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Oyster Creek Nuclear Generating Station
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Subject: Annual Radiological Environmental Operating Report - 2006

Enclosed is a copy of the Annual Radiological Environmental Operating Report for calendar year 2006, for the Oyster Creek Generating Station. This submittal is made in accordance with Oyster Creek Nuclear Generating Station Technical Specification 6.9.1.e, "Annual Radiological Environmental Operating Report."

If any further information or assistance is needed, please contact Stevie Du Pont at 609-971-4033.

Sincerely,

Timothy S. Rausch
Vice President, Oyster Creek Generating Station

TSR/SD
Enclosure

cc: Administrator, USNRC Region I
USNRC Senior Project Manager, Oyster Creek
USNRC Senior Resident Inspector, Oyster Creek
File No. 07003

IE25

Docket No: 50-219

OYSTER CREEK GENERATING STATION
UNIT 1

Annual Radiological
Environmental Operating Report

1 January Through 31 December 2006

Prepared By
Teledyne Brown Engineering
Environmental Services

AmerGen SM
An Exelon Company

Oyster Creek Generating Station
Forked River, NJ 08731

May 2007

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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 2006 through 31 December 2006. During that time period, 1180 analyses were performed on 1021 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. No tritium activity was detected above the LLD of 200 pCi/L in any ground or surface water indicator sample. Tritium was detected at a very low level in one surface water control sample that is outside the influence of the facility. Data from previous years indicates that the yearly average tritium concentration is not significantly different from previous years and is due to nuclear weapons testing and Chernobyl.

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, crabs, or 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. All strontium-89 results were below the minimum detectable activity. Strontium-90 activity was detected at low levels in both control and indicator stations, consistent with previous values. During December 2006, AmerGen initiated an evaluation of cesium-137 (Cs-137) in environmental samples from the Finninger Farm property adjacent to the Oyster Creek Generating Station (OCGS), which is entirely owned by AmerGen Energy Company. The evaluation was prompted by analytical detection of a Cs-137 concentration in a sample of leaves from a sassafras tree that was higher than that typically observed in vegetables normally collected as part of the OCGS Radiological Environmental Monitoring Program (REMP). Although sassafras

leaves had never been sampled as part of the REMP, they were sampled in the fall of 2006 as an alternative to vegetables from a garden maintained by the OCGS. Deer had consumed the vegetables in that garden during August. Through extensive sampling and analysis it was determined that the Cs-137 concentrations found in the environmental samples taken on AmerGen property are the result of atmospheric nuclear weapons testing and the Chernobyl accident. The results of these samples are documented and discussed in the AmerGen document, "Evaluation of Cesium-137 in Environmental Samples from the AmerGen Property East of the Oyster Creek Generating Station, Final Report". These alternative samples were not included as part of the routine REMP. Tree leaves are from perennial plants, not annual broadleaf vegetation (i.e., cabbage, lettuce) which is required for the program.

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

II. Introduction

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

A preoperational Radiological Environmental Monitoring Program (REMP) for OCGS was established in 1966, and continued for two years prior to the plant becoming operational in 1969. This report covers those analyses performed by Teledyne Brown Engineering (TBE), Global Dosimetry, and Environmental Inc. (Midwest Labs) on samples collected during the period 01 January 2006 through 31 December 2006.

A. Objectives of the REMP

The objectives of the REMP are to:

1. Determine whether any significant increase occurs in the concentration of radionuclides in major pathways.

2. Identify and evaluate the buildup, if any, of radionuclides in the local environment, or any changes in normal background radiation levels.

3. Verify the adequacy of the plant's controls for the release of radioactive materials.

4. Fulfill the obligations of the radiological surveillance sections of Oyster Creek's Offsite Dose Calculation Manual (ODCM).

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.

C. Discussion

1. General Program

The Radiological Environmental Monitoring Program (REMP) was established in 1966, three years before the plant became operational. This preoperational surveillance program was established to describe and quantify the radioactivity, and its variability, in the area prior to the operation of Oyster Creek Generating Station (OCGS). After OCGS became operational in 1969, the operational surveillance program continued to measure radiation and radioactivity in the surrounding areas.

A variety of environmental samples are collected as part of the REMP at OCGS. The selection of sample types is based on the established pathways for the transfer of radionuclides through the environment to humans. The selection of sampling locations is based on sample availability, local meteorological and hydrological characteristics, local population characteristics, and land usage in the area of interest. The selection of sampling frequencies for the various environmental media is based on the radionuclides of interest, their respective half-lives, and their behavior in both the biological and physical environment.

2. Preoperational Surveillance Program

The federal government requires nuclear facilities to conduct radiological environmental monitoring prior to constructing the facility. This preoperational surveillance program is aimed at collecting the data needed to identify pathways, including selection of the radioisotope and sample media combinations to be included in the environmental surveillance program conducted after facility operation begins. Radiochemical analyses performed on the environmental samples should include not only those nuclides expected to be released during facility operation, but should also

include typical radionuclides from nuclear weapons testing and natural background radioactivity. All environmental media with a potential to be affected by facility operation as well as those media directly in the major pathways, should be sampled on at least an annual basis during the preoperational phase of the environmental surveillance program.

The preoperational surveillance design, including nuclide/media combinations, sampling frequencies and locations, collection techniques, and radioanalyses performed, should be carefully considered and incorporated in the design of the operational surveillance program. In this manner, data can be compared in a variety of ways (for example, from year to year, location to location, etc.) in order to detect any radiological impact the facility has on the surrounding environment. Data collection during the preoperational phase should be planned to provide a comprehensive database for evaluating any future changes in the environment surrounding the nuclear facility.

OCGS began its preoperational environmental surveillance program three years before the plant began operating in 1969. Data accumulated during those early years provide an extensive database from which environmental monitoring personnel are able to identify trends in the radiological characteristics of the local environment. The environmental surveillance program at OCGS will continue after the plant has reached the end of its economically useful life and decommissioning has begun.

3. Consideration of Plant Effluents

Effluents are strictly monitored to ensure that radioactivity released to the environment is as low as reasonably achievable and does not exceed regulatory limits. Effluent control includes the operation of monitoring systems, in-plant and environmental sampling and analyses programs, quality assurance programs for effluent and environmental programs, and procedures covering all aspects of effluent and environmental monitoring.

Both radiological environmental and effluent monitoring indicate that the operation of OCGS does not result in significant radiation exposure of people or the environment surrounding OCGS and is well below the applicable levels set by the Nuclear Regulatory Commission (NRC) and the Environmental Protection Agency (EPA).

The highest 2006 potential dose due to any plant effluent was calculated to be 0.02 mRem, to the thyroid, which is 0.1% of the applicable limit found in 10 CFR 50, Appendix I. Also during 2006, there was no measurable direct radiation dose due to OCGS beyond the site boundary as shown by offsite thermoluminescent dosimeter (TLD) readings. The offsite dose due to effluents is an extremely low fraction of the 40 CFR 190 limits. Therefore, the combined direct radiation and effluent dose due to OCGS was in compliance with 40 CFR 190, as well as 10 CFR 50, in 2006.

Additionally, comparison of environmental sampling results to iodine and particulate gaseous effluents released, showed no radioactivity attributable to the operation of OCGS. Both elevated and ground-level release paths were considered in this review, with total iodines released of 4.61 mCi and total particulates with half-lives greater than 8 days released of 5.46 mCi. (1 mCi is one/one-thousandth of a Ci.)

III. Program Description

A. Sample Collection

Samples for the OCGS REMP were collected for AmerGen Energy Company by on-site personnel and Normandeau Associates, RMC Environmental Services Division (RMC). This section describes the general collection methods used to obtain environmental samples for the OCGS REMP in 2006. 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 water samples were collected monthly from two surface locations (33 and 94), semiannually at two surface water locations (23 and 24), and quarterly from three well water locations (1, 37, and 38). Control locations were 94 and 37. All samples were collected in plastic bottles, which were rinsed at least twice with source water prior to collection. Fish samples comprising the flesh of two groups, bottom feeder and predator, were collected semiannually at three locations (33, 93 and 94 (control). Clams were collected semiannually from three locations (23, 24, and 94 (control). One annual crab sample was collected from one location (93). Sediment samples were collected at four locations

semiannually (23, 24, 33, and 94 (control).

Atmospheric Environment

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

Terrestrial Environment

The terrestrial environment was evaluated by performing radiological analyses on samples of garden vegetation.

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

Ambient Gamma Radiation

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

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

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

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

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

Indicator TLDs were placed systematically, with at least one station in each of 16 meteorological compass sectors in the general area of the site boundary. TLDs were also placed in each meteorological sector in the 3 ¾ to 5 mile range, where reasonable highway access would permit, 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 $CaSO_4$ thermoluminescent phosphors enclosed in plastic – were placed at each location approximately three to eight feet above ground level. The TLDs were exchanged quarterly and sent to Global Dosimetry for analysis.

B. Sample Analysis

This section describes the general analytical methodologies used by TBE and Environmental Inc. (Midwest Labs) to analyze the environmental samples for radioactivity for the OCGS REMP in 2006. The analytical procedures used by the laboratories are listed in Table B–3.

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

1. Concentrations of beta emitters in air particulates.

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

3. Concentrations of tritium in surface and well water.

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

5. Concentrations of strontium in air particulates and vegetation.

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

C. Data Interpretation

For trending purposes, the radiological and direct radiation data collected during 2006 were compared with data from past years. The results of environmental sampling show that radioactivity levels have not increased

from the background radioactivity detected prior to the operation of OCGS. The operation of OCGS continues to have no measurable radiological impact upon the environment.

Several factors were important in the interpretation of the data:

1. Lower Limit of Detection and Minimum Detectable Concentration

   The lower limit of detection (LLD) is 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 is intended as a before the fact estimate of a system (including instrumentation, procedure and sample type) and not as an after the fact criterion for the presence of activity. All analyses were designed to achieve the required OCGS detection capabilities for environmental sample analysis.

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

2. Net Activity Calculation and Reporting of Results

   Net activity for a sample was calculated by subtracting background activity from the sample activity. Since the REMP measures extremely small changes in radioactivity in the environment, background variations may result in sample activity being lower than the background activity, which results in a negative number. An MDC 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 12 nuclides, Mn-54, Co-58, Fe-59, Co-60, Zn-65, Zr-95, Nb-95, I-131, Cs-134, Cs-137, Ba-140, and La-140 were reported.

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

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

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

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

For air particulate 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 six nuclides, K-40, I-131, Cs-134, Cs-137, Ba-140, and La-140 were reported.

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

D. Program Exceptions

For 2006 the OCGS REMP had a sample recovery rate in excess of 99%. Exceptions are listed below:

1. Air particulate and air iodine samples had low volume for the following period and location, due to a blown fuse:
   05/10/06 – 05/17/06 (week 9), Location 73
   05/17/06 – 05/23/06 (week 21), Location 71
   05/17/06 – 05/23/06 (week 21), Location 73
   This resulted in specified LLDs not being met.

2. Air particulate and air iodine samples were not available for the following period and location, due to the State of New Jersey being shut down due to the state budget crisis:
   06/28/2006 – 07/05/2006 (week 27), Location 3

3. Air particulate sample Sr-89 LLD was missed for the following period and location, due to low chemical recovery:
   012/28/2005 – 03/28/2006, Location 3

4. Vegetation samples I-131 LLDs were missed for the following periods and locations, due to the discontinuation and poor performance of two types of filter paper used in the I-131 analysis. Although sample aliquots were increased (up to 8 liters, when possible) and count times extended (up to 64 hours, in some cases), LLD requirements were missed due to low chemical yield

and decay of the iodine during the investigation. TBE initiated NCR 06-13 to investigate and document this event.
07/19/2006 – Location 66

5. August – September 2006, Location 35: Program vegetation samples were unavailable due to deer eating the garden. During December 2006, AmerGen initiated an evaluation of cesium-137 (Cs-137) in sassafras leaf samples from REMP sampling location #35 on the Finninger Farm property adjacent to the Oyster Creek Generating Station (OCGS). The evaluation was prompted by analytical detection of a Cs-137 concentration in a sample of leaves that was higher than that typically observed in vegetables normally collected as part of the OCGS Radiological Environmental Monitoring Program (REMP). Although sassafras leaves had never been sampled as part of the REMP, they were sampled in the fall of 2006 as an alternative to vegetables from a garden maintained by the OCGS. Deer had consumed the vegetables in that garden during August. Through extensive sampling and analysis it was determined the Cs-137 concentrations found in the environmental samples taken on AmerGen property are the result of atmospheric nuclear weapons testing and the Chernobyl accident. The results of these samples are documented and discussed in the AmerGen document, "Evaluation of Cesium-137 in Environmental Samples from the AmerGen Property East of the Oyster Creek Generating Station, Final Report".

6. Vegetation samples Sr-89/90 analyses were not performed for the following period and location, due to limited sample volume:
08/16/2006, Location 66

7. TLD samples were lost for the following periods and locations, due to vandalism:
01/10/2006 – 04/20/2006, Location 4
01/10/2006 – 04/20/2006, Location 5
01/10/2006 – 04/20/2006, Location 46
01/10/2006 – 04/20/2006, Location 47
01/10/2006 – 04/20/2006, Location 48
04/20/2006 – 07/13/2006, Location 4
04/20/2006 – 07/13/2006, Location 5
04/20/2006 – 07/13/2006, Location 46
04/20/2006 – 07/13/2006, Location 47
04/20/2006 – 07/13/2006, Location 48
07/13/2006 – 10/09/2006, Location 72*
07/13/2006 – 10/09/2006, Location 73
07/13/2006 – 10/09/2006, Location 75

10/20/2006 – 01/13/2007, Location 6

*Additionally, one of the two TLDs at Location 72 was missing during collection of third quarter TLDs. This did not result in a missed sample point.

8. Minimum amount of 250 grams of soft tissue for crab sample was not obtained. This did not affect any sample results.

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

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

E. Program Changes

There were no changes to the routine REMP program in 2006. A separate program was instituted to monitor groundwater in the surrounding environs, during 2006. This program and any sampling and analysis results are discussed in Appendix F, Annual Radiological Groundwater Protection Program Report.

IV. Results and Discussion

A. Aquatic Environment

1. Surface Water

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

Tritium

Samples from all locations were analyzed for tritium activity (Table C–I.1, Appendix C). Tritium activities were consistent with those detected in previous years, with only one sample result greater than

the MDC of 200 pCi/liter.

Gamma Spectrometry

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

Surface water sampling began in 1966, and the samples were analyzed for tritium as well as other radioactivity. During this preoperational program, tritium was detected at an average concentration of 1.05E+3 pCi/liter. At that time, counting instrumentation was not as sensitive as it now, and the minimum detectable concentration was 1E+3 pC/liter versus 2E+2 pCi/liter used today. By decay correcting this average concentration to 1.11E+2 pCi/liter, and comparing it to 2006 sampling results, it can be seen that the inventory of tritium in the environment is due to fallout from past atmospheric nuclear weapons testing and Chernobyl, and is decreasing with time.

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). No tritium activity was detected.

Gamma Spectrometry

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

Well water was sampled during the preoperational program and throughout the 37 years of the plant's operational program. Tritium sampling results during the preoperational years, yielded results all less than the minimum detectable concentration of 1E+3 pCi/liter. 2006 results are all less than the current MDC of 200 pCi/liter.

3. Fish

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

Gamma Spectrometry

The edible portions of fish samples from three locations were analyzed for gamma emitting nuclides (Table C–III.1, Appendix C). Naturally occurring potassium-40 was found at all stations and ranged from 2,360 to 5,120 pCi/kg wet and was consistent with levels detected in previous years. No fission or activation products were found.

No fish were sampled during the preoperational sampling program for OCGS.

4. Clams and Crabs

Clams were collected at three locations (23, 24, and 94) semiannually. Crabs were collected at one location (93) annually. Locations 23, 24, and 93 could be affected by Oyster Creek's effluent releases. The following analysis was performed:

Gamma Spectrometry

The edible portions of clam samples from all three locations were analyzed for gamma emitting nuclides (Table C–III.2, Appendix C). Naturally occurring potassium-40 was found at all stations and ranged from 1,150 to 2,160 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.

Preoperational clam sample results for potassium-40 ranged from 600 to 9,800 pCi/kg wet, which are consistent with current sample results. Decay corrected values for positive cesium-137 results during the preoperational years (<8 to 168 pCi/kg) are consistent with 2006 cesium-137 sample results of <29 to <66 pCi/kg.

The edible portions of crab samples from one location were

analyzed for gamma emitting nuclides (Table C–III.2, Appendix C). Naturally occurring potassium-40 was found at a concentration of 1,770 pCi/kg wet and was consistent with levels detected in previous years. No fission or activation products were found.

Crabs were not sampled during the preoperational years of the OCGS environmental monitoring program.

5. Sediment

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

Gamma Spectrometry

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

Potassium-40 was found at all stations and ranged from 794 to 16,500 pCi/kg dry. No fission or activation products were found. Figure C–3, Appendix C graphs Cs-137 concentrations in sediment from 1984 through 2006 and figure C–2, Appendix C graphs Co-60 concentrations in sediment from 1981 through 2006.

While aquatic sediment sampling was part of the preoperational program, samples were not analyzed for gamma emitting nuclides until 1981.

In conclusion, aquatic monitoring results for 2006 of surface water, well water, fish, clams and crabs, and aquatic sediment showed only naturally occurring radioactivity and radioactivity associated with fallout from past atmospheric nuclear weapons testing and Chernobyl and were consistent with levels measured prior to the operation of OCGS, and with levels measured in past years. No radioactivity attributable to activities at OCGS was detected in any aquatic samples during 2006 and no adverse long-term trends are shown in the aquatic monitoring data.

B. Atmospheric Environment

1. Airborne

a. Air Particulates

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

Gross Beta

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

Detectable gross beta activity was observed at all locations. Comparison of results among the three groups aid in determining the effects, if any, resulting from the operation of OCGS. The results from the Site Boundary locations (Group I) ranged from <6 to 30 E–3 pCi/m^3 with a mean of 15 E–3 pCi/m^3. The results from the Intermediate Distance locations (Group II) ranged from <6 to 157 E–3 pCi/m^3 with a mean of 17 E–3 pCi/m^3. The results from the Distant locations (Group III) ranged from <5 to 29 E–3 pCi/m^3 with a mean of 15 E–3 pCi/m^3. Comparison of the 2006 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 2006 indicate no notable differences among the three groups (Figure C–4, Appendix C). (The 157 E-3 pCi/m^3 result in Group II was due to low sample volume.)

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 most samples. The values ranged from 38 to <112 E–3 pCi/m^3. All other nuclides were less than the MDC.

Air sample filters have been analyzed for gross beta activity since the inception of the preoperational environmental monitoring program in 1966. The preoperational data values ranged from 1.90E-2 to 2.77E-1 pCi/m^3. 2006 gross beta activity values ranged from <5E-3 to 1.57E-1 pCi/m^3, with the higher value due to low sample volume. 2006 data values are consistent with historical operational data.

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 MDC.

The preoperational environmental monitoring program for OCGS did not include analysis of air media for iodine-131.

In conclusion, the atmospheric monitoring data are consistent with preoperational and prior operational data and show no long-term trends in the environment attributable to the operation of OCGS.

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 MDC. Strontium-90 was detected in eight of twenty samples. The values ranged from <2 to 124 pCi/kg wet, which is consistent with historical data.

Gamma Spectrometry

Vegetation samples 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 1,930 to 8,480 pCi/l. No Cs-137 activity was detected in any routine REMP samples. (See Section III.D.4.) All other nuclides were less than the MDC.

Preoperational vegetation sample analyses did not include strontium-89, strontium-90, or gamma spectroscopy.

In conclusion, terrestrial monitoring results for 2006 of vegetation samples, showed only naturally occurring radioactivity and radioactivity associated with fallout from past atmospheric nuclear weapons testing and Chernobyl. The radioactivity levels detected were consistent with levels measured in past years, and no radioactivity attributable to activities at OCGS was detected in any terrestrial samples. The terrestrial monitoring data show no adverse long-term trends in the terrestrial environment.

