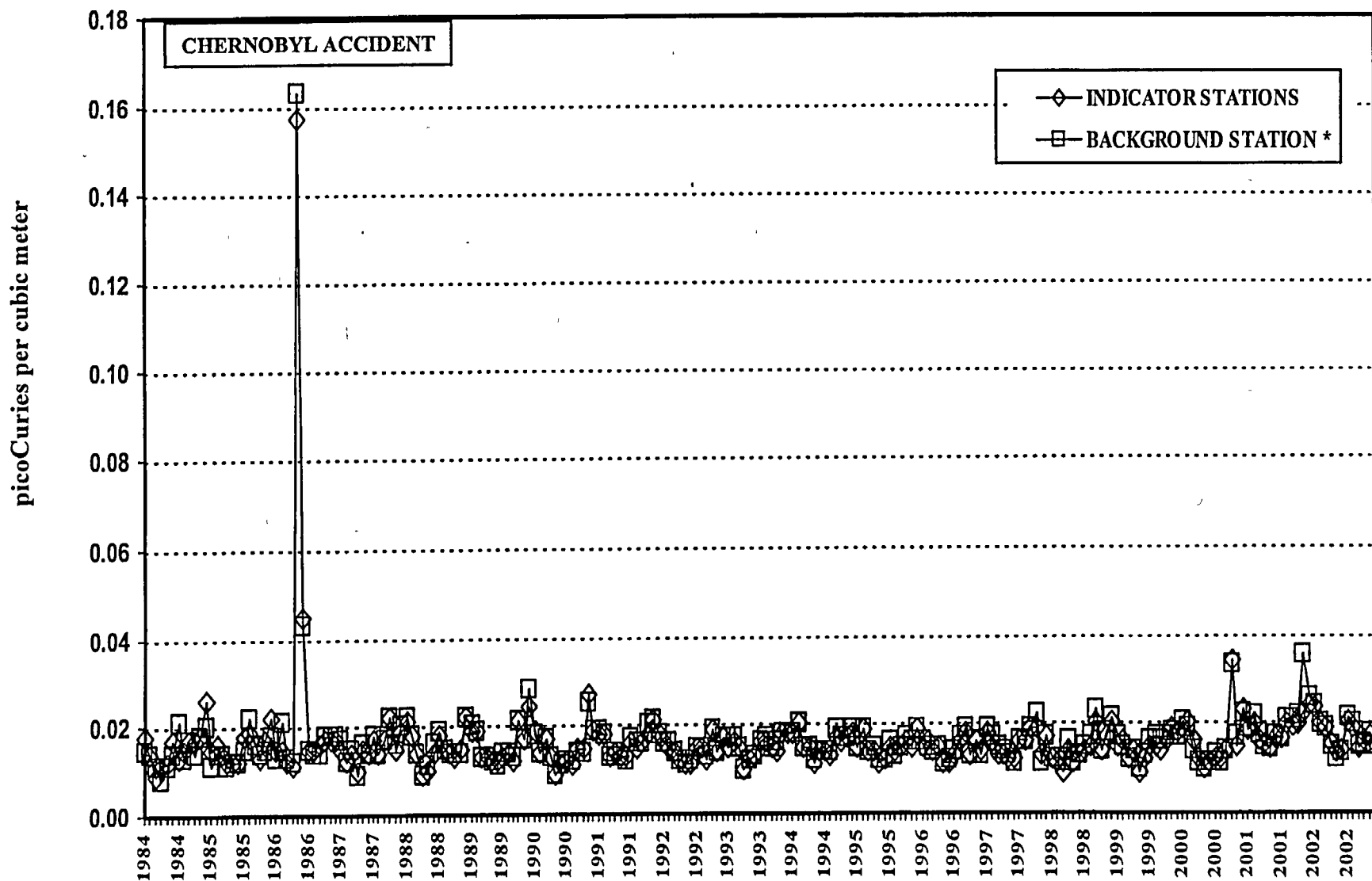


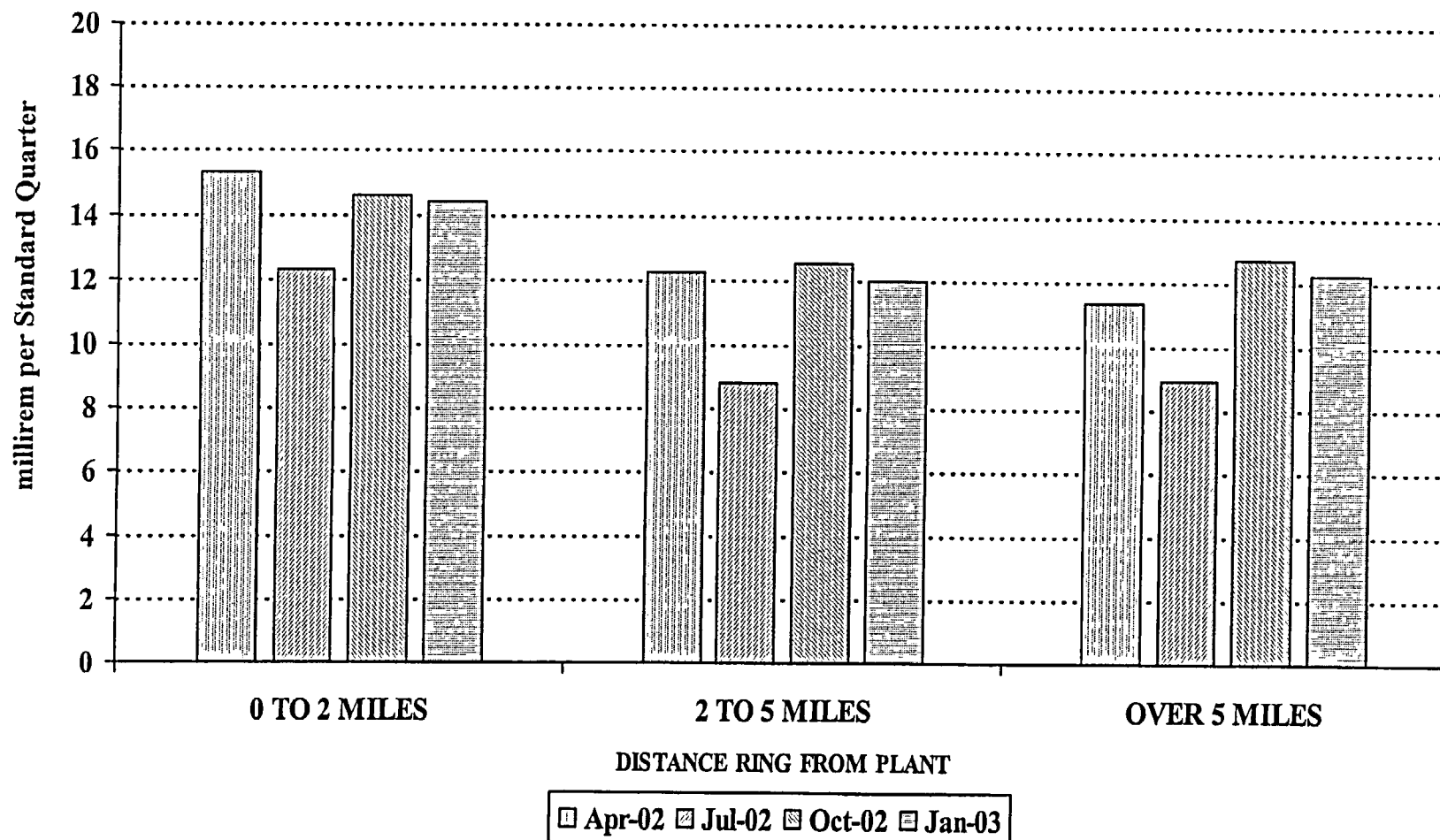
FIGURE C-5
MEAN MONTHLY GROSS BETA CONCENTRATIONS
IN AIR PARTICULATES
OYSTER CREEK GENERATING STATION, 1984 - 2002



* Data from Cookstown station ONLY after December 1996

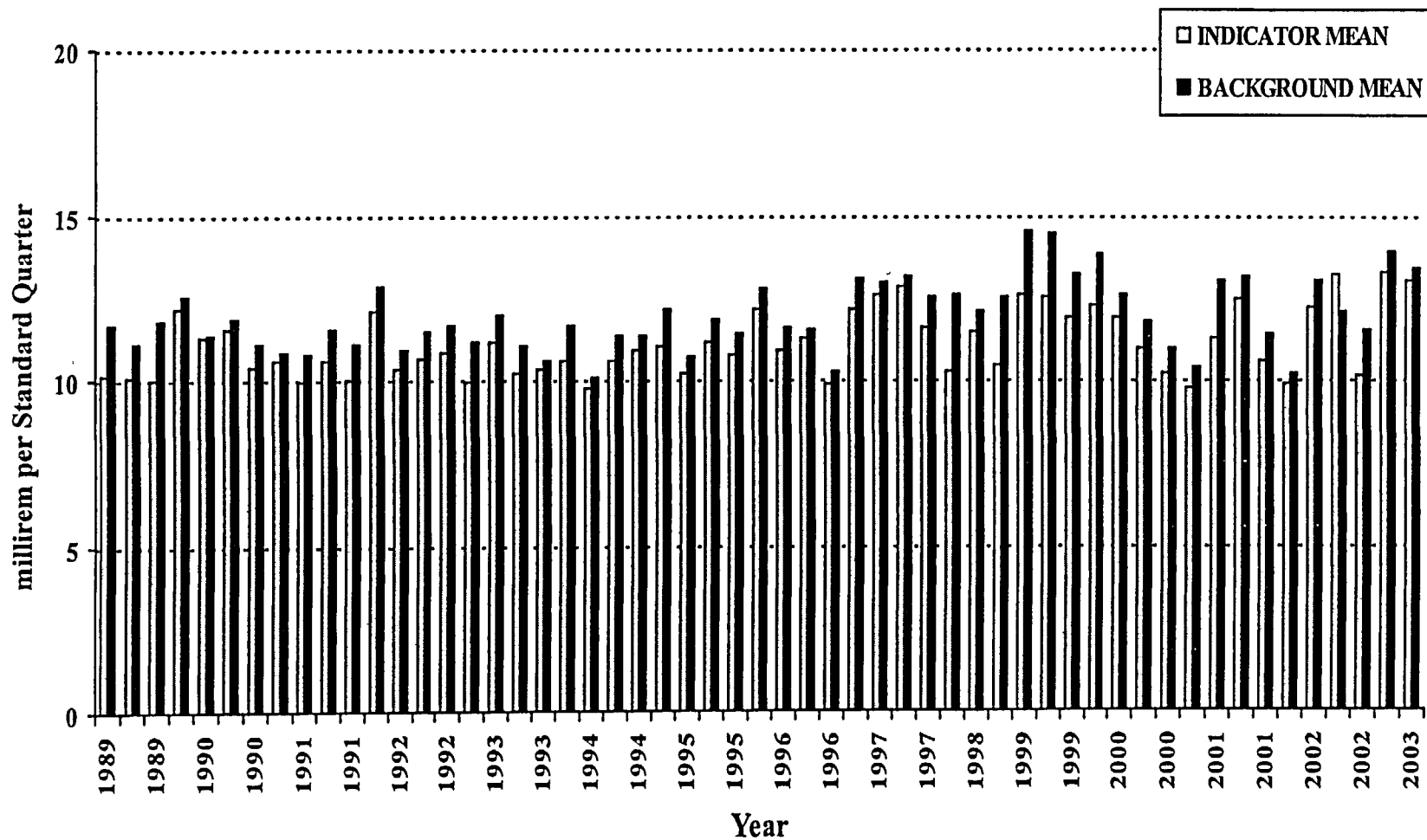
YEAR

FIGURE C-6
MEAN QUARTERLY TLD GAMMA DOSE
OYSTER CREEK GENERATING STATION, 2002



* First quarterly result utilized Harshaw TLD's. Second, Third, and Fourth quarter results utilized Panasonic TLDs

FIGURE C-7
MEAN QUARTERLY TLD GAMMA DOSE
OYSTER CREEK GENERATING STATION, 1989 – 2002 *



* 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.

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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, 2002**

RESULTS IN UNITS OF PCI/LITER \pm 2 SIGMA

COLLECTION PERIOD	24	QCA	QCB
04/16/02	< 101	< 102	< 100
09/11/02	327 \pm 86.9	510 \pm 84	< 145
MEAN*	214 \pm 320	306 \pm 577	122 \pm 63

* 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, 2002

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95	Nb-95	Cs-134	Cs-137	Ba-140	La-140
24	04/16/02	< 4.4	< 5.1	< 11	< 4.3	< 10	< 8.4	< 5.9	< 4.2	< 4.3	< 45	< 15
	09/11/02	< 1.91	< 2.1	< 5.07	< 1.67	< 3.71	< 3.68	< 2.8	< 1.57	< 1.85	< 27.2	< 8.7
	MEAN*	3 ± 3	4 ± 4	8 ± 8	3 ± 4	7 ± 9	6 ± 7	4 ± 4	3 ± 4	3 ± 3	36 ± 26	12 ± 9
QCA	04/16/02	< 2	< 2	< 4	< 2	< 3	< 3	< 2	< 2	< 2	< 20	< 7
	09/11/02	< 2	< 2	< 6	< 2	< 4	< 4	< 3	< 2	< 2	< 28	< 9
	MEAN*	2 ± 0	2 ± 0	5 ± 2	2 ± 0	4 ± 1	4 ± 1	3 ± 1	2 ± 0	2 ± 0	24 ± 10	8 ± 3
QCB	04/16/02	< 2.1	< 2.2	< 7.8	< 1.9	< 6.2	< 7.0	< 4.4	< 2.8	< 2.9	< 33	< 4.3
	09/11/02	< 2.1	< 4.2	< 6.5	< 2.5	< 5.1	< 5.7	< 3	< 3.3	< 1.9	< 17.2	< 4.6
	MEAN*	2 ± 0	3 ± 3	7 ± 2	2 ± 1	6 ± 2	6 ± 2	4 ± 2	3 ± 1	2 ± 1	25 ± 23	4 ± 0

D-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, 2002**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	1	QCA	QCB
01/01/02 - 03/27/02	131 ± 55	< 86	< 100
03/27/02 - 05/10/02	< 98	< 97	< 136
06/06/02 - 08/12/02	< 131	< 131	< 137
09/06/02 - 11/07/02	< 151	< 161	< 184
MEAN*	128 ± 44	119 ± 68	140 ± 69

* 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, 2002**

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

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95	Nb-95	Cs-134	Cs-137	Ba-140	La-140
1	01/01 - 03/27/02	< 5	< 4	< 5	< 4	< 5	< 10	< 4	< 3	< 4	< 14	< 5
	03/27 - 05/10/02	< 3	< 3	< 8	< 3	< 6	< 6	< 4	< 3	< 3	< 23	< 8
	06/06 - 08/12/02	< 5	< 5	< 11	< 5	< 11	< 9	< 6	< 6	< 5	< 40	< 13
	09/06 - 11/07/02	< 1	< 1	< 3	< 1	< 2	< 3	< 1	< 1	< 1	< 13	< 4
	MEAN*	3.5 \pm 3.4	3.6 \pm 3.5	6.8 \pm 7.0	3.4 \pm 3.1	6.2 \pm 7.5	6.7 \pm 6.5	3.9 \pm 3.9	3.2 \pm 3.6	3.5 \pm 3.2	22 \pm 25	7.6 \pm 8.3
QCA	01/01 - 03/27/02	< 3	< 3	< 5	< 3	< 2	< 7	< 3	< 3	< 2	< 15	< 3
	03/27 - 05/10/02	< 2	< 3	< 5	< 2	< 5	< 4	< 3	< 2	< 3	< 18	< 5
	06/06 - 08/12/02	< 2	< 2	< 5	< 2	< 4	< 4	< 3	< 2	< 2	< 17	< 6
	09/06 - 11/07/02	< 1	< 2	< 4	< 1	< 3	< 3	< 2	< 1	< 2	< 22	< 7
	MEAN*	2.1 \pm 1.0	2.2 \pm 0.9	4.7 \pm 1.2	2.1 \pm 1.3	3.4 \pm 2.0	4.6 \pm 3.6	2.5 \pm 0.9	2.1 \pm 1.4	2.1 \pm 0.9	18 \pm 5.5	5.3 \pm 2.7
QCB	01/01 - 03/27/02	< 4	< 4	< 9	< 4	< 9	< 7	< 4	< 4	< 4	< 20	< 7
	03/27 - 05/10/02	< 2	< 1	< 5	< 2	< 4	< 2	< 3	< 2	< 2	< 25	< 2
	06/06 - 08/12/02	< 2	< 2	< 5	< 1	< 4	< 3	< 3	< 1	< 2	< 20	< 6
	09/06 - 11/07/02	< 5	< 6	< 6	< 4	< 5	< 9	< 4	< 5	< 6	< 39	< 10
	MEAN*	3.4 \pm 3.2	3.3 \pm 4.0	6.3 \pm 3.4	2.9 \pm 2.7	5.4 \pm 5.3	5.1 \pm 5.9	3.5 \pm 1.2	3.0 \pm 3.3	3.7 \pm 3.9	26 \pm 18	6.1 \pm 6.5

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* 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, 2002**