C. Ambient Gamma Radiation

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

All TLD measurements were below 20 mR/standard quarter, with a range of 9.3 to 22.4 mR/standard quarter. 2006 gamma radiation data from the control location were plotted along with similar data from the Site, Intermediate Distance, and Outer Ring Locations (Figure C-6, Appendix C). Historical ambient gamma radiation data from the control location was plotted along with similar data from the Site, Intermediate Distance and Outer Ring Locations (Figure C–7, Appendix C). In conclusion, the 2006 TLD results are consistent with preoperational and past operational measurements of direct radiation.

D. Land Use Survey

A Land Use Survey, conducted during 2006 around the Oyster Creek Generating Station (OCGS), was performed by Normandeau Associates, RMC Environmental Services Division for Exelon Nuclear. The purpose of

the survey was, in part, to determine the location of animals producing milk for human consumption in each of the sixteen meteorological sectors out to a distance of 5 miles from the OCGS. None were observed. Another purpose of the survey was to determine the location of gardens greater than 500 square feet in size producing broad leaf vegetation, as well as the closest residence within each of the sixteen meteorological sectors. The distance and direction of all locations from the OCGS Reactor Building were positioned using Global Positioning System (GPS) technology. There were no changes required to the OCGS REMP, as a result of this survey. In conclusion, the results of this survey are summarized below.

Distance in Miles from the OCGS Reactor Building		
Sector	Residence (Miles)	Garden* (Miles)
1 N	1.1	1.3
2 NNE	0.6	1.8
3 NE	0.7	1.5
4 ENE	1.1	3.1
5 E	1.2	-
6 ESE	0.7	0.4
7 SE	0.6	0.4
8 SSE	0.9	1.3
9 S	1.6	2.1
10 SSW	1.7	4.3
11 SW	1.7	1.8
12 WSW	2.3	-
13 W	-	-
14 WNW	-	-
15 NW	5.3	-
16 NNW	1.5	2.7

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

E. Summary of Results – Inter-laboratory Comparison Program

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

1. Analytics Evaluation Criteria

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

2. ERA Evaluation Criteria

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

3. DOE Evaluation Criteria

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

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

For the primary laboratory, 24 out of 28 analytes met the specified acceptance criteria. Four samples did not meet the specified acceptance criteria for the following reasons:

1. Teledyne Brown Engineering's MAPEP Series 15 January 2006 soil Cs-134 was evaluated as a false positive, although TBE considered the result a non-detect due to the peak not being identified by the gamma software. MAPEP suggests the Bi-214 is not being differentiated from the Cs-134 peak. When the ratio of activity to uncertainty exceeds 3, TBE will use a key line analysis rather than a weighted mean analysis when evaluating MAPEP non-detects.

2. Teledyne Brown Engineering's MAPEP Series 15 January 2006

Sr-90 in vegetation result of 2.22 Bq/kg exceeded the upper acceptance range of 2.029 Bq/kg. The samples were analyzed in triplicate and the results averaged. One high result of 2.43 Bq/kg biased the submitted results on the high side. TBE was unable to determine the cause for the higher result. The Sr-90 in vegetation results for MAPEP Series 14 and MAPEP Series 16 were acceptable. No client samples were analyzed during the MAPEP Series 14 time period.

3. Teledyne Brown Engineering's MAPEP Series 15 January 2006 Pu-238 and Pu-239/240 in vegetation result of 2.22 Bq/kg failed the required acceptance ranges. TBE was evaluating the current preparation method for vegetation samples, which proved insufficient for the analyses. TBE does not perform isotopic Pu on client's vegetation samples.

For the secondary laboratory, 20 out of 25 analytes met the specified acceptance criteria. Seven samples did not meet the specified acceptance criteria for the following reasons:

1. Environmental Inc.'s ERA November 2006 water I-131 result of 28.4 pCi/liter exceeded the upper control limit of 27.3 pCi/liter. The reported result was an average of three analyses, results ranged from 25.36 pCi/liter to 29.23 pCi/liter. A fourth analysis was performed, with a result of 24.89 pCi/liter.

2. Environmental Inc.'s MAPEP January 2006 vegetation Pu-238 result of 0.08 Bq/sample exceeded the lower control limit of 0.10 Bq/sample due to incomplete dissolution of the sample.

3. Environmental Inc.'s MAPEP January 2006 air particulate Pu-238 result of 0.03 Bq/sample exceeded the lower control limit of 0.05 Bq/sample due to incomplete dissolution of the sample.

4. Environmental Inc.'s MAPEP January 2006 soil Pu-238, Pu-239/240, U-233/234 and U-238 results of 14.6, 14.6, 13.5 and 15.4 Bq/kg, respectively, exceeded the lower control limits of 42.81, 32.09, 25.9 and 27.2 Bq/kg, respectively, due to incomplete dissolution of the sample.

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

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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, 2006

Name of Facility: OYSTER CREEK GENERATING STATION **DOCKET NUMBER:** 50-219
Location of Facility: OCEAN COUNTY, NJ **REPORTING PERIOD:** 2006

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
SURFACE WATER (PCI/LITER)	H-3	28	200	165 (3/16) (<129/<197)	168 (1/12) (<130/228)	171 (2/12) (<130/<197)	33 INDICATOR EAST OF RT 9 BRIDGE IN OCGS DISCHARGE 0.4 MILES ESE OF SITE	0
	GAMMA	28						
	MN-54		15	3 (0/16) (<1/<7)	4 (0/12) (<1/<9)	4 (0/12) (<1/<9)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	CO-58		15	4 (0/16) (<1/<7)	4 (0/12) (<1/<7)	4 (0/12) (<1/<7)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	FE-59		30	8 (0/16) (<2/<19)	9 (0/12) (<2/<19)	9 (0/12) (<2/<19)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	CO-60		15	4 (0/16) (<1/<10)	4 (0/12) (<1/<8)	4 (0/12) (<1/<10)	33 INDICATOR EAST OF RT 9 BRIDGE IN OCGS DISCHARGE 0.4 MILES ESE OF SITE	0
	ZN-65		30	8 (0/16) (<2/<21)	10 (0/12) (<2/<21)	10 (0/12) (<2/<21)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	NB-95		15	4 (0/16) (<1/<8)	4 (0/12) (<1/<8)	4 (0/12) (<1/<8)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	ZR-95		30	6 (0/16) (<2/<12)	7 (0/12) (<2/<13)	7 (0/12) (<2/<13)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE OYSTER CREEK GENERATING STATION, 2006

Name of Facility: OYSTER CREEK GENERATING STATION **DOCKET NUMBER:** 50-219
Location of Facility: OCEAN COUNTY, NJ **REPORTING PERIOD:** 2006

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN* (F) RANGE	CONTROL LOCATION MEAN* (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN MEAN* (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
SURFACE WATER (PCI/LITER)	I-131		15	10 (0/16) (<4/<15)	10 (0/12) (<5/<13)	11 (0/2) (<11/<12)	24 INDICATOR BARNEGAT BAY 2.1 MILES E OF SITE	0
	CS-134		15	4 (0/16) (<1/<11)	5 (0/12) (<1/<11)	5 (0/12) (<1/<11)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	CS-137		18	4 (0/16) (<1/<8)	4 (0/12) (<1/<8)	4 (0/12) (<1/<8)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	BA-140		60	23 (0/16) (<11/<33)	26 (0/12) (<13/<46)	26 (0/12) (<13/<46)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	LA-140		15	8 (0/16) (<4/<14)	8 (0/12) (<4/<14)	8 (0/2) (<7/<9)	24 INDICATOR BARNEGAT BAY 2.1 MILES E OF SITE	0
GROUND WATER (PCI/LITER)	H-3	12	200	176 (0/8) (<165/<192)	177 (0/4) (<167/<186)	177 (0/4) (<167/<186)	37 CONTROL BOOX RD AT LACEY MUA PUMPING STA 2.2 MILES NNE OF SITE	0
	GAMMA	12						
	MN-54		15	3 (0/8) (<1/<7)	4 (0/4) (<2/<6)	4 (0/4) (<2/<6)	37 CONTROL BOOX RD AT LACEY MUA PUMPING STA 2.2 MILES NNE OF SITE	0
	CO-58		15	3 (0/8) (<1/<6)	4 (0/4) (<2/<7)	4 (0/4) (<2/<7)	37 CONTROL BOOX RD AT LACEY MUA PUMPING STA 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)

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Location of Facility: OCEAN COUNTY, NJ | **REPORTING PERIOD:** 2006

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
GROUND WATER (PCI/LITER)	FE-59		30	7 (0/8) (<3/<16)	8 (0/4) (<4/<13)	8 (0/4) (<3/<16)	38 INDICATOR RT 532 - OCEAN TOWNSHIP MUA PUMPING 1.6 MILES SSW OF SITE	0
	CO-60		15	3 (0/8) (<1/<6)	4 (0/4) (<1/<6)	4 (0/4) (<1/<6)	37 CONTROL BOOX RD AT LACEY MUA PUMPING STA 2.2 MILES NNE OF SITE	0
	ZN-65		30	7 (0/8) (<3/<15)	8 (0/4) (<3/<15)	8 (0/4) (<3/<15)	38 INDICATOR RT 532 - OCEAN TOWNSHIP MUA PUMPING 1.6 MILES SSW OF SITE	0
	NB-95		15	3 (0/8) (<1/<7)	4 (0/4) (<2/<6)	4 (0/4) (<2/<6)	37 CONTROL BOOX RD AT LACEY MUA PUMPING STA 2.2 MILES NNE OF SITE	0
	ZR-95		30	6 (0/8) (<2/<14)	6 (0/4) (<3/<9)	7 (0/4) (<2/<14)	38 INDICATOR RT 532 - OCEAN TOWNSHIP MUA PUMPING 1.6 MILES SSW OF SITE	0
	I-131		15	10 (0/8) (<3/<15)	9 (0/4) (<4/<14)	10 (0/4) (<6/<15)	1 INDICATOR ON-SITE DOMESTIC WELL AT OCGS 0.2 MILES OF SITE	0
	CS-134		15	3 (0/8) (<1/<6)	4 (0/4) (<1/<7)	4 (0/4) (<1/<7)	37 CONTROL BOOX RD AT LACEY MUA PUMPING STA 2.2 MILES NNE OF SITE	0
	CS-137		18	3 (0/8) (<1/<7)	3 (0/4) (<2/<5)	4 (0/4) (<1/<7)	38 INDICATOR RT 532 - OCEAN TOWNSHIP MUA PUMPING 1.6 MILES SSW OF SITE	0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE OYSTER CREEK GENERATING STATION, 2006

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Location of Facility: OCEAN COUNTY, NJ **REPORTING PERIOD:** 2006

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
GROUND WATER (PCI/LITER)	BA-140		60	21 (0/8) (<7/<33)	21 (0/4) (<10/<31)	21 (0/4) (<7/<33)	38 INDICATOR RT 532 - OCEAN TOWNSHIP MUA PUMPING 1.6 MILES SSW OF SITE	0
	LA-140		15	7 (0/8) (<2/<14)	7 (0/4) (<3/<11)	8 (0/4) (<2/<14)	38 INDICATOR RT 532 - OCEAN TOWNSHIP MUA PUMPING 1.6 MILES SSW OF SITE	0
BOTTOM FEEDER (FISH) (PCI/KG WET)	GAMMA	3						
	K-40		N/A	4040 (1/1) (4040)	3610 (2/2) (3380/3840)	4040 (1/1) (4040)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0
	MN-54		130	62 (0/1) (<62)	65 (0/2) (<56/<74)	65 (0/2) (<56/<74)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	CO-58		130	55 (0/1) (<55)	64 (0/2) (<57/<71)	64 (0/2) (<57/<71)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	FE-59		260	136 (0/1) (<136)	138 (0/2) (<119/<156)	138 (0/2) (<119/<156)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	CO-60		130	50 (0/1) (<50)	63 (0/2) (<52/<75)	63 (0/2) (<52/<75)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	ZN-65		260	147 (0/1) (<147)	149 (0/2) (<123/<175)	149 (0/2) (<123/<175)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0

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Name of Facility: OYSTER CREEK GENERATING STATION **DOCKET NUMBER:** 50-219
Location of Facility: OCEAN COUNTY, NJ **REPORTING PERIOD:** 2006

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
BOTTOM FEEDER (FISH) (PCI/KG WET)	CS-134		100	63 (0/1) (<63)	64 (0/2) (<56/<72)	64 (0/2) (<56/<72)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	CS-137		100	59 (0/1) (<59)	68 (0/2) (<58/<78)	68 (0/2) (<58/<78)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
PREDATOR (FISH) (PCI/KG WET)	GAMMA	19						
	K-40		N/A	4026 (14/14) (3360/5120)	3486 (5/5) (2360/3990)	4156 (5/5) (3360/4820)	33 INDICATOR EAST OF RT 9 BRIDGE IN OCGS DISCHARGE 0.4 MILES ESE OF SITE	0
	MN-54		130	50 (0/14) (<11/<78)	60 (0/5) (<52/<82)	67 (0/5) (<53/<78)	33 INDICATOR EAST OF RT 9 BRIDGE IN OCGS DISCHARGE 0.4 MILES ESE OF SITE	0
	CO-58		130	50 (0/14) (<12/<91)	71 (0/5) (<61/<97)	71 (0/5) (<61/<97)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	FE-59		260	110 (0/14) (<28/<201)	143 (0/5) (<87/<195)	143 (0/5) (<87/<195)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	CO-60		130	51 (0/14) (<11/<86)	71 (0/5) (<46/<105)	71 (0/5) (<46/<105)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	ZN-65		260	119 (0/14) (<24/<195)	137 (0/5) (<102/<168)	137 (0/5) (<102/<168)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0

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PREDATOR (FISH) (PCI/KG WET)	CS-134		100	53 (0/14) (<9/<82)	66 (0/5) (<59/<86)	66 (0/5) (<59/<86)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	CS-137		100	53 (0/14) (<11/<80)	68 (0/5) (<58/<84)	68 (0/5) (<58/<84)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
CLAMS (PCI/KG WET)	GAMMA	6						
	K-40		N/A	1500 (4/4) (1150/2160)	1595 (2/2) (1350/1840)	1780 (2/2) (1400/2160)	24 INDICATOR BARNEGAT BAY 2.1 MILES E OF SITE	0
	MN-54		130	49 (0/4) (<34/<62)	49 (0/2) (<37/<61)	51 (0/2) (<41/<62)	24 INDICATOR BARNEGAT BAY 2.1 MILES E OF SITE	0
	CO-58		130	53 (0/4) (<46/<61)	73 (0/2) (<67/<78)	73 (0/2) (<67/<78)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	FE-59		260	119 (0/4) (<80/<148)	169 (0/2) (<132/<205)	169 (0/2) (<132/<205)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	CO-60		130	44 (0/4) (<21/<66)	58 (0/2) (<46/<69)	58 (0/2) (<46/<69)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	ZN-65		N/A	113 (0/4) (<68/<165)	121 (0/2) (<105/<136)	121 (0/2) (<105/<136)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0

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CLAMS (PCI/KG WET)	CS-134		100	54 (0/4) (<28/<79)	59 (0/2) (<47/<70)	59 (0/2) (<47/<70)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	CS-137		100	51 (0/4) (<29/<66)	56 (0/2) (<46/<66)	56 (0/2) (<46/<66)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
CRABS (PCI/KG WET)	GAMMA	1						
	K-40		N/A	1770 (1/1) (1770)	N/A	1770 (1/1) (1770)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0
	MN-54		130	42 (0/1) (<42)	N/A	42 (0/1) (<42)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0
	CO-58		130	60 (0/1) (<60)	N/A	60 (0/1) (<60)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0
	FE-59		260	179 (0/1) (<179)	N/A	179 (0/1) (<179)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0
	CO-60		130	42 (0/1) (<42)	N/A	42 (0/1) (<42)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0
	ZN-65		N/A	86 (0/1) (<86)	N/A	86 (0/1) (<86)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0

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CRABS (PCI/KG WET)	CS-134		100	31 (0/1) (<31)	N/A	31 (0/1) (<31)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0
	CS-137		100	34 (0/1) (<34)	N/A	34 (0/1) (<34)	93 INDICATOR OCGS DISCHARGE - BETWEEN PUMP/RT 9 0.1 MILES WSW OF SITE	0
SEDIMENT (PCI/KG DRY)	GAMMA	8						
	BE-7		N/A	1036 (0/6) (<586/<1710)	879 (0/2) (<801/<957)	1385 (0/2) (<1060/<1710)	24 INDICATOR BARNEGAT BAY 2.1 MILES E OF SITE	0
	K-40		N/A	4677 (6/6) (794/7650)	14750 (2/2) (13000/16500)	14750 (2/2) (13000/16500)	94 CONTROL GREAT BAY/LITTLE EGG HARBOR 20.0 MILES SSW OF SITE	0
	MN-54		N/A	97 (0/6) (<49/<136)	95 (0/2) (<92/<97)	136 (0/2) (<136/<136)	24 INDICATOR BARNEGAT BAY 2.1 MILES E OF SITE	0
	CO-58		N/A	107 (0/6) (<23/<183)	98 (0/2) (<96/<101)	150 (0/2) (<116/<183)	24 INDICATOR BARNEGAT BAY 2.1 MILES E OF SITE	0
	CO-60		N/A	98 (0/6) (<61/<153)	85 (0/2) (<78/<92)	149 (0/2) (<144/<153)	24 INDICATOR BARNEGAT BAY 2.1 MILES E OF SITE	0
	CS-134		150	108 (0/6) (<49/<146)	104 (0/2) (<71/<137)	144 (0/2) (<142/<146)	24 INDICATOR BARNEGAT BAY 2.1 MILES E OF SITE	0

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SEDIMENT (PCI/KG DRY)	CS-137		180	102 (0/6) (<54/<141)	87 (0/2) (<79/<94)	140 (0/2) (<138/<141)	24 INDICATOR BARNEGAT BAY 2.1 MILES E OF SITE	0
AIR PARTICULATE (E-3 PCI/CU.METER)	GR-B	370	10	16 (296/317) (<5/157)	15 (53/53) (8/29)	18 (50/53) (<6/157)	73 INDICATOR BAY PARKWAY - SANDS POINT HARBOR 1.8 MILES ESE OF SITE	0
	SR-89	28	10	6.3 (0/24) (< 3.1/<24.9)	5.9 (0/4) (< 3.5/< 8.2)	10 (0/4) (< 3.2/<24.9)	3 INDICATOR COAST GUARD STATION - ISLAND BEACH ST PK 6.0 MILES E OF SITE	0
	SR-90	28	10	2.1 (0/24) (< 0.8/< 3.8)	2.3 (0/4) (< 1.2/< 3.3)	2.3 (0/4) (< 1.0/< 3.6)	71 INDICATOR RT 532 AT WARETOWN MUNICPAL BLDG 1.6 MILES SSE OF SITE	0
	GAMMA	28						
	BE-7		N/A	67.3 (16/24) (38.1/<112)	76 (4/4) (61.2/99.1)	76 (4/4) (61.2/99.1)	C CONTROL JCP&L OFFICE - COOKSTOWN NJ 24.7 MILES NW OF SITE	0
	MN-54		N/A	3.2 (0/24) (< 1.3/< 6.3)	3.0 (0/4) (< 2.3/< 4.2)	3.9 (0/4) (< 3.2/< 5.7)	72 INDICATOR LACEY RD AT KNIGHT OF COLUMBUS HALL 1.9 MILES NNE OF SITE	0
	CO-58		N/A	4.7 (0/24) (< 1.7/<10.4)	4.3 (0/4) (< 2.4/< 6.3)	6.1 (0/4) (< 3.9/<10.4)	72 INDICATOR LACEY RD AT KNIGHT OF COLUMBUS HALL 1.9 MILES NNE OF SITE	0
	CO-60		N/A	3.2 (0/24) (< 1.6/< 6.1)	3.3 (0/4) (< 1.1/< 5.7)	3.7 (0/4) (< 3.1/< 5.2)	72 INDICATOR LACEY RD AT KNIGHT OF COLUMBUS HALL 1.9 MILES NNE OF SITE	0

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AIR PARTICULATE (E-3 PCI/CU.METER)	CS-134		10	2.9 (0/24) (< 1.3/< 5.9)	3.1 (0/4) (< 1.8/< 4.9)	3.5 (0/4) (< 3.2/< 4.3)	72 INDICATOR LACEY RD AT KNIGHT OF COLUMBUS HALL 1.9 MILES NNE OF SITE	0
	CS-137		10	2.8 (0/24) (< 1.1/< 5.5)	2.7 (0/4) (< 2.1/< 4.3)	3.4 (0/4) (< 2.4/< 5.5)	72 INDICATOR LACEY RD AT KNIGHT OF COLUMBUS HALL 1.9 MILES NNE OF SITE	0
AIR IODINE (E-3 PCI/CU.METER)	GAMMA I-131	370	70	45 (0/317) (<5/<888)	41 (0/53) (<10/<68)	59 (0/53) (<15/<888)	71 INDICATOR RT 532 AT WARETOWN MUNICPAL BLDG 1.6 MILES SSE OF SITE	0
VEGETATION (PCI/KG WET)	SR-89	17	25	14 (0/8) (<12/<19)	19 (0/9) (<12/<25)	19 (0/9) (<12/<25)	36 CONTROL U-PICK FARM - NEW EGYPT NJ 23.1 MILES NW OF SITE	0
	SR-90	17	5	3 (4/8) (2/5)	12 (4/9) (<2/48)	12 (4/9) (<2/48)	36 CONTROL U-PICK FARM - NEW EGYPT NJ 23.1 MILES NW OF SITE	0
	GAMMA BE-7	20	N/A	539 (5/11) (<78/2580)	202 (4/9) (<49/440)	716 (3/7) (<228/2580)	66 INDICATOR EAST OF RT 9 AND SOUTH OF OCGS DISCHG 0.4 MILES SE OF SITE	0
	K-40		N/A	4725 (11/11) (2560/8480)	4158 (9/9) (1930/6310)	5393 (7/7) (3730/8480)	66 INDICATOR EAST OF RT 9 AND SOUTH OF OCGS DISCHG 0.4 MILES SE OF SITE	0

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VEGETATION (PCI/KG WET)	I-131		60	68 (0/11) (<19/<155)	39 (0/9) (<20/<54)	84 (0/7) (<26/<155)	66 INDICATOR EAST OF RT 9 AND SOUTH OF OCGS DISCHG 0.4 MILES SE OF SITE	0
	CS-134		60	24 (0/11) (<7/<55)	12 (0/9) (<5/<23)	29 (0/7) (<9/<55)	66 INDICATOR EAST OF RT 9 AND SOUTH OF OCGS DISCHG 0.4 MILES SE OF SITE	0
	CS-137		80	28 (0/11) (<7/<63)	13 (0/9) (<5/<26)	33 (0/7) (<11/<63)	66 INDICATOR EAST OF RT 9 AND SOUTH OF OCGS DISCHG 0.4 MILES SE OF SITE	0
	BA-140		N/A	412 (0/11) (<49/<1040)	194 (0/9) (<46/<532)	516 (0/7) (<68/<1040)	66 INDICATOR EAST OF RT 9 AND SOUTH OF OCGS DISCHG 0.4 MILES SE OF SITE	0
	LA-140		N/A	130 (0/11) (<14/<404)	57 (0/9) (<13/<182)	166 (0/7) (<22/<404)	66 INDICATOR EAST OF RT 9 AND SOUTH OF OCGS DISCHG 0.4 MILES SE OF SITE	0
DIRECT RADIATION (MILLI-ROENTGEN/STD.MO.)	TLD-QUARTERLY	184	N/A	15.3 (180/180) (9.3/22.4)	15.0 (4/4) (14.6/15.6)	166 (4/4) (20.6/22.4)	55 INDICATOR SOUTHERN AREA STORES SECURITY FENCE 0.3 MILES W	0

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APPENDIX B

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

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

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

TABLE B-2: Radiological Environmental Monitoring Program – Sampling Locations, Distance and Direction, Oyster Creek Generating Station, 2006

Sample Medium	Station Code	Distance (miles)	Azimuth (degrees)	Description	Latitude North	Longitude West
TLD	1	0.4	219	SW of site at OCGS Fire Pond, Forked River, NJ	39 Degrees 48 Minutes 36.09 Seconds	74 Degrees 12 Minutes 35.88 Seconds
WWA	1	0.1	209	On-site southern domestic well at OCGS, Forked River, NJ	39 Degrees 48 Minutes 46.28 Seconds	74 Degrees 12 Minutes 23.36 Seconds
WWA	1	0.2	349	On-site northern domestic well at OCGS, Forked River, NJ	39 Degrees 49 Minutes 0.69 Seconds	74 Degrees 12 Minutes 22.08 Seconds
APT, AIO, TLD	3	6.0	97	East of site, near old Coast Guard Station, Island Beach State Park	39 Degrees 48 Minutes 12.52 Seconds	74 Degrees 5 Minutes 38.63 Seconds
TLD	4	4.6	213	SSW of site, Route 554 and Garden Parkway, Barnegat, NJ	39 Degrees 45 Minutes 34.4 Seconds	74 Degrees 15 Minutes 9.30 Seconds
TLD	5	4.2	353	North of site, at Garden State Rest Area, Forked River, NJ	39 Degrees 52 Minutes 27.9 Seconds	74 Degrees 12 Minutes 51.7 Seconds
TLD	6	2.1	13	NNE of site, Lane Place, behind St. Pius Church, Forked River, NJ	39 Degrees 50 Minutes 38.59 Seconds	74 Degrees 11 Minutes 45.95 Seconds
TLD	8	2.3	177	South of site, Route 9 at the Waretown Substation, Waretown, NJ	39 Degrees 46 Minutes 52.34 Seconds	74 Degrees 12 Minutes 13.95 Seconds
TLD	9	2.0	230	SW of site, where Route 532 and the Garden State Parkway meet, Waretown, NJ	39 Degrees 47 Minutes 44.26 Seconds	74 Degrees 14 Minutes 7.35 Seconds
APT, AIO, TLD	C	24.7	313	NW of site, JCP&L office in rear parking lot, Cookstown, NJ	40 Degrees 3 Minutes 31.83 Seconds	74 Degrees 32 Minutes 46.55 Seconds
TLD	11	8.2	152	SSE of site, 80th and Anchor Streets, Harvey Cedars, NJ	39 Degrees 42 Minutes 31.33 Seconds	74 Degrees 8 Minutes 3.98 Seconds
TLD	14	20.8	2	North of site, Larrabee Substation on Randolph Road, Lakewood, NJ	40 Degrees 6 Minutes 53.72 Seconds	74 Degrees 11 Minutes 23.39 Seconds
APT, AIO	20	0.7	95	East of site, on Finninger Farm on south side of access road, Forked River, NJ	39 Degrees 48 Minutes 47.27 Seconds	74 Degrees 11 Minutes 33.23 Seconds

TABLE B-2: Radiological Environmental Monitoring Program – Sampling Locations, Distance and Direction, Oyster Creek Generating Station, 2006

Sample Medium	Station Code	Distance (miles)	Azimuth (degrees)	Description	Latitude North	Longitude West
SWA, CLAM, AQS	23	3.6	64	ENE of site, Barnegat Bay off Stouts Creek, approximately 400 yards SE of "Flashing Light 1"	39 Degrees 50 Minutes 11.63 Seconds	74 Degrees 8 Minutes 37.19 Seconds
SWA, CLAM, AQS	24	2.1	101	East of site, Barnegat Bay, approximately 250 yards SE of "Flashing Light 3"	39 Degrees 48 Minutes 28.24 Seconds	74 Degrees 9 Minutes 57.15 Seconds
SWA, AQS, FISH	33	0.4	123	ESE of site, east of Route 9 Bridge in OCGS Discharge Canal	39 Degrees 48 Minutes 40.06 Seconds	74 Degrees 14 Minutes 58.45 Seconds
VEG	35	0.4	111	ESE of site, east of Route 9 and north of the OCGS Discharge Canal, Forked River, NJ	39 Degrees 48 Minutes 43.79 Seconds	74 Degrees 11 Minutes 56.36 Seconds
VEG	36	23.1	319	NW of site, at "U-Pick" Farm, New Egypt, NJ	40 Degrees 4 Minutes 4.40 Seconds	74 Degrees 29 Minutes 21.30 Seconds
WWA	37	2.2	18	NNE of Site, off Boox Road at Lacey MUA Pumping Station, Forked River, NJ	39 Degrees 50 Minutes 42.45 Seconds	74 Degrees 11 Minutes 32.67 Seconds
WWA	38	1.6	197	SSW of Site, on Route 532, at Ocean Township MUA Pumping Station, Waretown, NJ	39 Degrees 47 Minutes 32.73 Seconds	74 Degrees 12 Minutes 52.21 Seconds
TLD	46	5.6	323	NNW of site, on Lacey Road, Forked River, NJ	39 Degrees 52 Minutes 44.7 Seconds	74 Degrees 16 Minutes 5.5 Seconds
TLD	47	4.6	26	NNE of site, Harbor Inn Road, Bayville, NJ	39 Degrees 52 Minutes 26.9 Seconds	74 Degrees 10 Minutes 0.6 Seconds
TLD	48	4.5	189	South of site, at Brooks and Schoolhouse Roads, Barnegat, NJ	39 Degrees 44 Minutes 58.8 Seconds	74 Degrees 13 Minutes 12.5 Seconds
TLD	51	0.4	358	North of site, on the access road to Forked River site, Forked River, NJ	39 Degrees 49 Minutes 11.25 Seconds	74 Degrees 12 Minutes 20.46 Seconds
TLD	52	0.3	333	NNW of site, on the access road to Forked River site, Forked River, NJ	39 Degrees 49 Minutes 5.91 Seconds	74 Degrees 12 Minutes 29.31 Seconds
TLD	53	0.3	309	NW of site, at sewage lift station on the access road to the Forked River site, Forked River, NJ	39 Degrees 49 Minutes 0.20 Seconds	74 Degrees 12 Minutes 34.29 Seconds

TABLE B-2: Radiological Environmental Monitoring Program – Sampling Locations, Distance and Direction, Oyster Creek Generating Station, 2006

Sample Medium	Station Code	Distance (miles)	Azimuth (degrees)	Description	Latitude North	Longitude West
TLD	55	0.3	263	West of site, on Southern Area Stores security fence, west of OCGS Switchyard, Forked River, NJ	39 Degrees 48 Minutes 49.14 Seconds	74 Degrees 12 Minutes 39.58 Seconds
TLD	56	0.3	249	WSW of site, on utility pole east of Southern Area Stores, west of the OCGS Switchyard, Forked River, NJ	39 Degrees 48 Minutes 45.91 Seconds	74 Degrees 12 Minutes 37.49 Seconds
TLD	57	0.2	206	SSW of site, on Southern Area Stores access road, Forked River, NJ	39 Degrees 48 Minutes 40.31 Seconds	74 Degrees 12 Minutes 26.72 Seconds
TLD	58	0.2	188	South of site, on Southern Area Stores access road, Forked River, NJ	39 Degrees 48 Minutes 39.20 Seconds	74 Degrees 12 Minutes 22.07 Seconds
TLD	59	0.3	166	SSE of site, on Southern Area Stores access road, Waretown, NJ	39 Degrees 48 Minutes 36.46 Seconds	74 Degrees 12 Minutes 15.32 Seconds
TLD	61	0.3	104	ESE of site, on Route 9 south of OCGS Main Entrance, Forked River, NJ	39 Degrees 48 Minutes 47.39 Seconds	74 Degrees 12 Minutes 1.19 Seconds
TLD	62	0.2	83	East of site, on Route 9 at access road to OCGS Main Gate, Forked River, NJ	39 Degrees 48 Minutes 52.24 Seconds	74 Degrees 12 Minutes 4.88 Seconds
TLD	63	0.2	70	ENE of site, on Route 9, between main gate and OCGS North Gate access road, Forked River, NJ	39 Degrees 48 Minutes 55.22 Seconds	74 Degrees 12 Minutes 5.21 Seconds
TLD	64	0.3	48	NE of site, on Route 9 at entrance to Finninger Farm, Forked River, NJ	39 Degrees 49 Minutes 0.94 Seconds	74 Degrees 12 Minutes 7.94 Seconds
TLD	65	0.4	19	NNE of site, on Route 9 at Intake Canal Bridge, Forked River, NJ	39 Degrees 49 Minutes 10.38 Seconds	74 Degrees 12 Minutes 11.00 Seconds
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	39 Degrees 48 Minutes 35.46 Seconds	74 Degrees 11 Minutes 58.45 Seconds
TLD	68	1.3	265	West of site, on Garden State Parkway at mile marker 71.7, Lacey Township, NJ	39 Degrees 48 Minutes 45.42 Seconds	74 Degrees 13 Minutes 48.18 Seconds
APT, AIO, TLD	71	1.6	164	SSE of site, on Route 532 at the Waretown Municipal Building, Waretown, NJ	39 Degrees 47 Minutes 28.61 seconds	74 Degrees 11 Minutes 50.20 Seconds

TABLE B-2: Radiological Environmental Monitoring Program – Sampling Locations, Distance and Direction, Oyster Creek Generating Station, 2006

Sample Medium	Station Code	Distance (miles)	Azimuth (degrees)	Description	Latitude North	Longitude West
APT, AIO, TLD	73	1.8	108	ESE of site, on Bay Parkway, Sands Point Harbor, Waretown, NJ	39 Degrees 48 Minutes 20.29 Seconds	74 Degrees 10 Minutes 22.52 Seconds
TLD	74	1.8	88	East of site, Orlando Drive and Penguin Court, Forked River, NJ	39 Degrees 48 Minutes 54.34 Seconds	74 Degrees 10 Minutes 14.51 Seconds
TLD	75	2.0	71	ENE of site, Beach Blvd. and Maui Drive, Forked River, NJ	39 Degrees 49 Minutes 25.15 Seconds	74 Degrees 10 Minutes 9.72 Seconds
TLD	78	1.8	2	North of site, 1514 Arient Road, Forked River, NJ	39 Degrees 50 Minutes 38.48 Seconds	74 Degrees 12 Minutes 34.69 Seconds
TLD	79	2.9	160	SSE of site, Hightide Drive and Bonita Drive, Waretown, NJ	39 Degrees 46 Minutes 30.95 Seconds	74 Degrees 11 Minutes 14.18 Seconds
TLD	81	3.5	201	SSW of site, on Rose Hill Road at intersection with Barnegat Boulevard, Barnegat, NJ	39 Degrees 45 Minutes 57.0 Seconds	74 Degrees 13 Minutes 41.2 Seconds
TLD	82	4.4	36	NE of site, Bay Way and Clairmore Avenue, Lanoka Harbor, NJ	39 Degrees 51 Minutes 53.04 Seconds	74 Degrees 9 Minutes 21.25 Seconds
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	39 Degrees 52 Minutes 16.34 Seconds	74 Degrees 14 Minutes 37.63 Seconds
TLD	85	3.9	250	WSW of site, on Route 532, just east of Wells Mills Park, Waretown, NJ	39 Degrees 47 Minutes 45.60 Seconds	74 Degrees 16 Minutes 28.35 Seconds
TLD	86	5.0	224	SW of site, on Route 554, 1 mile west of the Garden State Parkway, Barnegat, NJ	39 Degrees 45 Minutes 46.38 Seconds	74 Degrees 16 Minutes 16.91 Seconds
TLD	88	6.6	125	SE of site, eastern end of 3rd Street, Barnegat Light, NJ	39 Degrees 45 Minutes 32.85 Seconds	74 Degrees 6 Minutes 15.89 Seconds
TLD	89	6.1	108	ESE of site, Job Francis residence, Island Beach State Park	39 Degrees 47 Minutes 11.42 Seconds	74 Degrees 5 Minutes 50.45 Seconds
TLD	90	6.3	75	ENE of site, parking lot A-5, Island Beach State Park	39 Degrees 50 Minutes 13.23 Seconds	74 Degrees 5 Minutes 23.66 Seconds

TABLE B-2: Radiological Environmental Monitoring Program – Sampling Locations, Distance and Direction, Oyster Creek Generating Station, 2006

Sample Medium	Station Code	Distance (miles)	Azimuth (degrees)	Description	Latitude North	Longitude West
FISH, CRAB	93	0.1	242	WSW of site, OCGS Discharge Canal between Pump Discharges and Route 9, Forked River, NJ	39 Degrees 48 Minutes 47.77 Seconds	74 Degrees 12 Minutes 27.85 Seconds
SWA, AQS, CLAM,FISH	94	20.0	198	SSW of site, in Great Bay/Little Egg Harbor	39 Degrees 32 Minutes 22.57 Seconds	74 Degrees 19 Minutes 37.05 Seconds
TLD	98	1.3	292	WNW of site, on Garden State Parkway at mile marker 72.3, Lacey Township, NJ	39 Degrees 49 Minutes 16.23 Seconds	74 Degrees 13 Minutes 40.18 Seconds
TLD	99	1.5	310	NW of site, on Garden State Parkway at mile marker 72.8, Lacey Township, NJ	39 Degrees 49 Minutes 40.83 Seconds	74 Degrees 13 Minutes 34.42 Seconds
TLD	T1	0.4	219	SW of site, at OCGS Fire Pond, Forked River, NJ	39 Degrees 48 Minutes 36.09 Seconds	74 Degrees 12 Minutes 35.88 Seconds

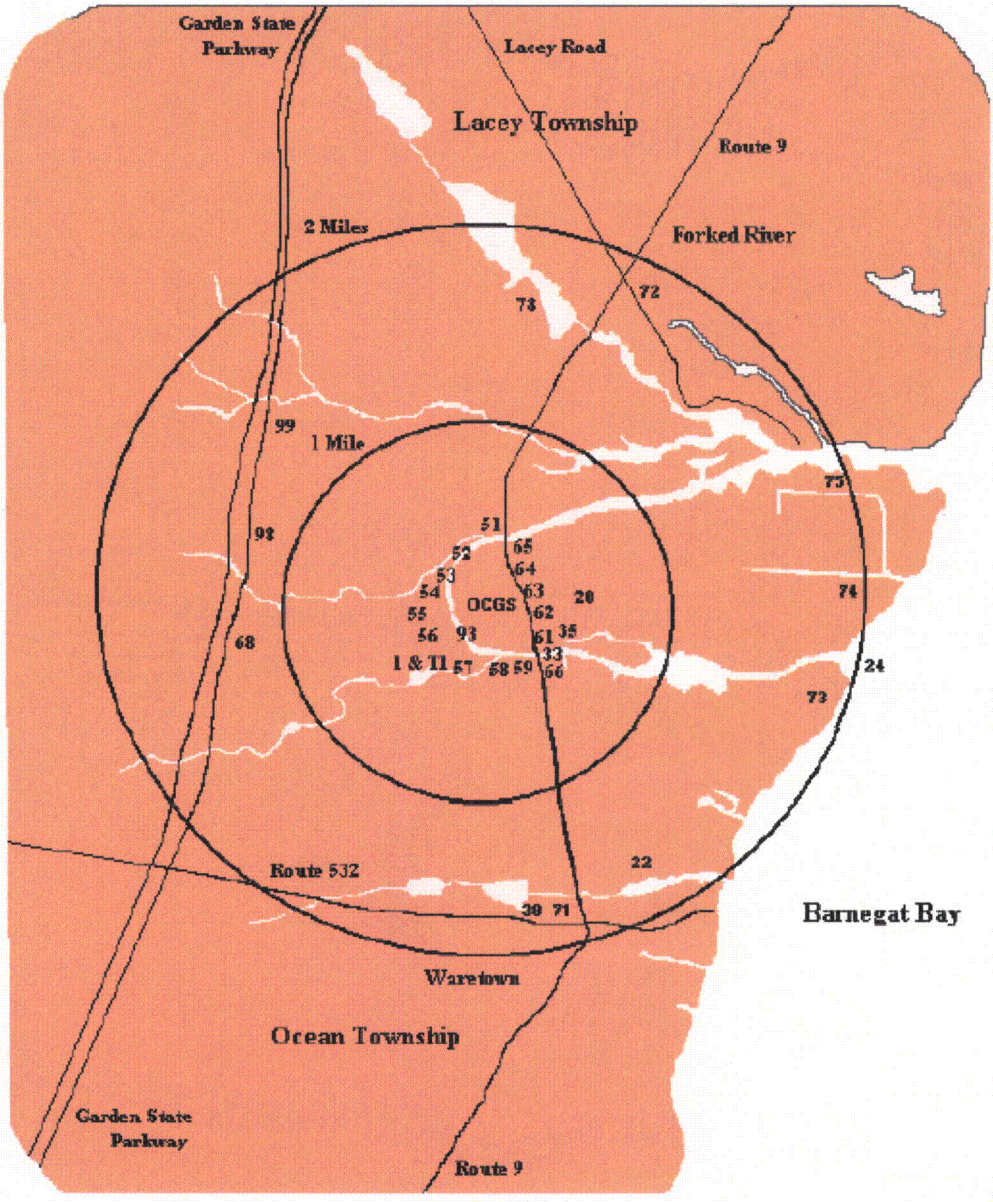
TABLE B-3: Radiological Environmental Monitoring Program – Summary of Sample Collection and Analytical Methods, Oyster Creek Generating Station, 2006