RESULTS IN UNITS OF PCI/KG WET \pm 2 SIGMA

STC	COLLECTION PERIOD	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137
24	04/16/02	1410 \pm 238	< 13	< 16	< 34	< 14	< 32	< 11	< 15
QCA	04/16/02	1620 \pm 170	< 18	< 20	< 43	< 18	< 40	< 19	< 23
QCB	04/16/02	1307 \pm 396	< 16	< 14	< 67	< 11	< 29	< 19	< 16

**TABLE D-IV.1 CONCENTRATIONS OF GAMMA EMITTERS IN SEDIMENT SAMPLES
COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2002**

RESULTS IN UNITS OF PCI/KG DRY \pm 2 SIGMA

STC	COLLECTION PERIOD	Be-7	K-40	Mn-54	Co-58	Co-60	Cs-134	Cs-137
24	04/16/02	< 98	806 \pm 148	< 10	< 11	< 10	< 9	< 10
	09/10/02	< 96	14600 \pm 455	< 9	< 10	< 8	< 8	< 10
	MEAN*	97 \pm 3	7703 \pm 19508	10 \pm 2	10 \pm 1	9 \pm 2	9 \pm 2	10 \pm 0
QCA	04/16/02	< 115	938 \pm 139	< 11	< 12	< 10	< 10	< 12
	09/10/02	< 160	1960 \pm 197	< 13	< 14	< 12	< 12	< 14
	MEAN*	138 \pm 64	1449 \pm 1445	12 \pm 4	13 \pm 3	11 \pm 3	11 \pm 2	13 \pm 3
QCB	04/16/02	< 184	871 \pm 262	< 16	< 46	< 8	< 16	< 15
	09/10/02	< 200	2656 \pm 453	< 16	< 17	< 18	< 32	< 14
	MEAN*	192 \pm 23	1764 \pm 2524	16 \pm 0	31 \pm 41	13 \pm 14	24 \pm 23	15 \pm 1

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* 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, 2002

RESULTS IN UNITS OF PCI/KG WET \pm 2 SIGMA

STC		COLLECTION PERIOD	Sr-89	Sr-90	K-40	I-131	Cs-134	Cs-137	Ba-140	La-140
36	CABBAGE	AUGUST	< 10	5.8 \pm 0.8	2888 \pm 153	< 23	< 5	< 6	< 45	< 15
	COLLARDS	AUGUST	< 14	12 \pm 1.3	3820 \pm 211	< 50	< 15	< 13	< 103	< 31
		MEAN*	12 \pm 6	8.9 \pm 8.6	3354 \pm 1318	36 \pm 38	10 \pm 14	10 \pm 10	74 \pm 82	23 \pm 23
QCA	CABBAGE	AUGUST	< 20	3.0 \pm 1.2	3280 \pm 171	< 28	< 6	< 7	< 54	< 18
	COLLARDS	AUGUST	< 13	5.7 \pm 1.1	4720 \pm 219	< 43	< 13	< 16	< 86	< 26
		MEAN*	17 \pm 10	4.4 \pm 3.8	4000 \pm 2036	35 \pm 22	10 \pm 10	11 \pm 11	70 \pm 45	22 \pm 12
QCB	CABBAGE	AUGUST	< 5	< 2	2479 \pm 205	< 9	< 10	< 7	< 29	< 4
	COLLARDS	AUGUST	< 7	< 4	3937 \pm 270	< 7	< 9	< 7	< 34	< 7
		MEAN*	6 \pm 3	3 \pm 3	3208 \pm 2062	8 \pm 4	10 \pm 1	7 \pm 1	31 \pm 8	5 \pm 4

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* 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 ENVIRONMENTAL SERVICES
(PAGE 1 OF 3)

Month/Year	Identification Number	Matrix	Nuclide (1)	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
February, 2002	A15211-55	Liquid	Sr-89	uCi/mL	1.60E-03	2.03E-03	0.79	W
			Sr-90		2.90E-04	3.64E-04	0.80	A
	A15213-55	Liquid	H-3	uCi/mL	1.08E-03	1.19E-03	0.90	A
March, 2002	E3064-396	Milk	Sr-89	pCi/L	80	83	0.96	A
			Sr-90		28	27	1.04	A
	* E3065-396	Milk	I-131	pCi/L	86	92	0.93	A
Ce-141			300		326	0.92	A	
Cr-51			256		267	0.96	A	
Cs-134			94		122	0.77	W	
Cs-137			252		266	0.95	A	
Mn-54			217		224	0.97	A	
Fe-59			108		116	0.93	A	
Zn-65			218		221	0.99	A	
Co-60			147		158	0.93	A	
			E3067-396		AP	I-131	pCi	202
Cr-51	166	163		1.02		A		
Cs-134	77	74		1.04		A		
Cs-137	162	162		1.00		A		
Mn-54	135	136		0.99		A		
Fe-59	70	70		1.00		A		
Zn-65	128	134		0.96		A		
Co-60	95	96		0.99		A		
	E3066-396	Charcoal	I-131	pCi	66	77	0.86	A
May, 2002	A15521-55	Liquid	Gr-Alpha	uCi/mL	8.48E-04	7.15E-04	1.19	A
	A15520-55	Liquid	Sr-89	uCi/mL	2.63E-03	3.25E-03	0.81	A
			Sr-90		2.51E-04	2.70E-04	0.93	A
A15522-55	Liquid	Tritium	uCi/mL	1.35E-03	1.46E-03	0.92	A	

TABLE E-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES
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Month/Year	Identification Number	Matrix	Nuclide (1)	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
June, 2002	E3220-396	Milk	I-131	pCi/L	86	87	0.99	A
			Ce-141		84	90	0.93	A
			Cr-51		197	235	0.84	A
			Cs-134		110	120	0.92	A
			Cs-137		96	91	1.05	A
			Co-58		95	100	0.95	A
			Mn-54		106	95	1.12	A
			Fe-59		95	81	1.17	A
			Zn-65		186	180	1.03	A
			Co-60		132	125	1.06	A
June, 2002	E3222-396	AP	Ce-141	pCi	85	75	1.13	A
			Cr-51		199	196	1.02	A
			Cs-134		96	100	0.96	A
			Cs-137		92	76	1.21	W
			Co-58		98	83	1.18	A
			Mn-54		87	79	1.10	A
			Fe-59		85	67	1.27	W
			Zn-65		182	150	1.21	W
			Co-60		121	104	1.16	A
August, 2002	A16018-55	Liquid	Sr-89	uCi/mL	4.12E-03	4.99E-03	0.83	A
			Sr-90		2.43E-04	2.64E-04	0.92	A
	A16020-55	Liquid	Tritium	uCi/mL	1.93E-03	2.00E-03	0.97	A
September, 2002	A15989-148	Liquid	Sr-89	uCi/mL	4.02E-03	4.99E-03	0.81	A
			Sr-90		2.49E-04	2.64E-04	0.94	A
	E3324-396	Milk	Sr-89	pCi/L	106	92	1.15	A
			Sr-90		39	39	1.00	A
September, 2002	E3325-396	Milk	I-131	pCi/L	84	80	1.05	A
			Ce-141		168	160	1.05	A
			Cr-51		210.5	227	0.93	A
			Cs-134		127	132	0.96	A
			Cs-137		136	127	1.07	A
			Co-58		93	97	0.96	A
			Mn-54		165	152	1.09	A
			Fe-59		90	89	1.01	A
			Zn-65		196	187	1.05	A
			Co-60		147	149	0.99	A

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

Month/Year	Identification Number	Matrix	Nuclide (1)	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
September, 2002	E-3327-396	Filter	Ce-141	pCi	115	110	1.05	A
			Cr-51		163.6	156	1.05	A
			Cs-134		79	90	0.88	A
			Cs-137		95	87	1.09	A
			Co-58		71	67	1.06	A
			Mn-54		118	104	1.13	A
			Fe-59		76	61	1.25	A
			Zn-65		155	130	1.19	A
			Co-60		108	102	1.06	A
	E3326-396	Charcoal	I-131	pCi	73	85	0.86	A
December, 2002	E3520-396	Milk	Sr-89	pCi/L	88	68	1.29	W
			Sr-90		40	38	1.05	A
	E3521-396	Milk	I-131	pCi/L	97	86	1.13	A
			Ce-141		136	111	1.23	W
			Cr-51		347	346	1.00	A
			Cs-134		97	99	0.98	A
			Cs-137		229	220	1.04	A
			Co-58		143	139	1.03	A
			Mn-54		162	142	1.14	A
			Fe-59		80	72	1.11	A
			Zn-65		217	178	1.22	W
			Co-60		172	164	1.05	A
December, 2002	E3523-396	Filter	Ce-141	pCi	108	128	0.84	A
			Cr-51		370	398	0.93	A
			Cs-134		79	114	0.69	N (2)
			Cs-137		226	253	0.89	A
			Co-58		141	160	0.88	A
			Mn-54		152	163	0.93	A
			Fe-59		89	83	1.07	A
			Zn-65		196	206	0.95	A
			Co-60		170	189	0.90	A
	E3522-396	Charcoal	I-131	pCi	84	96	0.88	A

(1) Only analyses performed routinely for the REMP are included on this table

(2) Coincidental summing resulted in low Cesium-134 activity. Elimination of the coincidental summing resulted in an activity of 110 pCi. No further action required.

* Analytics known values were incorrectly calculated. Revised (as shown) evaluation was acceptable.

(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: A= Acceptable. Reported result falls within ratio limits of 0.80-1.20. W=Acceptable with warning. Reported result falls within ratio limits of 0.70-0.79 and 1.21-1.30.

TABLE E-2 DOE/EML ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES
(PAGE 1 OF 2)

Month/Year	Identification Number	Media	Nuclide (1)	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/EML	Evaluation (d)		
June, 2002	QAP 56	AP	Co-60	Bq/filter	31.7	30.52	1.04	A		
			Cs-137		30.4	28.23	1.08	A		
			Gr-Beta		1.21	1.30	0.93	A		
			Mn-54		38.3	38.53	0.99	A		
			Sr-90		4.68	4.832	0.97	A		
		Soil	Ac-228	Bq/kg	50	51.167	0.98	A		
			Bi-212		35.9	53.43	0.67	A		
			Bi-214		46.3	53.933	0.86	W		
			Cs-137		1300	1326.67	0.98	A		
			K-40		608	621.67	0.98	A		
			Pb-212		49.4	51.1	0.97	A		
			Pb-214		49.1	54.367	0.90	A		
			Sr-90		46.6	53.756	0.87	A		
			Vegetation		Co-60	Bq/kg	11.7	11.23	1.04	A
					Cs-137		346	313.667	1.10	A
		K-40		952	864.33		1.10	A		
		Sr-90		477	586.28		0.81	A		
		June, 2002	QAP 56	Water	Co-60	Bq/L	367	347.33	1.06	A
					Cs-134		2.93	3.357	0.87	W
					Cs-137		59.6	56.067	1.06	A
Gr-Beta	895				1030		0.87	A		
H-3	285				283.7		1.00	A		
Sr-90	5.78				7.579		0.76	W		