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

TABLE B-3: Radiological Environmental Monitoring Program – Summary of Sample Collection and Analytical Methods, Oyster Creek Generating Station, 2006

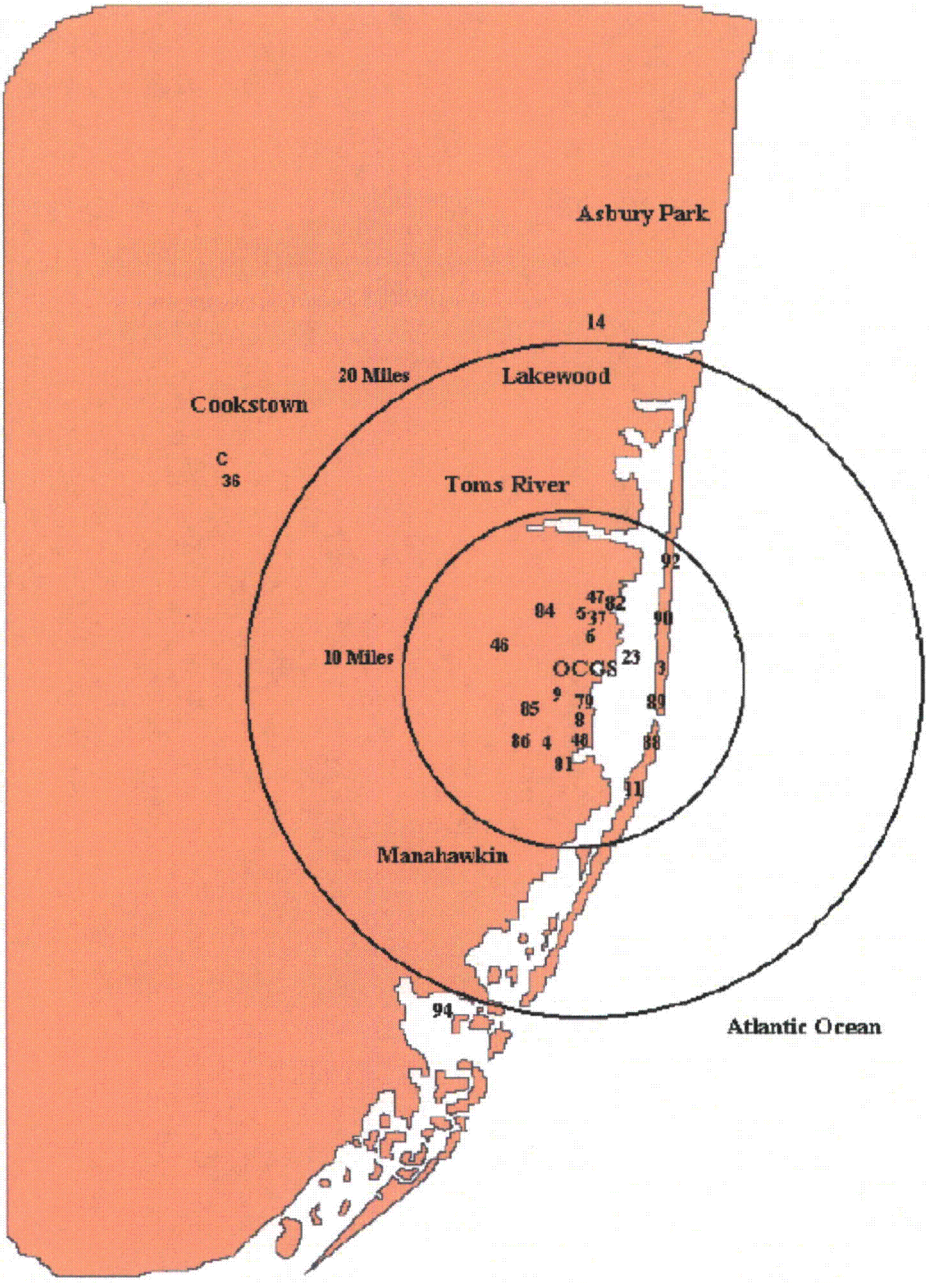
Sample Medium	Analysis	Sampling Method	Collection Procedure Number	Sample Size	Analytical Procedure Number
Air Particulates	Gross Beta	One-week composite of continuous air sampling through glass fiber filter paper	ER-OCGS-05, Collection of air iodine and air particulate samples for radiological analysis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

Figure B-1



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

Figure B-2



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

APPENDIX C

DATA TABLES
PRIMARY LABORATORY

TABLE C-I.1 CONCENTRATIONS OF TRITIUM IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2006

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	23	24	33	94
JAN			< 148	< 135
FEB			< 171	< 168
MAR			< 189	< 179
APR	< 168	< 169	190 ± 97	< 130
MAY			< 156	< 142
JUN			< 150	< 161
JUL			181 ± 108	< 168
AUG			< 164	< 164
SEP			< 181	< 176
OCT	< 129	135 ± 82	< 130	< 171
NOV			< 197	< 197
DEC			< 189	228 ± 122
MEAN*	149 ± 55	152 ± 48	171 ± 42	168 ± 54

* 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, 2006

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
23	JAN												
	FEB												
	MAR												
	APR	< 4	< 5	< 10	< 5	< 10	< 5	< 8	< 10	< 5	< 5	< 25	< 8
	MAY												
	JUN												
	JUL												
	AUG												
	SEP												
	OCT	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 10	< 1	< 2	< 16	< 5
	NOV												
	DEC												
	MEAN*	3 ± 4	3 ± 4	7 ± 8	3 ± 5	7 ± 9	3 ± 4	5 ± 6	10 ± 1	3 ± 4	3 ± 5	21 ± 12	6 ± 4
24	JAN												
	FEB												
	MAR												
	APR	< 4	< 4	< 10	< 5	< 10	< 5	< 8	< 11	< 5	< 5	< 28	< 9
	MAY												
	JUN												
	JUL												
	AUG												
	SEP												
	OCT	< 2	< 2	< 6	< 2	< 5	< 3	< 4	< 12	< 2	< 2	< 21	< 7
	NOV												
	DEC												
	MEAN*	3 ± 3	3 ± 3	8 ± 7	3 ± 3.3	7 ± 7.2	4 ± 3	6 ± 6	11 ± 1	3 ± 4	3 ± 3	25 ± 9	8 ± 2

* 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, 2006

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
33	JAN	< 3	< 3	< 6	< 2	< 5	< 3	< 5	< 4	< 2	< 3	< 11	< 5
	FEB	< 6	< 7	< 14	< 7	< 17	< 8	< 12	< 11	< 9	< 8	< 28	< 11
	MAR	< 7	< 7	< 19	< 10	< 21	< 8	< 11	< 13	< 11	< 8	< 33	< 14
	APR	< 5	< 6	< 13	< 5	< 14	< 6	< 9	< 9	< 6	< 5	< 25	< 9
	MAY	< 4	< 4	< 8	< 4	< 8	< 4	< 7	< 6	< 4	< 4	< 18	< 5
	JUN	< 3	< 3	< 7	< 2	< 5	< 3	< 5	< 15	< 2	< 3	< 27	< 8
	JUL	< 6	< 6	< 14	< 6	< 15	< 6	< 10	< 10	< 7	< 7	< 33	< 10
	AUG	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 15	< 1	< 1	< 17	< 5
	SEP	< 1	< 2	< 3	< 1	< 3	< 2	< 3	< 6	< 1	< 1	< 11	< 4
	OCT	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 10	< 2	< 2	< 19	< 6
	NOV	< 1	< 1	< 4	< 1	< 3	< 2	< 3	< 14	< 1	< 1	< 20	< 5
	DEC	< 4	< 4	< 11	< 6	< 10	< 5	< 8	< 12	< 4	< 5	< 32	< 12
	MEAN*	4 ± 4	4 ± 4	9 ± 10	4 ± 6	9 ± 13	4 ± 5	7 ± 7	10 ± 7	4 ± 7	4 ± 5	23 ± 16	8 ± 7
94	JAN	< 6	< 6	< 12	< 6	< 14	< 6	< 10	< 9	< 6	< 7	< 25	< 8
	FEB	< 9	< 7	< 19	< 8	< 21	< 8	< 13	< 13	< 11	< 8	< 41	< 11
	MAR	< 7	< 7	< 14	< 7	< 20	< 8	< 12	< 13	< 9	< 8	< 35	< 11
	APR	< 5	< 6	< 14	< 5	< 13	< 6	< 12	< 11	< 6	< 6	< 30	< 9
	MAY	< 3	< 3	< 6	< 3	< 6	< 3	< 5	< 5	< 3	< 3	< 13	< 4
	JUN	< 5	< 5	< 12	< 5	< 10	< 5	< 9	< 7	< 5	< 5	< 46	< 14
	JUL	< 5	< 6	< 12	< 5	< 15	< 6	< 11	< 9	< 7	< 5	< 27	< 10
	AUG	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 7	< 1	< 1	< 20	< 6
	SEP	< 2	< 2	< 5	< 2	< 4	< 2	< 3	< 8	< 2	< 2	< 15	< 5
	OCT	< 2	< 2	< 4	< 2	< 4	< 2	< 3	< 9	< 1	< 2	< 17	< 5
	NOV	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 11	< 1	< 1	< 16	< 5
	DEC	< 4	< 5	< 12	< 3	< 9	< 5	< 8	< 13	< 4	< 5	< 31	< 9
	MEAN*	4 ± 5	4 ± 5	9 ± 11	4 ± 5	10 ± 13	4 ± 5	7 ± 8	10 ± 5	5 ± 7	4 ± 5	26 ± 21	8 ± 6

* 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, 2006

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	1	37	38
JAN - MAR	< 169	< 167	< 165
APR - JUN	< 185	< 185	< 192
JUL - SEP	< 169	< 169	< 169
OCT - DEC	< 182	< 186	< 177
MEAN*	176 ± 17	180 ± 19	176 ± 24

* 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, 2006

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
1	JAN	< 2	< 2	< 6	< 3	< 5	< 3	< 4	< 14	< 2	< 2	< 23	< 8
	FEB												
	MAR												
	APR	< 5	< 5	< 10	< 5	< 10	< 6	< 9	< 15	< 5	< 5	< 33	< 10
	MAY												
	JUN												
	JUL	< 1	< 2	< 4	< 2	< 3	< 2	< 3	< 7	< 1	< 2	< 13	< 5
	AUG												
	SEP												
	OCT	< 2	< 2	< 4	< 2	< 4	< 2	< 4	< 6	< 2	< 2	< 14	< 4
	NOV												
	DEC												
	MEAN*	3 ± 3	3 ± 3	6 ± 6	3 ± 3	5 ± 6	3 ± 4	5 ± 6	10 ± 9	3 ± 3	3 ± 3	21 ± 19	7 ± 6
37	JAN	< 6	< 7	< 13	< 6	< 15	< 6	< 9	< 10	< 7	< 5	< 28	< 10
	FEB												
	MAR												
	APR	< 5	< 5	< 10	< 5	< 10	< 6	< 9	< 14	< 5	< 5	< 31	< 11
	MAY												
	JUN												
	JUL	< 2	< 2	< 4	< 1	< 3	< 2	< 3	< 7	< 1	< 2	< 14	< 5
	AUG												
	SEP												
	OCT	< 2	< 2	< 4	< 2	< 4	< 2	< 3	< 4	< 2	< 2	< 10	< 3
	NOV												
	DEC												
	MEAN*	4 ± 4	4 ± 5	8 ± 9	4 ± 5	8 ± 11	4 ± 4	6 ± 7	9 ± 9	4 ± 5	3 ± 4	21 ± 20	7 ± 8

TABLE C-II.2 CONCENTRATIONS OF GAMMA EMITTERS IN WELL WATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2006

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

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

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

TABLE C-III.1 **CONCENTRATIONS OF GAMMA EMITTERS IN PREDATOR AND BOTTOM FEEDER (FISH) SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2006**

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137
	PREDATOR								
93	01/27 - 01/27/06	3540 ± 753	< 52	< 49	< 117	< 50	< 153	< 64	< 60
93	01/27 - 01/27/06	4190 ± 833	< 45	< 44	< 104	< 53	< 119	< 57	< 56
93	01/27 - 01/27/06	3850 ± 710	< 54	< 52	< 102	< 57	< 170	< 71	< 61
93	01/30 - 01/30/06	3610 ± 781	< 53	< 55	< 114	< 58	< 136	< 65	< 56
93	04/13 - 04/19/06	4220 ± 746	< 48	< 53	< 103	< 48	< 131	< 53	< 51
33	04/18 - 04/19/06	4180 ± 904	< 78	< 75	< 145	< 86	< 158	< 80	< 80
33	04/19 - 04/19/06	4820 ± 825	< 69	< 65	< 129	< 68	< 131	< 70	< 77
33	04/19 - 04/19/06	4630 ± 935	< 68	< 60	< 152	< 74	< 177	< 73	< 77
93	05/17 - 05/17/06	3770 ± 832	< 74	< 91	< 201	< 71	< 195	< 82	< 72
93	09/25 - 09/25/06	3610 ± 309	< 17	< 21	< 52	< 16	< 40	< 15	< 17
93	09/25 - 09/25/06	5120 ± 268	< 14	< 18	< 38	< 13	< 32	< 13	< 14
93	10/03 - 10/03/06	3680 ± 246	< 11	< 12	< 28	< 11	< 24	< 9	< 11
33	10/10 - 10/10/06	3360 ± 813	< 53	< 49	< 89	< 55	< 101	< 41	< 50
33	10/10 - 10/11/06	3790 ± 1040	< 69	< 58	< 161	< 59	< 98	< 48	< 54
	MEAN*	4026 ± 1049	50 ± 44	50 ± 44	110 ± 96	51 ± 46	119 ± 109	53 ± 49	53 ± 46
	BOTTOM FEEDER	4040 ± 733	< 62	< 55	< 136	< 50	< 147	< 63	< 59
93	04/13 - 04/18/06								
94	PREDATOR								
	04/19 - 04/19/06	3990 ± 700	< 52	< 61	< 140	< 48	< 102	< 59	< 58
	10/11 - 10/11/06	3850 ± 1350	< 82	< 97	< 195	< 78	< 157	< 86	< 84
	10/11 - 10/11/06	3920 ± 915	< 54	< 63	< 151	< 105	< 168	< 65	< 67
	10/11 - 10/11/06	2360 ± 860	< 55	< 62	< 87	< 46	< 132	< 59	< 58
	10/11 - 10/11/06	3310 ± 923	< 59	< 71	< 140	< 77	< 127	< 62	< 75
	MEAN*	3486 ± 1369	60 ± 25	71 ± 31	143 ± 77	71 ± 49	137 ± 52	66 ± 23	68 ± 22
94	BOTTOM FEEDER								
	04/19 - 04/19/06	3380 ± 733	< 56	< 57	< 119	< 52	< 123	< 56	< 58
	04/19 - 04/19/06	3840 ± 887	< 74	< 71	< 156	< 75	< 175	< 72	< 78
	MEAN*	3610 ± 651	65 ± 25	64 ± 21	138 ± 52	63 ± 33	149 ± 74	64 ± 22	68 ± 29

* 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, 2006**

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137
23	CLAMS								
	04/18 - 04/18/06	1290 ± 637	< 58	< 52	< 129	< 66	< 152	< 79	< 65
	10/09 - 10/09/06	1150 ± 550	< 34	< 46	< 80	< 32	< 69	< 28	< 29
	MEAN*	1220 ± 198	46 ± 34	49 ± 9	104 ± 70	49 ± 49	110 ± 118	53 ± 72	47 ± 52
24	CLAMS								
	04/18 - 04/18/06	1400 ± 664	< 62	< 61	< 148	< 59	< 165	< 67	< 66
	10/09 - 10/09/06	2160 ± 736	< 41	< 53	< 121	< 21	< 68	< 43	< 44
	MEAN*	1780 ± 1075	51 ± 30	57 ± 11	135 ± 38	40 ± 54	117 ± 137	55 ± 34	55 ± 32
94	CLAMS								
	04/19 - 04/19/06	1840 ± 649	< 61	< 67	< 132	< 69	< 136	< 70	< 66
	10/11 - 10/11/06	1350 ± 693	< 37	< 78	< 205	< 46	< 105	< 47	< 46
	MEAN*	1595 ± 693	49 ± 34	73 ± 15	169 ± 103	58 ± 33	121 ± 44	59 ± 32	56 ± 28
93	CRABS								
	10/19 - 10/19/06	1770 ± 576	< 42	< 60	< 179	< 42	< 86	< 31	< 34

* 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, 2006

RESULTS IN UNITS OF PCI/KG DRY ± 2 SIGMA

STC	COLLECTION PERIOD	Be-7	K-40	Mn-54	Co-58	Co-60	Cs-134	Cs-137
23								
	04/18/06	< 941	6510 ± 1380	< 73	< 117	< 93	< 132	< 115
	10/09/06	< 1270	4880 ± 1280	< 128	< 130	< 67	< 91	< 98
	MEAN*	1106 ± 465	5695 ± 2305	101 ± 77	124 ± 18	80 ± 36	112 ± 58	106 ± 25
24								
	04/17/06	< 1060	6770 ± 1610	< 136	< 116	< 144	< 142	< 141
	10/09/06	< 1710	7650 ± 1970	< 136	< 183	< 153	< 146	< 138
	MEAN*	1385 ± 919	7210 ± 1245	136 ± 0	150 ± 95	149 ± 13	144 ± 6	140 ± 4
33								
	04/17/06	< 586	794 ± 509	< 49	< 71	< 69	< 90	< 65
	10/09/06	< 647	1460 ± 682	< 59	< 23	< 61	< 49	< 54
	MEAN*	617 ± 86	1127 ± 942	54 ± 15	47 ± 68	65 ± 11	70 ± 58	59 ± 14
94								
	04/19/06	< 801	13000 ± 1720	< 97	< 101	< 92	< 137	< 94
	10/11/06	< 957	16500 ± 2180	< 92	< 96	< 78	< 71	< 79
	MEAN*	879 ± 221	14750 ± 4950	95 ± 7	98 ± 8	85 ± 20	104 ± 93	87 ± 21

* 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, 2006

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

	GROUP I		GROUP II			GROUP III	
WEEK	20	66	71	72	73	3	C
1	13 ± 5	16 ± 5	17 ± 5	15 ± 5	19 ± 5	16 ± 5	13 ± 5
2	19 ± 5	18 ± 5	19 ± 5	15 ± 5	16 ± 5	14 ± 5	19 ± 5
3	11 ± 5	11 ± 5	8 ± 5	13 ± 5	13 ± 5	< 7	8 ± 5
4	11 ± 5	11 ± 5	8 ± 5	10 ± 5	12 ± 5	7 ± 5	12 ± 5
5	14 ± 5	15 ± 5	13 ± 5	15 ± 5	12 ± 5	13 ± 5	12 ± 5
6	8 ± 5	12 ± 5	13 ± 5	11 ± 5	13 ± 5	11 ± 5	11 ± 5
7	13 ± 5	8 ± 5	14 ± 4	17 ± 9	14 ± 5	11 ± 5	14 ± 5
8	23 ± 5	14 ± 5	< 7	23 ± 6	17 ± 5	17 ± 5	22 ± 5
9	22 ± 5	23 ± 5	20 ± 6	20 ± 5	157 ± 66	(1) 22 ± 6	23 ± 5
10	20 ± 6	17 ± 5	15 ± 5	17 ± 5	13 ± 5	17 ± 5	16 ± 5
11	17 ± 5	17 ± 5	18 ± 5	19 ± 5	18 ± 7	13 ± 5	15 ± 5
12	16 ± 5	15 ± 4	16 ± 5	16 ± 5	17 ± 4	17 ± 5	21 ± 5
13	10 ± 5	9 ± 4	9 ± 5	< 6	< 7	8 ± 4	10 ± 5
14	16 ± 5	18 ± 5	28 ± 7	17 ± 5	17 ± 5	14 ± 5	20 ± 5
15	7 ± 5	12 ± 5	< 7	9 ± 5	8 ± 5	9 ± 5	10 ± 5
16	16 ± 5	11 ± 4	12 ± 4	11 ± 4	11 ± 4	7 ± 4	11 ± 4
17	< 8	< 7	< 8	< 8	8 ± 5	< 8	10 ± 5
18	8 ± 4	11 ± 4	11 ± 4	9 ± 4	11 ± 4	< 5	10 ± 4
19	11 ± 4	14 ± 4	12 ± 5	15 ± 5	12 ± 4	13 ± 5	17 ± 5
20	8 ± 4	10 ± 4	7 ± 4	< 6	< 22	10 ± 4	8 ± 4
21	11 ± 5	9 ± 5	< 156	(1) 13 ± 5	14 ± 8	11 ± 5	9 ± 5
22	19 ± 5	17 ± 4	19 ± 5	16 ± 4	16 ± 4	20 ± 5	16 ± 4
23	< 7	13 ± 5	9 ± 6	11 ± 5	10 ± 6	12 ± 5	14 ± 5
24	8 ± 4	7 ± 4	< 6	7 ± 4	7 ± 4	7 ± 4	8 ± 4
25	12 ± 6	< 8	15 ± 6	12 ± 6	12 ± 5	13 ± 6	15 ± 6
26	9 ± 4	11 ± 4	11 ± 4	15 ± 5	9 ± 4	10 ± 4	10 ± 4
27	22 ± 5	22 ± 5	24 ± 6	23 ± 6	28 ± 5		(1) 23 ± 5
28	9 ± 5	12 ± 5	12 ± 5	12 ± 5	14 ± 5	14 ± 3	15 ± 5
29	13 ± 6	17 ± 6	15 ± 6	18 ± 6	15 ± 5	15 ± 6	16 ± 6
30	15 ± 5	10 ± 4	16 ± 5	18 ± 5	15 ± 4	14 ± 4	17 ± 5
31	29 ± 6	26 ± 5	22 ± 5	30 ± 6	28 ± 6	26 ± 6	25 ± 6
32	18 ± 5	24 ± 5	19 ± 5	21 ± 5	17 ± 5	18 ± 5	22 ± 5
33	10 ± 6	16 ± 6	9 ± 6	8 ± 6	16 ± 6	15 ± 6	14 ± 6
34	18 ± 4	16 ± 4	19 ± 4	20 ± 4	19 ± 4	18 ± 4	17 ± 4
35	18 ± 5	21 ± 5	20 ± 5	13 ± 5	18 ± 5	14 ± 5	18 ± 5
36	8 ± 5	< 6	< 7	< 7	< 6	9 ± 5	9 ± 5
37	20 ± 5	12 ± 5	14 ± 5	15 ± 5	19 ± 5	17 ± 5	15 ± 5
38	11 ± 5	12 ± 5	7 ± 5	14 ± 5	16 ± 5	13 ± 5	14 ± 5
39	16 ± 6	18 ± 6	17 ± 6	15 ± 6	15 ± 5	16 ± 6	15 ± 6
40	22 ± 5	17 ± 4	19 ± 4	19 ± 5	18 ± 4	19 ± 4	18 ± 4
41	19 ± 5	8 ± 4	16 ± 5	13 ± 5	11 ± 5	14 ± 5	15 ± 5
42	14 ± 5	16 ± 5	18 ± 5	21 ± 5	16 ± 5	17 ± 5	17 ± 5
43	17 ± 6	17 ± 6	17 ± 6	15 ± 6	18 ± 6	18 ± 6	9 ± 5
44	13 ± 4	16 ± 4	14 ± 4	11 ± 4	14 ± 4	12 ± 4	14 ± 4
45	24 ± 5	20 ± 5	16 ± 5	20 ± 5	24 ± 5	22 ± 5	18 ± 5
46	15 ± 5	11 ± 5	14 ± 5	14 ± 5	12 ± 5	11 ± 5	16 ± 5
47	12 ± 6	11 ± 5	10 ± 6	13 ± 6	11 ± 5	8 ± 5	10 ± 5
48	19 ± 5	17 ± 4	18 ± 5	20 ± 5	19 ± 4	12 ± 4	18 ± 5
49	13 ± 6	18 ± 6	11 ± 6	15 ± 6	14 ± 5	16 ± 6	17 ± 6
50	30 ± 6	28 ± 5	29 ± 6	26 ± 5	26 ± 5	28 ± 5	29 ± 6
51	26 ± 6	25 ± 5	31 ± 6	27 ± 6	24 ± 5	19 ± 5	23 ± 5
52	18 ± 4	16 ± 4	14 ± 4	16 ± 4	18 ± 4	17 ± 4	17 ± 4
53	10 ± 5	11 ± 5	13 ± 5	13 ± 5	13 ± 5	11 ± 5	15 ± 5
MEAN*	15 ± 11	15 ± 10	17 ± 40	15 ± 10	18 ± 40	14 ± 10	15 ± 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-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, 2006

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*
01/03/06 - 02/01/06	11	19	14 ± 7	01/03/06 - 02/01/06	8	19	13 ± 6	01/03/06 - 02/01/06	< 7	19	12 ± 8
02/01/06 - 03/01/06	8	23	16 ± 13	02/01/06 - 03/01/06	< 7	157	27 ± 82	02/01/06 - 03/01/06	11	23	16 ± 11
03/01/06 - 03/28/06	9	20	15 ± 7	03/01/06 - 03/28/06	< 6	19	14 ± 9	03/01/06 - 03/28/06	8	21	15 ± 8
03/28/06 - 05/03/06	< 7	18	12 ± 8	03/28/06 - 05/03/06	< 7	28	12 ± 11	03/28/06 - 05/03/06	< 5	20	10 ± 8
05/03/06 - 05/31/06	8	19	12 ± 8	05/03/06 - 05/31/06	< 6	156	26 ± 83	05/03/06 - 05/31/06	8	20	13 ± 9
05/31/06 - 06/28/06	< 7	13	9 ± 5	05/31/06 - 06/28/06	< 6	15	10 ± 6	05/31/06 - 06/28/06	7	15	11 ± 6
06/28/06 - 08/02/06	9	29	18 ± 14	06/28/06 - 08/02/06	12	30	19 ± 12	06/28/06 - 08/02/06	14	26	18 ± 10
08/02/06 - 08/30/06	10	24	17 ± 9	08/02/06 - 08/30/06	8	21	17 ± 8	08/02/06 - 08/30/06	14	22	17 ± 5
08/30/06 - 09/26/06	< 6	20	13 ± 10	08/30/06 - 09/26/06	< 6	19	13 ± 9	08/30/06 - 09/26/06	9	17	13 ± 6
09/26/06 - 11/01/06	8	22	16 ± 7	09/26/06 - 11/01/06	11	21	16 ± 6	09/26/06 - 11/01/06	9	19	15 ± 6
11/01/06 - 11/29/06	11	24	16 ± 9	11/01/06 - 11/29/06	10	24	16 ± 8	11/01/06 - 11/29/06	8	22	14 ± 10
11/29/06 - 01/03/07	10	30	20 ± 14	11/29/06 - 01/03/07	11	31	19 ± 14	11/29/06 - 01/03/07	11	29	19 ± 11
01/03/06 - 01/03/07	< 6	30	15 ± 6	01/03/06 - 01/03/07	< 6	157	17 ± 11	01/03/06 - 01/03/07	< 5	29	15 ± 6

* 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, 2006

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

STC	COLLECTION PERIOD		Sr-89		Sr-90
3	12/28/05 -	03/28/06	< 25	(1)	< 3.8
	03/28/06 -	06/28/06	< 6.6		< 0.9
	06/28/06 -	09/26/06	< 5.4		< 1.3
	09/26/06 -	01/03/07	< 3.2		< 2.7
		MEAN	10.0 ± 20.1		2.2 ± 2.7
20	12/28/05 -	03/28/06	< 4.8		< 2.7
	03/28/06 -	06/28/06	< 6.1		< 1.0
	06/28/06 -	09/26/06	< 6.9		< 1.8
	09/26/06 -	01/03/07	< 3.5		< 3.4
		MEAN	5.3 ± 2.9		2.2 ± 2.1
66	12/28/05 -	03/28/06	< 8.0		< 2.4
	03/28/06 -	06/28/06	< 6.5		< 0.9
	06/28/06 -	09/26/06	< 5.8		< 1.5
	09/26/06 -	01/03/07	< 3.1		< 2.6
		MEAN	5.8 ± 4.1		1.8 ± 1.5
71	12/28/05 -	03/28/06	< 7.6		< 3.4
	03/28/06 -	06/28/06	< 7.4		< 1.2
	06/28/06 -	09/26/06	< 4.5		< 1.0
	09/26/06 -	01/03/07	< 3.7		< 3.6
		MEAN	5.8 ± 4.0		2.3 ± 2.8
72	12/28/05 -	03/28/06	< 6.8		< 2.7
	03/28/06 -	06/28/06	< 6.7		< 1.0
	06/28/06 -	09/26/06	< 4.4		< 0.8
	09/26/06 -	01/03/07	< 3.6		< 3.8
		MEAN	5.4 ± 3.2		2.1 ± 2.9
73	12/28/05 -	03/28/06	< 4.7		< 2.5
	03/28/06 -	06/28/06	< 7.5		< 1.7
	06/28/06 -	09/26/06	< 4.8		< 1.0
	09/26/06 -	01/03/07	< 4.1		< 3.6
		MEAN	5.3 ± 3.0		2.2 ± 2.2
C	12/28/05 -	03/28/06	< 5.9		< 3.2
	03/28/06 -	06/28/06	< 8.2		< 1.5
	06/28/06 -	09/26/06	< 6.1		< 1.2
	09/26/06 -	01/03/07	< 3.5		< 3.3
		MEAN	5.9 ± 3.8		2.3 ± 2.1

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-V.4 CONCENTRATION OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2006

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

STC	COLLECTION PERIOD	Be-7	Mn-54	Co-58	Co-60	Cs-134	Cs-137
3	12/28 - 03/28/06	< 99	< 6.3	< 8.8	< 3.7	< 4.2	< 3.4
	03/28 - 06/28/06	57 ± 26	< 2.5	< 3.8	< 4.0	< 2.9	< 1.6
	06/28 - 09/26/06	74 ± 36	< 1.6	< 3.5	< 1.6	< 1.8	< 1.9
	09/26 - 01/03/07	49 ± 15	< 1.9	< 1.7	< 1.6	< 1.3	< 1.1
	MEAN*	70 ± 44	3.1 ± 4.3	4.5 ± 6.1	2.7 ± 2.6	2.5 ± 2.6	2.0 ± 1.9
20	12/28 - 03/28/06	< 76	< 4.0	< 8.4	< 5.6	< 4.3	< 4.7
	03/28 - 06/28/06	64 ± 35	< 3.4	< 4.9	< 3.4	< 4.4	< 3.1
	06/28 - 09/26/06	66 ± 25	< 2.3	< 3.1	< 2.0	< 1.7	< 2.5
	09/26 - 01/03/07	46 ± 18	< 1.3	< 2.1	< 1.8	< 1.4	< 1.4
	MEAN*	63 ± 25	2.8 ± 2.4	4.6 ± 5.5	3.2 ± 3.5	3.0 ± 3.3	2.9 ± 2.8
66	12/28 - 03/28/06	< 73	< 4.7	< 7.0	< 6.1	< 3.6	< 4.3
	03/28 - 06/28/06	< 44	< 3.3	< 4.2	< 3.6	< 2.3	< 2.7
	06/28 - 09/26/06	66 ± 27	< 1.7	< 2.6	< 1.9	< 1.6	< 2.2
	09/26 - 01/03/07	38 ± 17	< 2.6	< 2.5	< 2.5	< 2.4	< 2.9
	MEAN*	55 ± 34	3.1 ± 2.5	4.1 ± 4.2	3.5 ± 3.7	2.5 ± 1.7	3.0 ± 1.9
71	12/28 - 03/28/06	< 112	< 4.6	< 8.3	< 5.0	< 5.9	< 4.7
	03/28 - 06/28/06	64 ± 38	< 3.1	< 4.2	< 3.0	< 2.4	< 1.9
	06/28 - 09/26/06	62 ± 38	< 2.1	< 2.3	< 2.7	< 2.0	< 2.1
	09/26 - 01/03/07	56 ± 17	< 2.1	< 2.6	< 2.4	< 2.4	< 2.1
	MEAN*	73 ± 52	3.0 ± 2.4	4.4 ± 5.5	3.3 ± 2.4	3.2 ± 3.7	2.7 ± 2.7
72	12/28 - 03/28/06	< 104	< 5.7	< 10	< 5.2	< 4.3	< 5.5
	03/28 - 06/28/06	< 75	< 3.3	< 6.2	< 3.1	< 3.2	< 3.0
	06/28 - 09/26/06	40 ± 28	< 3.2	< 4.0	< 3.2	< 3.3	< 2.7
	09/26 - 01/03/07	51 ± 31	< 3.3	< 3.9	< 3.3	< 3.2	< 2.4
	MEAN*	67 ± 57	3.9 ± 2.4	6.1 ± 6.1	3.7 ± 2.0	3.5 ± 1.1	3.4 ± 2.8
73	12/28 - 03/28/06	< 101	< 6.3	< 9.1	< 2.8	< 4.9	< 5.1
	03/28 - 06/28/06	86 ± 33	< 3.3	< 3.7	< 3.2	< 2.7	< 3.2
	06/28 - 09/26/06	69 ± 27	< 2.4	< 2.6	< 2.6	< 1.9	< 2.0
	09/26 - 01/03/07	47 ± 18	< 2.2	< 2.5	< 2.2	< 2.0	< 1.7
	MEAN*	76 ± 47	3.6 ± 3.8	4.5 ± 6.2	2.7 ± 0.9	2.9 ± 2.8	3.0 ± 3.1
C	12/28 - 03/28/06	99 ± 49	< 4.2	< 6.3	< 5.7	< 4.9	< 4.3
	03/28 - 06/28/06	62 ± 33	< 2.5	< 5.0	< 3.7	< 3.1	< 2.3
	06/28 - 09/26/06	82 ± 30	< 2.3	< 2.4	< 1.1	< 1.8	< 2.2
	09/26 - 01/03/07	61 ± 20	< 3.0	< 3.4	< 2.5	< 2.6	< 2.1
	MEAN*	76 ± 36	3.0 ± 1.7	4.3 ± 3.4	3.3 ± 3.8	3.1 ± 2.6	2.7 ± 2.1

* 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, 2006

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

	GROUP I		GROUP II			GROUP III	
WEEK	20	66	71	72	73	3	C
1	< 21	< 21	< 21	< 24	< 21	< 24	< 23
2	< 21	< 25	< 24	< 22	< 25	< 22	< 21
3	< 32	< 33	< 32	< 44	< 33	< 43	< 42
4	< 48	< 49	< 48	< 39	< 33	< 39	< 38
5	< 31	< 38	< 37	< 32	< 38	< 32	< 31
6	< 24	< 24	< 24	< 32	< 24	< 32	< 31
7	< 28	< 29	< 54	< 58	< 29	< 30	< 30
8	< 31	< 32	< 32	< 24	< 32	< 50	< 23
9	< 28	< 29	< 25	< 29	< 132 (1)	< 38	< 32
10	< 50	< 51	< 51	< 51	< 52	< 50	< 49
11	< 34	< 32	< 34	< 24	< 48	< 23	< 23
12	< 31	< 29	< 31	< 28	< 29	< 27	< 28
13	< 55	< 52	< 57	< 45	< 59	< 43	< 29
14	< 11	< 11	< 16	< 13	< 11	< 13	< 13
15	< 41	< 39	< 41	< 46	< 38	< 43	< 43
16	< 48	< 45	< 48	< 42	< 45	< 40	< 40
17	< 45	< 43	< 46	< 37	< 42	< 36	< 37
18	< 35	< 33	< 35	< 35	< 33	< 34	< 34
19	< 70	< 66	< 67	< 68	< 65	< 67	< 68
20	< 26	< 25	< 27	< 57	< 70	< 54	< 56
21	< 41	< 39	< 888 (1)	< 52	< 62	< 66	< 67
22	< 61	< 57	< 61	< 70	< 57	< 67	< 68
23	< 54	< 51	< 60	< 69	< 69	< 66	< 67
24	< 33	< 47	< 50	< 34	< 47	< 33	< 33
25	< 61	< 58	< 62	< 23	< 57	< 22	< 22
26	< 56	< 52	< 55	< 66	< 52	< 65	< 67
27	< 46	< 44	< 47	< 35	< 43	(1)	< 33
28	< 15	< 14	< 15	< 10	< 14	< 5	< 10
29	< 42	< 40	< 42	< 60	< 39	< 57	< 58
30	< 47	< 36	< 48	< 48	< 44	< 36	< 40
31	< 54	< 51	< 55	< 34	< 51	< 22	< 34
32	< 45	< 43	< 36	< 44	< 43	< 42	< 42
33	< 23	< 22	< 24	< 43	< 22	< 41	< 41
34	< 22	< 27	< 29	< 36	< 26	< 34	< 35
35	< 49	< 46	< 49	< 11	< 46	< 10	< 10
36	< 60	< 57	< 61	< 62	< 57	< 59	< 60
37	< 30	< 28	< 30	< 65	< 28	< 62	< 64
38	< 66	< 62	< 67	< 66	< 62	< 62	< 63
39	< 32	< 43	< 46	< 46	< 42	< 31	< 31
40	< 31	< 29	< 31	< 32	< 29	< 31	< 32
41	< 36	< 34	< 36	< 31	< 34	< 36	< 38
42	< 61	< 58	< 62	< 57	< 38	< 60	< 55
43	< 67	< 26	< 27	< 68	< 25	< 65	< 66
44	< 46	< 44	< 47	< 54	< 43	< 51	< 52
45	< 47	< 45	< 48	< 41	< 45	< 31	< 40
46	< 68	< 64	< 69	< 61	< 64	< 60	< 61
47	< 61	< 58	< 62	< 24	< 57	< 23	< 23
48	< 41	< 39	< 42	< 40	< 39	< 38	< 31
49	< 63	< 64	< 68	< 64	< 63	< 61	< 62
50	< 56	< 53	< 57	< 59	< 53	< 57	< 57
51	< 34	< 20	< 35	< 35	< 32	< 36	< 36
52	< 40	< 38	< 40	< 40	< 38	< 38	< 39
53	< 22	< 20	< 22	< 23	< 20	< 22	< 22
MEAN*	42 ± 30	40 ± 28	59 ± 234	42 ± 33	43 ± 38	41 ± 33	41 ± 33