**TABLE E-2 DOE/EML ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES
(PAGE 2 OF 2)**

Month/Year	Identification Number	Media	Nuclide (1)	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/EML	Evaluation (d)		
December, 2002	QAP 57	AP	Co-60	Bq/filter	24.1	23.0	1.05	A		
			Cs-137		36.1	32.5	1.11	A		
			Gr-Beta		0.813	0.871	0.93	A		
			Mn-54		58.3	52.2	1.12	A		
			Sr-90		5.86	5.561	1.05	A		
		Soil	Bi-212	Bq/kg	23.2	45.93	0.51	W		
			Bi-214		32.4	33.63	0.96	A		
			Cs-137		835	829.33	1.01	A		
			K-40		671	637.67	1.05	A		
			Pb-212		42.00	43.43	0.97	A		
			Pb-214		44.46	35.2	1.26	A		
			Sr-90		41.00	41.16	1.00	A		
		December, 2002	QAP 57	Vegetation	Co-60	Bq/kg	11.5	9.66	1.19	A
					Cs-137		345	300.67	1.15	A
K-40	1690				1480		1.14	A		
Sr-90	457				476.26		0.96	A		
Water	Am-241			Bq/L	2.89	3.043	0.95	A		
	Co-60				303	268.67	1.13	W		
	Cs-134				59	60.2	0.98	A		
	Cs-137				85.8	81.43	1.05	A		
	Gr-Beta				817	900	0.91	A		
	H-3				353	227.3	1.55	W		
	Sr-90				8.58	8.69	0.99	A		

(1) Only analyses performed routinely for the REMP are included on this table

(a) Teledyne Brown Engineering reported result

(b) The DOE/EML 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 DOE/EML results

(d) DOE/EML evaluation A=acceptable, W=acceptable with warning, N=not acceptable

TABLE E-3

**ERA ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES**

(PAGE 1 OF 1)

Month/Year	Identification Number	Media	Nuclide (1)	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/ERA	Evaluation (d)
May, 2002	Rad 49	Water	Gr-Beta	pCi/L	162	189	0.86	A
			Co-60		39.3	39.1	1.01	A
			Cs-134		15.5	17.1	0.91	A
			Cs-137		52.2	52.1	1.00	A
			Sr-89		27.2	31.7	0.86	A
			Sr-90		25.1	28.3	0.89	A
			I-131		13.35	14.7	0.91	A
			H-3		14600	17400	0.84	A
November, 2002	Rad 51	Water	H-3	pCi/L	10100	10200	0.99	A
			I-131		7.94	6.76	1.17	A
			Gr-Beta		280	330	0.85	A
			Sr-89		41.7	47.6	0.88	A
			Sr-90		6.75	7.56	0.89	A
			Co-60		122	104	1.17	A
			Cs-134		60.0	55.5	1.08	A
			Cs-137		140	117	1.20	A

(1) Only analyses performed routinely for the REMP are included on this table.

(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) Ratio of Teledyne Brown Engineering to ERA results.

(d) 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-4 MAPEP ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
 TELEDYNE BROWN ENGINEERING ENVIRONMENTAL SERVICES
 (PAGE 1 OF 1)

Month/Year	Identification Number	Media	Nuclide (1)	Units	Reported Value (a)	Known Value (b)	Control Limits	Evaluation (c)
March, 2002	01-W9	Water	Mn-54	Bq/L	253	246	172.20 - 319.80	A
			Co-57		141	143	100.10 - 185.90	A
			Co-60		143	141	98.70 - 183.30	A
			Cs-134		26.0	28.5	19.95 - 37.05	A
			Cs-137		270	286	200.20 - 371.80	A
			Sr-90		4.71	4.8	3.39 - 6.24	A
August, 2002	02-S9	Soil	Mn-54	Bq/kg	679	546	382.2 - 709.8	W
			Co-57		289	246	172.2 - 319.8	A
			Co-60		109	87.5	61.25 - 113.75	W
			Cs-134		948	862	603.4 - 1120.6	A
			Cs-137		131	111	77.7 - 144.3	A
			Zn-65		1020	809	556.3 - 1051.7	W
			K-40		722	652	456.4 - 847.6	A

(1) Only analyses performed routinely for the REMP are included on this table

(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-5 DOE EML Cross Check Program Results for Environmental, Inc., 2002