(1) SEE THE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-VII.1 CONCENTRATIONS OF STRONTIUM AND GAMMA EMITTERS IN VEGETATION SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2006

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	Sr-89	Sr-90	K-40	I-131	Cs-134	Cs-137	Ba-140	La-140
35 Cabbage	07/19/06	< 13	3 ± 2	2560 ± 154	< 54	< 8	< 8	< 90	< 27
35 Collards	07/19/06	< 14	5 ± 2	2920 ± 158	< 47	< 7	< 7	< 78	< 26
35 Lettuce	07/19/06	< 13	< 2	4260 ± 799	< 44	< 35	< 54	< 701	< 201
35 Collards	09/21/06	< 19	< 5	4480 ± 324	< 19	< 7	< 8	< 49	< 14
	MEAN*	15 ± 5	4 ± 3	3555 ± 1913	41 ± 31	14 ± 28	19 ± 47	229 ± 630	67 ± 179

* 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, 2006**

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	Sr-89	Sr-90	K-40	I-131	Cs-134	Cs-137	Ba-140	La-140
36 Cabbage	07/19/06	< 22	< 3	2020 ± 117	< 28	< 5	< 5	< 50	< 16
36 Collards	07/19/06	< 19	8 ± 3	5010 ± 161	< 35	< 5	< 6	< 60	< 17
36 Kale	07/19/06	< 21	< 2	4780 ± 156	< 42	< 6	< 6	< 73	< 20
36 Cabbage	08/17/06	< 24	7 ± 3	2510 ± 285	< 48	< 13	< 13	< 295	< 76
36 Collards	08/17/06	< 15	30 ± 3	5270 ± 529	< 54	< 21	< 25	< 494	< 136
36 Kale	08/17/06	< 25	124 ± 5	5900 ± 596	< 49	< 23	< 26	< 532	< 182
36 Cabbage	09/21/06	< 12	< 3	1930 ± 161	< 20	< 7	< 7	< 46	< 13

* 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, 2006

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	Sr-89	Sr-90	K-40	I-131	Cs-134	Cs-137	Ba-140	La-140
36 Collards	09/21/06	< 17	< 2	3690 ± 246	< 32	< 11	< 11	< 80	< 22
36 Kale	09/21/06	< 18	< 2	6310 ± 423	< 45	< 16	< 17	< 113	< 32
	MEAN*	19 ± 8	20 ± 80	4158 ± 3353	39 ± 22	12 ± 14	13 ± 16	194 ± 393	57 ± 124

* 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, 2006**

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	Sr-89	Sr-90	K-40	I-131	Cs-134	Cs-137	Ba-140	La-140
66 Cabbage	07/19/06	< 14	2 ± 2	4350 ± 320	< 133	< 27	< 24	< 239	< 77
66 Collards	07/19/06	< 12	2 ± 1	4000 ± 358	< 155	< 30	< 28	< 273	< 82
66 Lettuce	07/19/06	< 16	< 2	8480 ± 1190	< 134	< 55	< 63	< 742	< 258
66 Cabbage	08/16/06	(1)	(1)	4150 ± 664	< 42	< 25	< 26	< 619	< 140
66 Collards	08/16/06	(1)	(1)	3730 ± 532	< 40	< 20	< 28	< 634	< 177
66 Lettuce	08/16/06	(1)	(1)	8470 ± 927	< 54	< 37	< 53	< 1040	< 404
66 Cabbage	09/21/06	< 12	< 3	4570 ± 372	< 26	< 9	< 11	< 67.7	< 22
	MEAN*	13 ± 4	2 ± 1	5393 ± 4244	84 ± 109	29 ± 29	33 ± 36	516 ± 677	166 ± 260

(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-VIII.1 QUARTERLY TLD RESULTS FOR OYSTER CREEK GENERATING STATION, 2006

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	15.0 ± 0.9	14.8 ± 1.0	14.6 ± 1.3	15.1 ± 1.3	15.6 ± 0.7
14	16.7 ± 0.4	16.6 ± 1.1	16.7 ± 1.2	16.5 ± 1.2	17.0 ± 1.3
1	15.9 ± 0.7	16.2 ± 1.1	16.0 ± 2.5	16.0 ± 0.7	15.4 ± 1.0
T1	16.0 ± 1.2	16.5 ± 1.9	16.3 ± 0.8	15.8 ± 0.1	15.2 ± 0.8
3	14.2 ± 0.6	14.7 ± 1.2	14.0 ± 0.7	14.1 ± 0.9	14.1 ± 1.1
4	14.0 ± 1.3	(1)	(1)	13.6 ± 0.7	14.5 ± 0.9
5	20.1 ± 2.6	(1)	(1)	19.2 ± 0.4	21.0 ± 1.3
6	15.2 ± 2.0	16.3 ± 0.6	14.8 ± 1.3	14.4 ± 0.9	(1)
8	15.2 ± 2.5	16.5 ± 0.9	15.6 ± 0.7	13.5 ± 1.2	15.1 ± 1.9
9	13.7 ± 1.2	14.0 ± 1.4	13.1 ± 1.2	14.4 ± 0.3	13.4 ± 1.0
11	13.9 ± 3.7	14.8 ± 0.9	14.7 ± 0.5	11.1 ± 9.8	14.8 ± 0.8
22	14.6 ± 0.7	14.5 ± 1.5	14.7 ± 0.7	14.2 ± 1.0	15.1 ± 1.6
46	14.1 ± 1.3	(1)	(1)	13.6 ± 0.6	14.5 ± 1.5
47	15.4 ± 0.9	(1)	(1)	15.1 ± 0.7	15.7 ± 1.0
48	16.7 ± 2.1	(1)	(1)	17.4 ± 6.2	15.9 ± 0.8
51	16.9 ± 1.6	18.1 ± 2.3	16.3 ± 1.3	16.6 ± 2.3	16.8 ± 1.5
52	18.1 ± 1.0	18.9 ± 1.4	18.0 ± 0.8	17.7 ± 1.6	18.0 ± 0.5
53	17.3 ± 1.3	18.2 ± 1.7	16.6 ± 1.3	17.3 ± 1.7	17.2 ± 0.9
54	13.5 ± 5.7	15.3 ± 1.1	14.3 ± 0.8	9.3 ± 9.1	15.2 ± 1.6
55	21.2 ± 1.6	22.4 ± 1.5	20.6 ± 2.1	20.7 ± 1.2	21.1 ± 1.9
56	19.0 ± 0.6	19.2 ± 3.0	18.6 ± 2.1	19.2 ± 1.3	19.1 ± 0.8
57	14.7 ± 6.1	16.1 ± 0.4	16.2 ± 1.1	10.1 ± 9.2	16.4 ± 1.6
58	15.4 ± 0.8	15.2 ± 0.9	15.6 ± 2.0	15.8 ± 0.8	15.0 ± 1.8
59	16.2 ± 0.9	15.9 ± 0.7	16.2 ± 0.9	15.8 ± 1.8	16.8 ± 1.0
61	14.6 ± 1.2	14.6 ± 0.4	14.3 ± 1.2	14.0 ± 1.1	15.4 ± 0.6
62	15.3 ± 0.6	15.2 ± 2.0	15.2 ± 1.0	15.1 ± 1.3	15.7 ± 1.2
63	14.2 ± 4.8	15.4 ± 0.8	14.6 ± 1.1	10.7 ± 9.0	16.1 ± 0.9
64	15.9 ± 1.7	17.1 ± 1.4	15.4 ± 1.3	15.5 ± 1.1	15.4 ± 0.8
65	15.4 ± 2.0	15.5 ± 2.8	14.4 ± 0.8	15.0 ± 0.7	16.7 ± 1.0
66	14.2 ± 1.4	14.5 ± 1.3	14.3 ± 2.4	13.2 ± 0.8	14.8 ± 1.0
68	13.3 ± 1.6	13.8 ± 0.9	13.0 ± 1.3	12.3 ± 1.7	14.0 ± 2.3
71	15.6 ± 0.8	16.1 ± 1.0	15.2 ± 1.1	15.4 ± 1.8	15.8 ± 1.4
72	15.4 ± 1.9	15.8 ± 1.2	16.0 ± 1.3	13.9 ± 0.2	15.8 ± 0.9
73	13.8 ± 0.8	13.9 ± 1.1	13.9 ± 0.7	13.3 ± 1.8	14.3 ± 2.9
74	14.2 ± 0.9	14.0 ± 0.9	14.7 ± 1.5	13.8 ± 0.4	14.5 ± 1.4
75	15.6 ± 0.9	15.9 ± 1.7	15.1 ± 1.2	(1)	15.8 ± 1.2
78	15.1 ± 0.4	15.4 ± 1.1	15.2 ± 1.6	15.0 ± 1.4	14.9 ± 1.6
79	15.7 ± 0.8	15.6 ± 1.2	15.5 ± 0.7	15.3 ± 1.4	16.2 ± 1.9
81	14.8 ± 0.7	14.3 ± 0.8	15.2 ± 1.4	14.9 ± 1.1	14.7 ± 1.5
82	15.5 ± 0.4	15.3 ± 1.0	15.7 ± 2.1	15.6 ± 1.4	15.3 ± 1.1
84	15.2 ± 1.2	14.9 ± 2.1	14.6 ± 0.8	15.9 ± 0.7	15.5 ± 0.6
85	14.3 ± 0.9	14.2 ± 0.8	14.9 ± 0.9	13.9 ± 0.4	14.0 ± 1.4
86	14.9 ± 1.6	13.9 ± 0.8	15.1 ± 0.3	14.9 ± 0.5	15.8 ± 1.2
88	13.3 ± 1.4	13.0 ± 1.7	13.3 ± 0.6	12.6 ± 1.6	14.2 ± 0.9
89	13.8 ± 1.3	13.9 ± 1.2	14.0 ± 0.9	12.9 ± 1.4	14.4 ± 1.6
90	13.7 ± 0.6	13.7 ± 0.6	13.7 ± 1.6	13.3 ± 0.9	14.0 ± 1.8
92	15.2 ± 1.3	15.7 ± 2.3	15.5 ± 1.2	14.3 ± 1.4	15.2 ± 0.6
98	14.2 ± 1.0	14.6 ± 1.4	14.6 ± 1.2	13.6 ± 0.5	14.0 ± 0.5
99	13.5 ± 1.6	13.3 ± 1.5	14.2 ± 0.8	12.4 ± 2.6	14.1 ± 0.6

(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, 2006**

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

STATION CODE	SITE BOUNDARY ± 2 S. D.	INTERMEDIATE	SPECIAL INTEREST	CONTROL
JAN-MAR	16.7 ± 4.3	14.5 ± 1.7	15.0 ± 2.2	15.7 ± 2.5
APR-JUN	16.0 ± 3.5	14.7 ± 1.5	14.8 ± 1.9	15.7 ± 3.0
JUL-SEP	15.1 ± 6.3	14.7 ± 3.8	14.0 ± 2.3	15.8 ± 1.9
OCT-DEC	16.6 ± 3.3	15.4 ± 3.5	14.7 ± 1.3	16.3 ± 2.0

TABLE C-VIII.3 **SUMMARY OF THE AMBIENT DOSIMETRY PROGRAM FOR OYSTER CREEK GENERATING STATION, 2006**

RESULTS IN UNITS OF MILLI-ROENTGEN/STD. QUARTER

LOCATION	SAMPLES ANALYZED	PERIOD MINIMUM	PERIOD MAXIMUM	PERIOD MEAN ± 2 S.D.
SITE BOUNDARY	64	9	22	16.1 ± 4.6
INTERMEDIATE	51	12	21	14.9 ± 3.0
SPECIAL INTEREST	61	11	17	14.6 ± 2.1
CONTROL	8	15	17	15.9 ± 1.9

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

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

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

CONTROL STATIONS - C, 14

TABLE C-IX.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2006

SURFACE WATER (TRITIUM LIQUID SCINTILLATION)

COLLECTION PERIOD	23	24	33	94
JAN			01/04/06 - 01/04/06	
FEB			02/08/06 - 02/08/06	
MAR			03/01/06 - 03/01/06	
APR	04/18/06	04/17/06	04/04/06 - 04/04/06	
MAY			05/03/06 - 05/03/06	
JUN			06/06/06 - 06/06/06	
JUL			07/05/06 - 07/05/06	
AUG			08/02/06 - 08/02/06	
SEP			09/06/06 - 09/06/06	
OCT	10/09/06	10/09/06	10/09/06 - 10/04/06	
NOV			11/08/06 - 11/08/06	
DEC			12/05/06 - 12/05/06	

SURFACE WATER (GAMMA SPECTROSCOPY)

COLLECTION PERIOD	23	24	33	94
JAN			01/04/06 - 01/04/06	
FEB			02/08/06 - 02/08/06	
MAR			03/01/06 - 03/01/06	
APR	04/18/06	04/17/06	04/04/06 - 04/04/06	
MAY			05/03/06 - 05/03/06	
JUN			06/06/06 - 06/06/06	
JUL			07/05/06 - 07/05/06	
AUG			08/02/06 - 08/02/06	
SEP			09/06/06 - 09/06/06	
OCT	10/09/06	10/09/06	10/09/06 - 10/04/06	
NOV			11/08/06 - 11/08/06	
DEC			12/05/06 - 12/05/06	

WELL WATER (TRITIUM & GAMMA SPECTROSCOPY)

COLLECTION PERIOD	1	37	38
JAN-MAR	01/10/06 - 03/13/06	01/11/06 - 03/28/06	01/11/06 - 03/28/06
APR-JUN	04/26/06 - 06/14/06	04/19/06 - 06/14/06	04/25/06 - 06/14/06
JUL-SEP	07/23/06 - 09/21/06	07/12/06 - 09/20/06	07/18/06 - 09/20/06
OCT-DEC	10/19/06 - 12/14/06	10/18/06 - 12/19/06	10/24/06 - 12/19/06

AIR PARTICULATE (GAMMA SPECTROSCOPY)

COLLECTION PERIOD	C	3	20	66
JAN-MAR	12/28/05 - 03/28/06	12/28/05 - 03/28/06	12/28/05 - 03/28/06	12/28/05 - 03/28/06
APR-JUN	03/28/06 - 06/28/06	03/28/06 - 06/28/06	03/28/06 - 06/28/06	03/28/06 - 06/28/06
JUL-SEP	06/28/06 - 09/26/06	06/28/06 - 09/26/06	06/28/06 - 09/26/06	06/28/06 - 09/26/06
OCT-DEC	09/26/06 - 01/03/07	09/26/06 - 01/03/07	09/26/06 - 01/03/07	09/26/06 - 01/03/07

COLLECTION PERIOD	71	72	73
JAN-MAR	12/28/05 - 03/28/06	12/28/05 - 03/28/06	12/28/05 - 03/28/06
APR-JUN	03/28/06 - 06/28/06	03/28/06 - 06/28/06	03/28/06 - 06/28/06
JUL-SEP	06/28/06 - 09/26/06	06/28/06 - 09/26/06	06/28/06 - 09/26/06
OCT-DEC	09/26/06 - 01/03/07	09/26/06 - 01/03/07	09/26/06 - 01/03/07

TABLE C-IX.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2006

AIR PARTICULATE (GROSS BETA & I-131)

COLLECTION PERIOD	C	3	20	66	71
1	12/28/05 - 01/04/06	12/28/05 - 01/04/06	12/28/05 - 01/04/06	12/28/05 - 01/04/06	12/28/05 - 01/04/06
2	01/04/06 - 01/11/06	01/04/06 - 01/11/06	01/04/06 - 01/11/06	01/04/06 - 01/11/06	01/04/06 - 01/11/06
3	01/11/06 - 01/18/06	01/11/06 - 01/18/06	01/11/06 - 01/18/06	01/11/06 - 01/18/06	01/11/06 - 01/18/06
4	01/18/06 - 01/25/06	01/18/06 - 01/25/06	01/18/06 - 01/25/06	01/18/06 - 01/25/06	01/18/06 - 01/25/06
5	01/25/06 - 02/01/06	01/25/06 - 02/01/06	01/25/06 - 02/01/06	01/25/06 - 02/01/06	01/25/06 - 02/01/06
6	02/01/06 - 02/08/06	02/01/06 - 02/08/06	02/01/06 - 02/08/06	02/01/06 - 02/08/06	02/01/06 - 02/08/06
7	02/08/06 - 02/15/06	02/08/06 - 02/15/06	02/08/06 - 02/15/06	02/08/06 - 02/15/06	02/08/06 - 02/15/06
8	02/15/06 - 02/22/06	02/15/06 - 02/22/06	02/15/06 - 02/22/06	02/15/06 - 02/22/06	02/15/06 - 02/22/06
9	02/22/06 - 03/01/06	02/23/06 - 03/01/06	02/22/06 - 03/01/06	02/22/06 - 03/01/06	02/23/06 - 03/01/06
10	03/01/06 - 03/07/06	03/01/06 - 03/07/06	03/01/06 - 03/07/06	03/01/06 - 03/07/06	03/01/06 - 03/07/06
11	03/07/06 - 03/14/06	03/07/06 - 03/14/06	03/07/06 - 03/14/06	03/07/06 - 03/14/06	03/07/06 - 03/14/06
12	03/14/06 - 03/21/06	03/14/06 - 03/21/06	03/14/06 - 03/21/06	03/14/06 - 03/21/06	03/14/06 - 03/21/06
13	03/21/06 - 03/28/06	03/21/06 - 03/28/06	03/21/06 - 03/28/06	03/21/06 - 03/28/06	03/21/06 - 03/28/06
14	03/28/06 - 04/04/06	03/28/06 - 04/04/06	03/28/06 - 04/04/06	03/28/06 - 04/04/06	03/28/06 - 04/04/06
15	04/04/06 - 04/11/06	04/04/06 - 04/11/06	04/04/06 - 04/11/06	04/04/06 - 04/11/06	04/04/06 - 04/11/06
16	04/11/06 - 04/19/06	04/11/06 - 04/19/06	04/11/06 - 04/19/06	04/11/06 - 04/19/06	04/11/06 - 04/19/06
17	04/19/06 - 04/25/06	04/19/06 - 04/25/06	04/19/06 - 04/25/06	04/19/06 - 04/25/06	04/19/06 - 04/25/06
18	04/25/06 - 05/03/06	04/25/06 - 05/03/06	04/25/06 - 05/03/06	04/25/06 - 05/03/06	04/25/06 - 05/03/06
19	05/03/06 - 05/10/06	05/03/06 - 05/10/06	05/03/06 - 05/10/06	05/03/06 - 05/10/06	05/03/06 - 05/10/06
20	05/10/06 - 05/17/06	05/10/06 - 05/17/06	05/10/06 - 05/17/06	05/10/06 - 05/17/06	05/10/06 - 05/17/06
21	05/17/06 - 05/23/06	05/17/06 - 05/23/06	05/17/06 - 05/23/06	05/17/06 - 05/23/06	05/17/06 - 05/23/06
22	05/23/06 - 05/31/06	05/23/06 - 05/31/06	05/23/06 - 05/31/06	05/23/06 - 05/31/06	05/23/06 - 05/31/06
23	05/31/06 - 06/06/06	05/31/06 - 06/06/06	05/31/06 - 06/06/06	05/31/06 - 06/06/06	05/31/06 - 06/06/06
24	06/06/06 - 06/14/06	06/06/06 - 06/14/06	06/06/06 - 06/14/06	06/06/06 - 06/14/06	06/06/06 - 06/14/06
25	06/14/06 - 06/20/06	06/14/06 - 06/20/06	06/14/06 - 06/20/06	06/14/06 - 06/20/06	06/14/06 - 06/20/06
26	06/20/06 - 06/28/06	06/20/06 - 06/28/06	06/20/06 - 06/28/06	06/20/06 - 06/28/06	06/20/06 - 06/28/06
27	06/28/06 - 07/05/06	(1)	06/28/06 - 07/05/06	06/28/06 - 07/05/06	06/28/06 - 07/05/06
28	07/05/06 - 07/12/06	06/28/06 - 07/12/06	07/05/06 - 07/12/06	07/05/06 - 07/12/06	07/05/06 - 07/12/06
29	07/12/06 - 07/18/06	07/12/06 - 07/18/06	07/12/06 - 07/18/06	07/12/06 - 07/18/06	07/12/06 - 07/18/06
30	07/18/06 - 07/26/06	07/18/06 - 07/26/06	07/18/06 - 07/26/06	07/18/06 - 07/26/06	07/18/06 - 07/26/06
31	07/26/06 - 08/02/06	07/26/06 - 08/02/06	07/26/06 - 08/02/06	07/26/06 - 08/02/06	07/26/06 - 08/02/06
32	08/02/06 - 08/09/06	08/02/06 - 08/09/06	08/02/06 - 08/09/06	08/02/06 - 08/09/06	08/02/06 - 08/09/06
33	08/09/06 - 08/15/06	08/09/06 - 08/15/06	08/09/06 - 08/15/06	08/09/06 - 08/15/06	08/09/06 - 08/15/06
34	08/15/06 - 08/23/06	08/15/06 - 08/23/06	08/15/06 - 08/23/06	08/15/06 - 08/23/06	08/15/06 - 08/23/06
35	08/23/06 - 08/30/06	08/23/06 - 08/30/06	08/23/06 - 08/30/06	08/23/06 - 08/30/06	08/23/06 - 08/30/06
36	08/30/06 - 09/06/06	08/30/06 - 09/06/06	08/30/06 - 09/06/06	08/30/06 - 09/06/06	08/30/06 - 09/06/06
37	09/06/06 - 09/13/06	09/06/06 - 09/13/06	09/06/06 - 09/13/06	09/06/06 - 09/13/06	09/06/06 - 09/13/06
38	09/13/06 - 09/20/06	09/13/06 - 09/20/06	09/13/06 - 09/20/06	09/13/06 - 09/20/06	09/13/06 - 09/20/06
39	09/20/06 - 09/26/06	09/20/06 - 09/26/06	09/20/06 - 09/26/06	09/20/06 - 09/26/06	09/20/06 - 09/26/06
40	09/26/06 - 10/04/06	09/26/06 - 10/04/06	09/26/06 - 10/04/06	09/26/06 - 10/04/06	09/26/06 - 10/04/06
41	10/04/06 - 10/11/06	10/04/06 - 10/11/06	10/04/06 - 10/11/06	10/04/06 - 10/11/06	10/04/06 - 10/11/06
42	10/11/06 - 10/18/06	10/11/06 - 10/18/06	10/11/06 - 10/18/06	10/11/06 - 10/18/06	10/11/06 - 10/18/06
43	10/18/06 - 10/24/06	10/18/06 - 10/24/06	10/18/06 - 10/24/06	10/18/06 - 10/24/06	10/18/06 - 10/24/06
44	10/24/06 - 11/01/06	10/24/06 - 11/01/06	10/24/06 - 11/01/06	10/24/06 - 11/01/06	10/24/06 - 11/01/06
45	11/01/06 - 11/08/06	11/01/06 - 11/08/06	11/01/06 - 11/08/06	11/01/06 - 11/08/06	11/01/06 - 11/08/06
46	11/08/06 - 11/15/06	11/08/06 - 11/15/06	11/08/06 - 11/15/06	11/08/06 - 11/15/06	11/08/06 - 11/15/06
47	11/15/06 - 11/21/06	11/15/06 - 11/21/06	11/15/06 - 11/21/06	11/15/06 - 11/21/06	11/15/06 - 11/21/06
48	11/21/06 - 11/29/06	11/21/06 - 11/29/06	11/21/06 - 11/29/06	11/21/06 - 11/29/06	11/21/06 - 11/29/06
49	11/29/06 - 12/05/06	11/29/06 - 12/05/06	11/29/06 - 12/05/06	11/29/06 - 12/05/06	11/29/06 - 12/05/06
50	12/05/06 - 12/12/06	12/05/06 - 12/12/06	12/05/06 - 12/12/06	12/05/06 - 12/12/06	12/05/06 - 12/12/06
51	12/12/06 - 12/19/06	12/12/06 - 12/19/06	12/12/06 - 12/19/06	12/12/06 - 12/19/06	12/12/06 - 12/19/06
52	12/19/06 - 12/27/06	12/19/06 - 12/27/06	12/19/06 - 12/27/06	12/19/06 - 12/27/06	12/19/06 - 12/27/06
53	12/27/06 - 01/03/07	12/27/06 - 01/03/07	12/27/06 - 01/03/07	12/27/06 - 01/03/07	12/27/06 - 01/03/07

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-IX.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2006

AIR PARTICULATE (GROSS BETA & I-131)

COLLECTION PERIOD	72	73
1	12/28/05 - 01/04/06	12/28/05 - 01/04/06
2	01/04/06 - 01/11/06	01/04/06 - 01/11/06
3	01/11/06 - 01/18/06	01/11/06 - 01/18/06
4	01/18/06 - 01/25/06	01/18/06 - 01/25/06
5	01/25/06 - 02/01/06	01/25/06 - 02/01/06
6	02/01/06 - 02/08/06	02/01/06 - 02/08/06
7	02/08/06 - 02/15/06	02/08/06 - 02/15/06
8	02/15/06 - 02/22/06	02/15/06 - 02/22/06
9	02/22/06 - 03/01/06	02/22/06 - 03/01/06
10	03/01/06 - 03/07/06	03/01/06 - 03/07/06
11	03/07/06 - 03/14/06	03/07/06 - 03/14/06
12	03/14/06 - 03/21/06	03/14/06 - 03/21/06
13	03/21/06 - 03/28/06	03/21/06 - 03/28/06
14	03/28/06 - 04/04/06	03/28/06 - 04/04/06
15	04/04/06 - 04/11/06	04/04/06 - 04/11/06
16	04/11/06 - 04/19/06	04/11/06 - 04/19/06
17	04/19/06 - 04/25/06	04/19/06 - 04/25/06
18	04/25/06 - 05/03/06	04/25/06 - 05/03/06
19	05/03/06 - 05/10/06	05/03/06 - 05/10/06
20	05/10/06 - 05/17/06	05/10/06 - 05/17/06
21	05/17/06 - 05/23/06	05/17/06 - 05/23/06
22	05/23/06 - 05/31/06	05/23/06 - 05/31/06
23	05/31/06 - 06/06/06	05/31/06 - 06/06/06
24	06/06/06 - 06/14/06	06/06/06 - 06/14/06
25	06/14/06 - 06/20/06	06/14/06 - 06/20/06
26	06/20/06 - 06/28/06	06/20/06 - 06/28/06
27	06/28/06 - 07/05/06	06/28/06 - 07/05/06
28	07/05/06 - 07/12/06	07/05/06 - 07/12/06
29	07/12/06 - 07/18/06	07/12/06 - 07/18/06
30	07/18/06 - 07/26/06	07/18/06 - 07/26/06
31	07/26/06 - 08/02/06	07/26/06 - 08/02/06
32	08/02/06 - 08/09/06	08/02/06 - 08/09/06
33	08/09/06 - 08/15/06	08/09/06 - 08/15/06
34	08/15/06 - 08/23/06	08/15/06 - 08/23/06
35	08/23/06 - 08/30/06	08/23/06 - 08/30/06
36	08/30/06 - 09/06/06	08/30/06 - 09/06/06
37	09/06/06 - 09/13/06	09/06/06 - 09/13/06
38	09/13/06 - 09/20/06	09/13/06 - 09/20/06
39	09/20/06 - 09/26/06	09/20/06 - 09/26/06
40	09/26/06 - 10/04/06	09/26/06 - 10/04/06
41	10/04/06 - 10/11/06	10/04/06 - 10/11/06
42	10/11/06 - 10/18/06	10/11/06 - 10/18/06
43	10/18/06 - 10/24/06	10/18/06 - 10/24/06
44	10/24/06 - 11/01/06	10/24/06 - 11/01/06
45	11/01/06 - 11/08/06	11/01/06 - 11/08/06
46	11/08/06 - 11/15/06	11/08/06 - 11/15/06
47	11/15/06 - 11/21/06	11/15/06 - 11/21/06
48	11/21/06 - 11/29/06	11/21/06 - 11/29/06
49	11/29/06 - 12/05/06	11/29/06 - 12/05/06
50	12/05/06 - 12/12/06	12/05/06 - 12/12/06
51	12/12/06 - 12/19/06	12/12/06 - 12/19/06
52	12/19/06 - 12/27/06	12/19/06 - 12/27/06
53	12/27/06 - 01/03/07	12/27/06 - 01/03/07

TABLE C-IX.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2006

TLD

STATION CODE	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC
C	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/11/06	10/11/06 - 01/10/07
14	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/11/06	10/11/06 - 01/10/07
1	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
T1	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
3	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/11/06	10/11/06 - 01/10/07
4	(1)	(1)	07/11/06 - 10/10/06	10/10/06 - 01/09/07
5	(1)	(1)	07/11/06 - 10/11/06	10/11/06 - 01/10/07
6	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	(1)
8	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
9	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
11	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
22	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
46	(1)	(1)	07/11/06 - 10/10/06	10/10/06 - 01/09/07
47	(1)	(1)	07/11/06 - 10/10/06	10/10/06 - 01/09/07
48	(1)	(1)	07/11/06 - 10/10/06	10/10/06 - 01/09/07
51	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
52	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
53	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
54	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
55	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
56	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
57	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
58	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
59	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
61	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/11/06	10/11/06 - 01/10/07
62	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/11/06	10/11/06 - 01/10/07
63	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/11/06	10/11/06 - 01/10/07
64	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/11/06	10/11/06 - 01/10/07
65	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/11/06	10/11/06 - 01/10/07
66	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/11/06	10/11/06 - 01/10/07
68	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
71	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/11/06	10/11/06 - 01/10/07
72	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/11/06	10/11/06 - 01/10/07
73	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
74	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
75	01/10/06 - 04/18/06	04/18/06 - 07/11/06	(1)	10/10/06 - 01/09/07
78	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
79	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
81	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
82	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
84	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
85	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
86	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
88	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
89	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/11/06	10/11/06 - 01/10/07
90	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/11/06	10/11/06 - 01/10/07
92	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/11/06	10/11/06 - 01/10/07
98	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07
99	01/10/06 - 04/18/06	04/18/06 - 07/11/06	07/11/06 - 10/10/06	10/10/06 - 01/09/07