Lab Code	Type	Date	Nuclide (A)	Environmental, Inc		EML			Agreement (F)
				Value (B & E)	Uncertainty (C & E)	Value (D & E)	Min Ratio	Max Ratio	
STW-945	Water	03/01/02	Co-60	349.20	± 2.60	347.33	0.80	-1.20	A
STW-945	Water	03/01/02	Cs-134	3.40	± 0.60	3.36	0.80	-1.30	A
STW-945	Water	03/01/02	Cs-137	57.20	± 1.70	56.07	0.80	-1.22	A
STW-945	Water	03/01/02	Sr-90	7.40	± 1.30	7.58	0.69	-1.34	A
STW-946	Water	03/01/02	Gr. Beta	930.60	± 12.00	1030.00	0.61	-1.43	A
STW-946	Water	03/01/02	H-3	226.30	± 32.70	283.70	0.78	-2.45	A
STSO-947	Soil	03/01/02	Ac-228	55.00	± 5.50	51.17	0.80	-1.38	A
STSO-947	Soil	03/01/02	Bi-212	49.20	± 12.40	53.43	0.50	-1.34	A
STSO-947	Soil	03/01/02	Bi-214	46.60	± 3.10	53.93	0.78	-1.42	A
STSO-947	Soil	03/01/02	Cs-137	1401.60	± 9.10	1326.67	0.80	-1.25	A
STSO-947	Soil	03/01/02	K-40	613.10	± 28.10	621.67	0.80	-1.32	A
STSO-947	Soil	03/01/02	Pb-212	51.60	± 2.60	51.10	0.78	-1.32	A
STSO-947	Soil	03/01/02	Pb-214	52.00	± 3.60	54.37	0.76	-1.46	A
STSO-947	Soil	03/01/02	Sr-90	52.10	± 6.30	53.76	0.67	-2.90	A
STVE-948	Vegetation	03/01/02	Co-60	13.50	± 2.10	11.23	0.80	-1.44	A
STVE-948	Vegetation	03/01/02	Cs-137	350.40	± 6.30	313.67	0.80	-1.31	A
STVE-948	Vegetation	03/01/02	K-40	940.80	± 45.60	864.33	0.79	-1.39	A
STVE-948	Vegetation	03/01/02	Sr-90	543.40	± 24.90	586.28	0.55	-1.21	A
STAP-949	Air Filter	03/01/02	Co-60	30.10	± 0.30	30.52	0.80	-1.26	A
STAP-949	Air Filter	03/01/02	Cs-137	29.90	± 0.30	28.23	0.80	-1.32	A
STAP-949	Air Filter	03/01/02	Mn-54	40.40	± 0.40	38.53	0.80	-1.35	A
STAP-949	Air Filter	03/01/02	Sr-90	3.40	± 0.40	4.83	0.53	-1.84	A
STAP-950	Air Filter	03/01/02	Gr. Beta	1.34	± 0.05	1.30	0.76	-1.36	A
STW-959	Water	09/01/02	Co-60	258.40	± 2.30	268.67	0.80	-1.20	A
STW-959	Water	09/01/02	Cs-134	50.80	± 3.30	60.20	0.80	-1.30	A
STW-959	Water	09/01/02	Cs-137	80.10	± 0.30	81.43	0.80	-1.22	A
STW-959	Water	09/01/02	H-3	271.90	± 20.90	227.30	0.78	-2.45	A
STW-959	Water	09/01/02	Sr-90	9.70	± 0.20	8.69	0.69	-1.34	A
STW-960	Water	09/01/02	Gr. Beta	852.00	± 26.50	900.00	0.61	-1.43	A
STSO-961	Soil	09/01/02	Ac-228	47.60	± 1.90	42.30	0.80	-1.38	A
STSO-961	Soil	09/01/02	Bi-212	45.60	± 1.70	45.93	0.50	-1.34	A
STSO-961 ^G	Soil	09/01/02	Bi-214	48.80	± 4.90	33.63	0.78	-1.42	W
STSO-961	Soil	09/01/02	Cs-137	819.60	± 16.60	829.33	0.80	-1.25	A
STSO-961	Soil	09/01/02	K-40	705.30	± 31.40	637.67	0.80	-1.32	A
STSO-961	Soil	09/01/02	Pb-212	48.60	± 3.40	43.43	0.78	-1.32	A
STSO-961	Soil	09/01/02	Pb-214	51.10	± 5.10	35.20	0.76	-1.46	A
STSO-961	Soil	09/01/02	Sr-90	38.50	± 0.10	41.16	0.67	-2.90	A
STVE-962	Vegetation	09/01/02	Co-60	11.80	± 1.50	9.66	0.80	-1.44	A
STVE-962	Vegetation	09/01/02	Cs-137	340.30	± 16.80	300.67	0.80	-1.31	A
STVE-962	Vegetation	09/01/02	K-40	1646.00	± 74.40	1480.00	0.79	-1.39	A
STVE-962	Vegetation	09/01/02	Sr-90	345.60	± 97.80	476.26	0.55	-1.21	A

TABLE E-5 DOE EML Cross Check Program Results for Environmental, Inc., 2002

Lab Code	Type	Date	Nuclide (A)	Environmental, Inc.		EML			
				Value (B & E)	Uncertainty (C & E)	Value (D & E)	Min Ratio	Max Ratio	Agreement (F)
STAP-963	Air Filter	09/01/02	Co-60	24 90	± 0 60	23.00	0.80	- 1.26	A
STAP-963	Air Filter	09/01/02	Cs-137	38 00	± 1 30	32.50	0 80	- 1.32	A
STAP-963	Air Filter	09/01/02	Mn-54	60 80	± 1 90	52 20	0 80	- 1.35	A
STAP-963	Air Filter	09/01/02	Sr-90	5.20	± 0 20	5 56	0 53	- 1.84	A
STAP-964	Air Filter	09/01/02	Gr. Beta	0 80	± 0.10	0 87	0 76	- 1.36	A

- A. Only analyses performed routinely for the REMP are included on this table.
- B. The Environmental, Inc. value is the mean of 1 or 3 measurements/determinations.
- C. The Environmental, Inc. uncertainty is the 2-sigma counting uncertainty for one determination and one standard deviation for three determinations.
- D. The DOE EML value is the mean of replicate determinations for each radionuclide.
- E. Reporting units are Bq/L for water, Bq/kg (dry) for soil, Bq/kg (wet) for vegetations and total Bq for air filters
- F. The control limits (min ration and max ratio are established by DOE EML. Acceptable agreement is achieved if the ratio of the Environmental, Inc. value divided by the DOE EML value falls within the control limits.
- G. This naturally occurring radionuclide is present in the shield background. No follow-up actions were performed because all of the other gamma scan results were acceptable and the subject result was just outside of the upper control limit.

The control limit concept was established from percentiles of historic data distributions (1982-1992). The evaluation of this historic data and the development of the control limits are presented in DOE report EML-564. The control limits listed in this table were developed from percentiles of data distribution for the years 1993-1999.

TABLE E-6 ERA STATISTICAL SUMMARY PROFICIENCY TESTING PROGRAM FOR ENVIRONMENTAL, Inc., 2002

Lab Code	Date	Nuclide (A)	Environmental, Inc		ERA			Agreement (E)
			Value (B & E)	Uncertainty (C & E)	Value (D)	Min Ratio	Max Ratio	
STW-940	02/20/02	Sr-89	53.0	± 2.5	55.3	46.6	-64.0	A
STW-940	02/20/02	Sr-90	16.6	± 0.5	15.9	7.2	-24.6	A
STW-942	02/20/02	Gr. Beta	45.7	± 3.1	48.3	39.6	-57.0	A
STW-944	02/20/02	Co-60	76.9	± 2.7	73.4	64.7	-82.1	A
STW-944	02/20/02	Cs-134	38.7	± 1.6	42.1	33.4	-50.8	A
STW-944	02/20/02	Cs-137	92.9	± 2.7	88.8	80.1	-97.5	A
STW-944	02/20/02	Zn-65	361.0	± 9.2	359.0	298.0	-420.0	A
STW-952	05/22/02	Co-60	37.9	± 0.7	39.1	30.4	-47.8	A
STW-952	05/22/02	Cs-134	14.5	± 0.8	17.1	8.4	-25.8	A
STW-952	05/22/02	Cs-137	50.0	± 2.0	52.1	43.4	-60.8	A
STW-952	05/22/02	Gr. Beta	171.0	± 2.5	189.0	140.0	-238.0	A
STW-952	05/22/02	Sr-89	28.4	± 4.8	31.7	23.0	-40.4	A
STW-952	05/22/02	Sr-90	32.4	± 3.1	28.3	19.6	-37.0	A
STW-953 ^F	05/22/02	H-3	13900.0	± 100.0	17400	14400	20400	W
STW-954	05/22/02	I-131	14.6	± 0.3	14.7	11.2	-18.2	A
STW-965	08/21/02	Co-60	23.8	± 1.0	23.3	14.6	-32.0	A
STW-965	08/21/02	Cs-134 ^G	62.9	± 1.2	71.7	63.0	-80.4	A
STW-965	08/21/02	Cs-137	219.3	± 10.7	214.0	195.0	-233.0	A
STW-965	08/21/02	Gr. Beta	26.7	± 0.4	21.9	13.2	-30.6	W
STW-965	08/21/02	Sr-89	28.4	± 1.5	29.0	20.3	-37.7	A
STW-965	08/21/02	Sr-90	36.5	± 1.1	36.4	27.7	-45.1	A
STW-965	08/21/02	Zn-65	92.4	± 2.2	95.7	79.4	-112.0	A
STW-966	11/20/02	Gr. Beta	44.7	± 1.0	47.0	38.3	-55.7	A
STW-967	11/20/02	H-3	10100.0	± 38.7	10200	8440	12000	A
STW-969	11/20/02	I-131	6.0	± 0.4	6.8	3.3	-10.2	A
STW-970	11/20/02	Co-60	104.0	± 7.1	104.0	95.0	-113.0	A
STW-970	11/20/02	Cs-134	48.2	± 2.3	55.5	46.8	-64.2	A
STW-970	11/20/02	Cs-137	109.0	± 12.6	117.0	107.0	-127.0	A
STW-970	11/20/02	Gr. Beta	252.0	± 26.8	288.0	244.0	-416.0	A
STW-970	11/20/02	Sr-89	43.2	± 0.7	47.6	38.9	-56.3	A
STW-970	11/20/02	Sr-90	7.5	± 0.2	7.6	0.0	-16.2	A

- A. Only analyses performed routinely for the REMP are included on this table.
- B. The Environmental, Inc. value is the mean of 3 measurements/determinations.
- C. The Environmental, Inc. uncertainty is the 2-sigma counting uncertainty for one determination and one standard deviation for three determinations
- D. The ERA value is equal to 100% of the parameter present in the standard as determined by gravimetric and/or volumetric measurements made during standard preparation
- E. A= Acceptable - Reported Result falls within the Control Limits
NA = Not Acceptable - Reported Result falls outside of the Control Limits
- F. The analysis was repeated. result of reanalysis: 16114 +- 487 pCi/L.
- G. ERA acknowledged an unacceptably high percentage of failure for Cs-134 and questioned its own control limits.
No problems were identified in the analysis.

TABLE E-7 MAPEP Cross Check Program Results for Environmental, Inc., 2002

Lab Code	Type	Date	Nuclide (A)	Environmental, Inc.		MAPEP			
				Value (B & E)	Uncertainty (C & E)	Value (D & E)	Min Ratio	Max Ratio	Agreement (F)
STW-939	water	12/01/01	Co-57	138.9 ± 0.5		143 ± 14.3		100.1 - 185.9	
STW-939	water	12/01/01	Co-60	139.1 ± 0.5		141 ± 14.1		98.7 - 183.3	
STW-939	water	12/01/01	Cs-134	25.16 ± 0.2		28.5 ± 0.3		19.95 - 37.1	
STW-939	water	12/01/01	Cs-137	279.96 ± 0.9		286 ± 28.6		200.2 - 371.8	
STW-939	water	12/01/01	Mn-54	253.64 ± 0.9		246 ± 0.2		172.2 - 319.8	
STW-939	water	12/01/01	Sr-90	4.88 ± 0.3		4.8 ± 0.5		3.36 - 6.2	
STW-939	water	12/01/01	Zn-65	70.6 ± 1.1		67.3 ± 6.7		47.11 - 87.5	
STSO-955	soil	10/16/02	Co-57	210.58 ± 2.0		246 ± 24.6		172.2 - 319.8	
STSO-955	soil	10/16/02	Co-60	84.38 ± 0.9		87.5 ± 8.8		61.25 - 113.8	
STSO-955	soil	10/16/02	Cs-134	692.6 ± 2.1		862 ± 86.0		603.4 - 1120.6	
STSO-955	soil	10/16/02	Cs-137	96.98 ± 1.7		111 ± 11.1		77.7 - 144.3	
STSO-955	soil	10/16/02	Mn-54	509.74 ± 3.4		546 ± 54.6		382.2 - 709.8	
STSO-955	soil	10/16/02	Zn-65	783.59 ± 6.4		809 ± 80.9		566.3 - 1051.7	

- A. Only analyses performed routinely for the REMP are included on this table.
 B. The Environmental, Inc. value is the mean of 1 or 3 measurements/determinations.
 C. The Environmental, Inc. uncertainty is the 2-sigma counting uncertainty for one determination and one standard deviation for three determinations.
 D. The DOE EML value is the mean of replicate determinations for each radionuclide.
 E. Reporting units are Bq/L for water, Bq/kg (dry) for soil, Bq/kg (wet) for vegetations and total Bq for air filters
 F. The control limits (min ratio and max ratio are established by DOE EML. Acceptable agreement is achieved if the ratio of the Environmental, Inc. value divided by the DOE EML value falls within the control limits.