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

FIGURE C-1
MEAN COBALT-60 CONCENTRATION IN CLAMS
OYSTER CREEK GENERATING STATION, 1983 - 2006

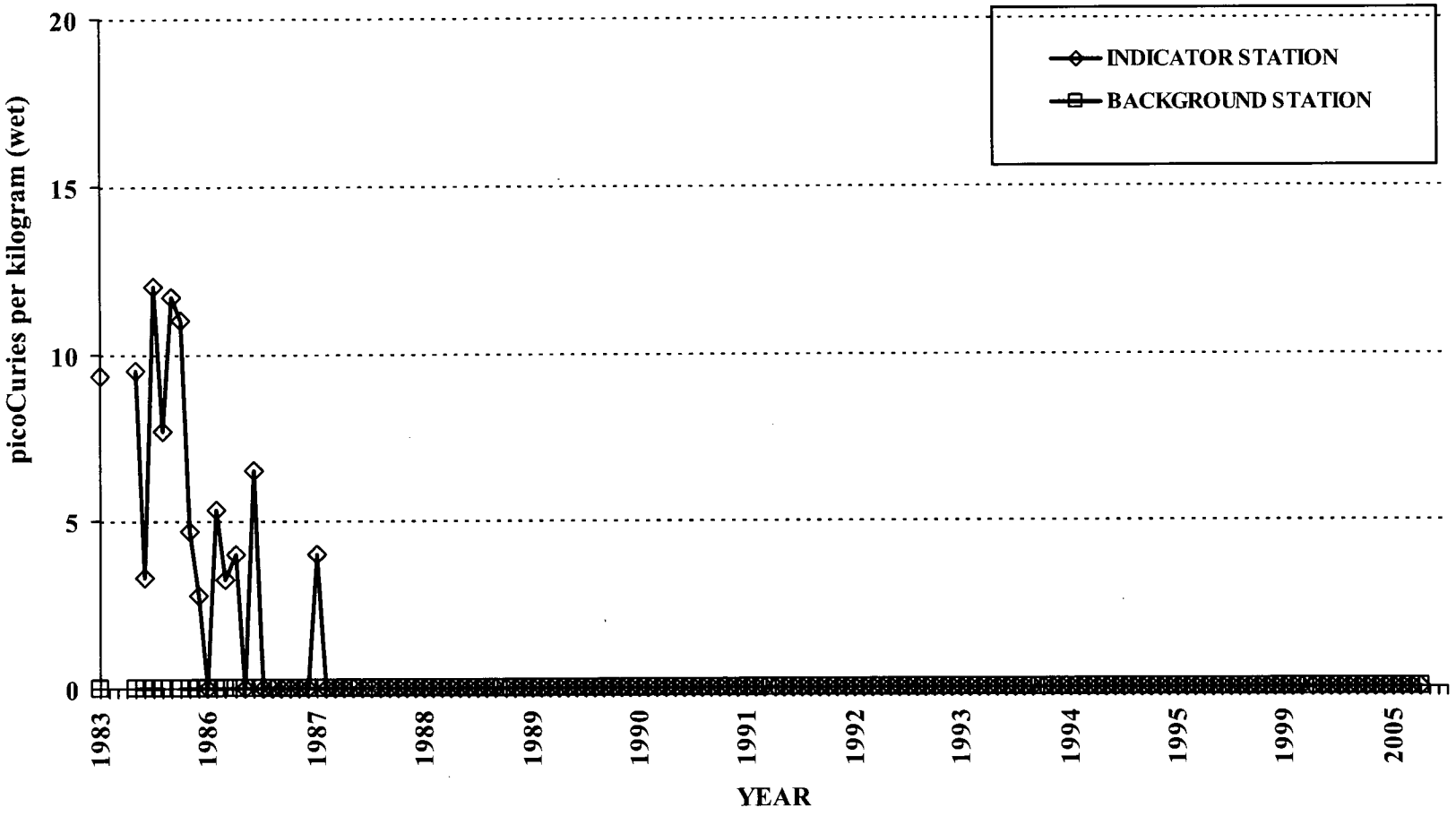


FIGURE C-2
MEAN COBALT-60 CONCENTRATION IN AQUATIC SEDIMENT
OYSTER CREEK GENERATING STATION, 1984 - 2006

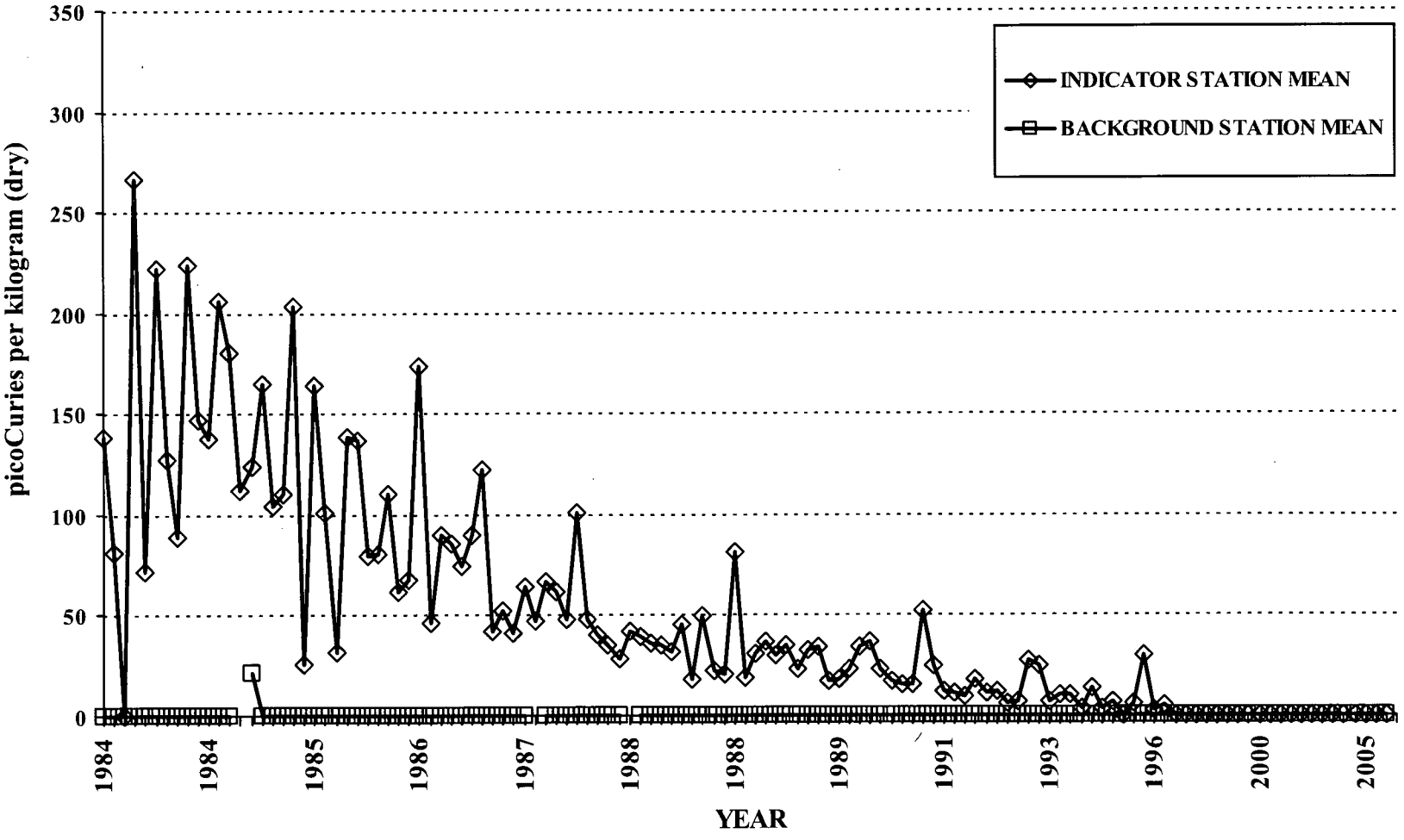


FIGURE C-3
MEAN CESIUM-137 CONCENTRATION IN AQUATIC SEDIMENT
OYSTER CREEK GENERATING STATION, 1984 - 2006

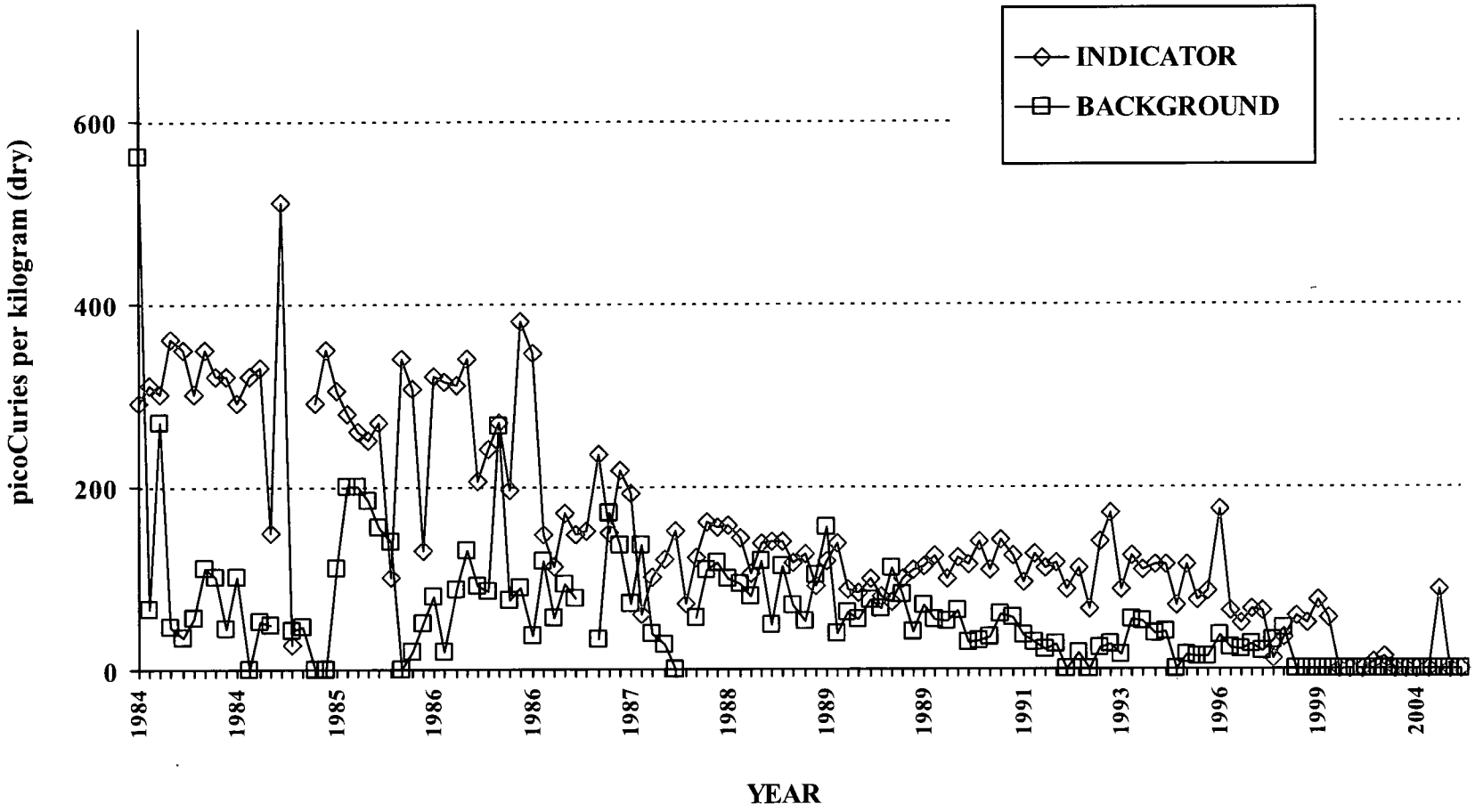


FIGURE C-4
MEAN WEEKLY GROSS BETA CONCENTRATIONS
IN AIR PARTICULATES
OYSTER CREEK GENERATING STATION, 2006

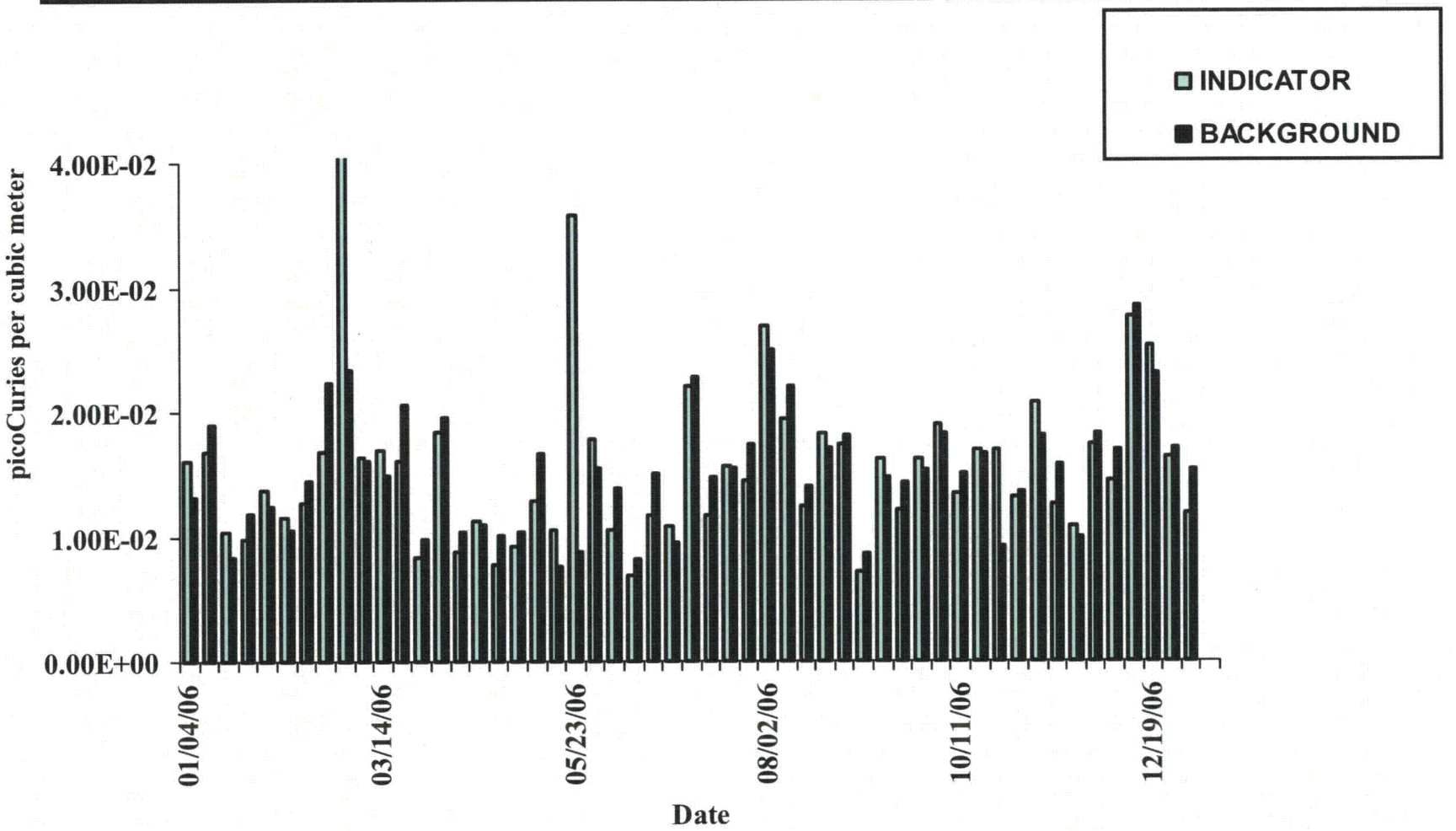
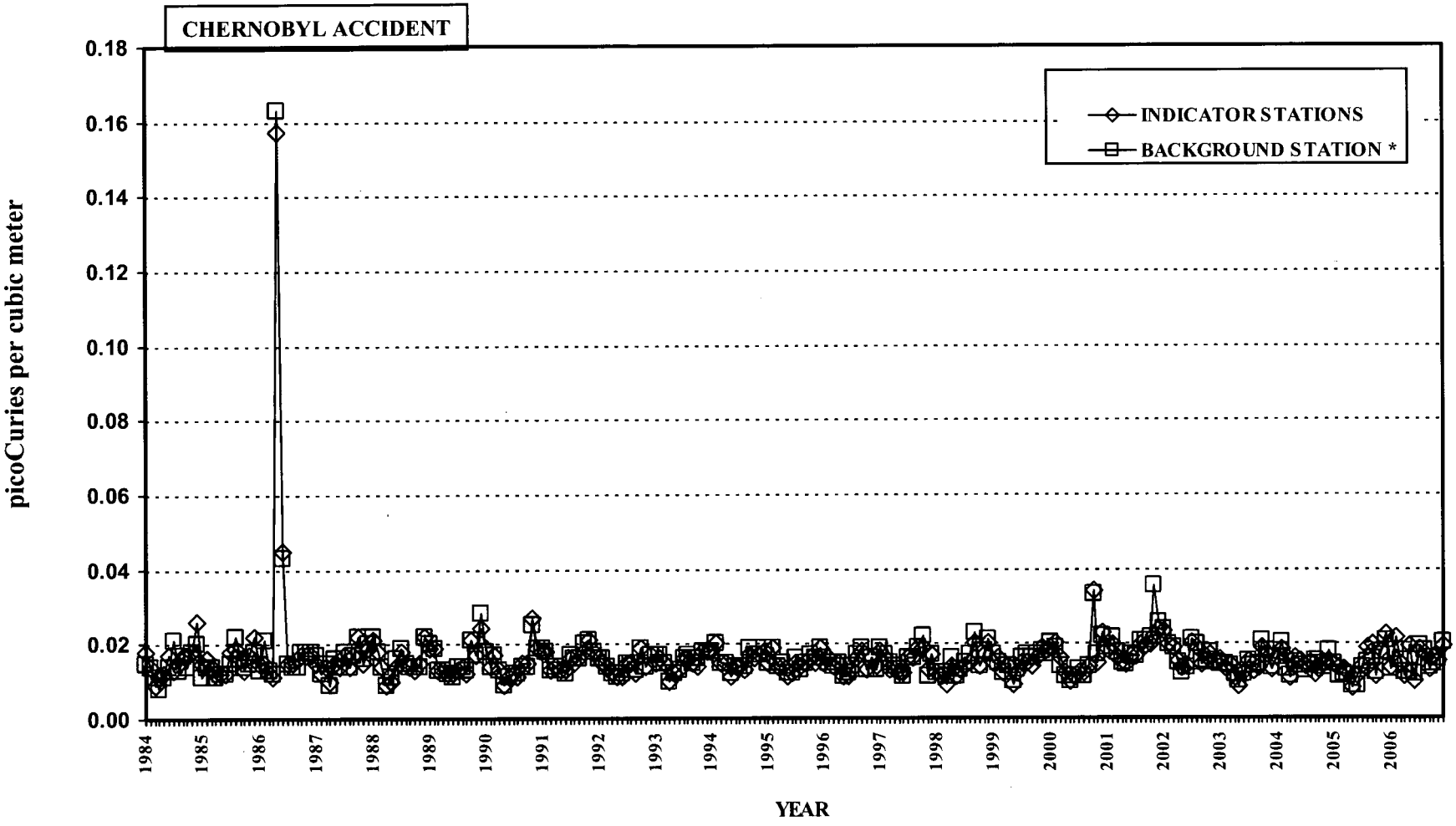


FIGURE C-5
MEAN MONTHLY GROSS BETA CONCENTRATIONS IN AIR PARTICULATES OYSTER CREEK GENERATING STATION, 1984 - 2006



* Data from Cookstown station ONLY after December 1996

FIGURE C-6
MEAN QUARTERLY TLD GAMMA DOSE
OYSTER CREEK GENERATING STATION, 2006

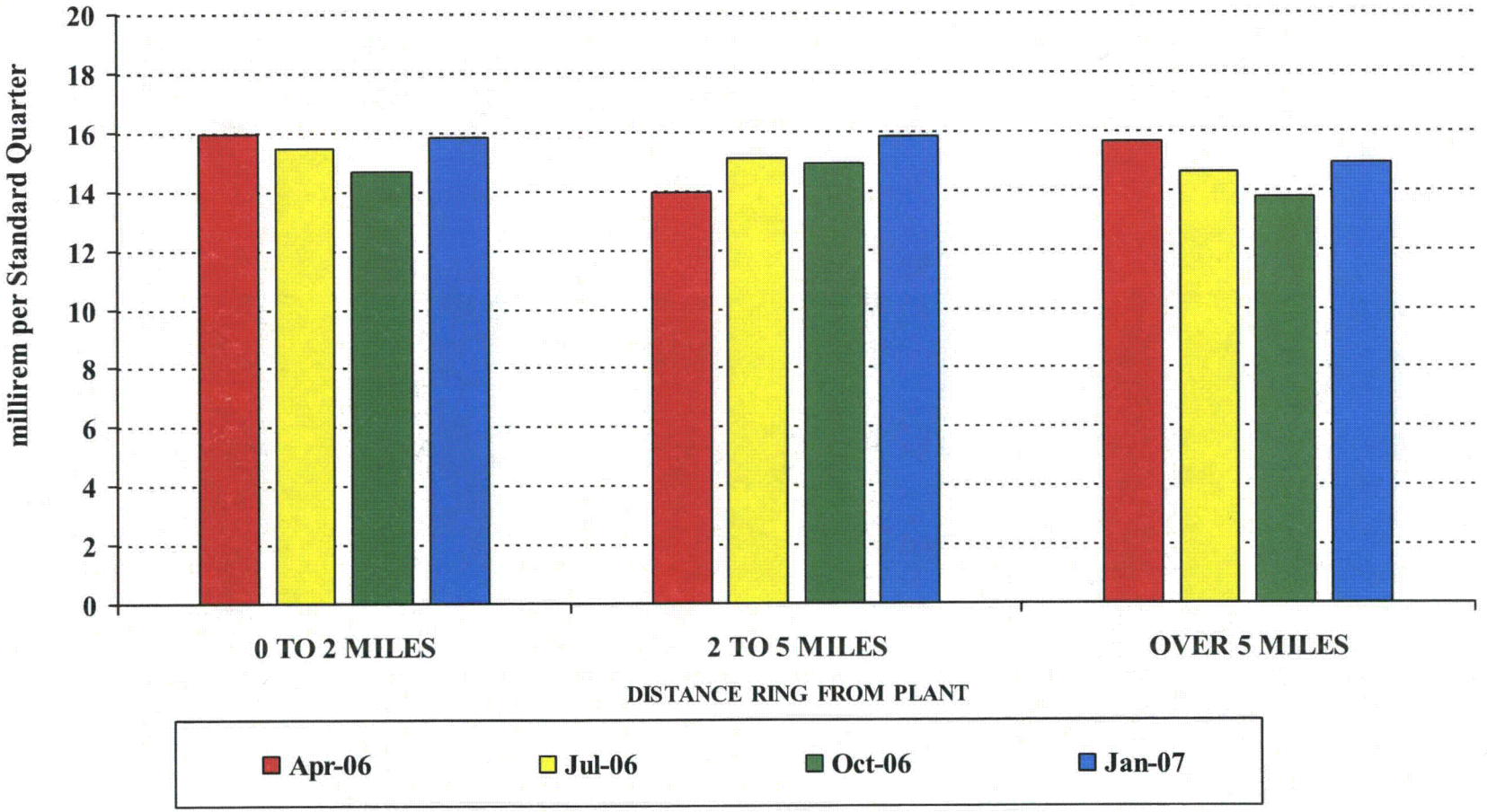
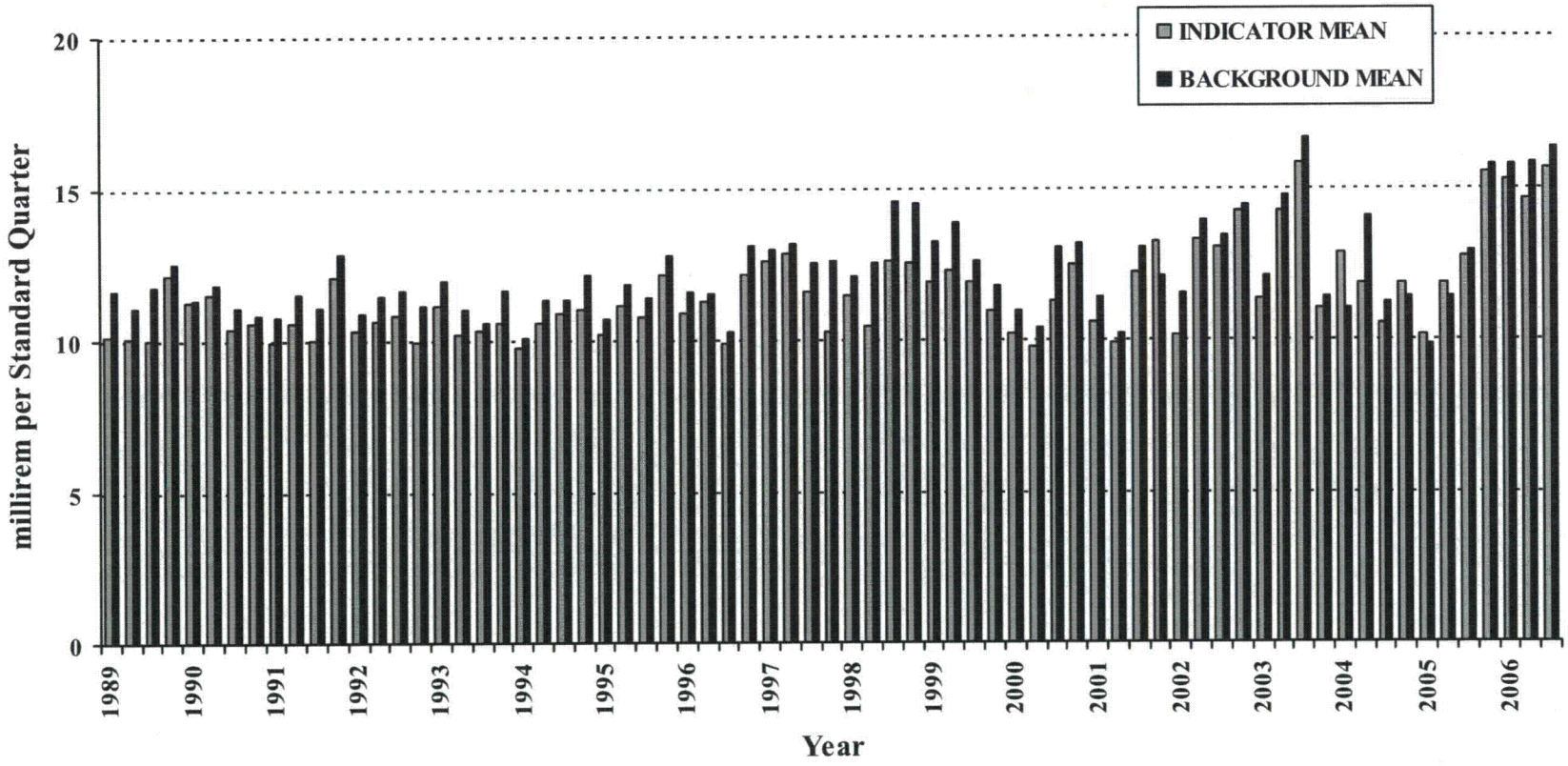


FIGURE C-7
MEAN QUARTERLY TLD GAMMA DOSE
OYSTER CREEK GENERATING STATION, 1989 – 2006*



* 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, 2006

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD		QCA	QCB
04/17/06	< 169	< 167	204 ± 95
10/09/06	135 ± 82	< 129	< 147
MEAN*	152 ± 48	148 ± 54	176 ± 81

* 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, 2006

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
24	04/17/06	< 4	< 4	< 10	< 5	< 10	< 5	< 8	< 5	< 5	< 28	< 9
	10/09/06	< 2	< 2	< 6	< 2	< 5	< 3	< 4	< 2	< 2	< 21	< 7
	MEAN*	3 ± 3	3 ± 3	8 ± 7	3 ± 3	7 ± 7	4 ± 3	6 ± 6	3 ± 4	3 ± 3	25 ± 9	8 ± 2
QCA	04/17/06	< 6	< 6	< 14	< 7	< 12	< 7	< 11	< 7	< 6	< 38	< 13
	10/09/06	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 2	< 2	< 20	< 6
	MEAN*	4 ± 6	4 ± 6	9 ± 12	4 ± 6	8 ± 12	5 ± 7	7 ± 10	4 ± 8	4 ± 6	29 ± 25	10 ± 10
QCB	04/17/06	< 7	< 4	< 15	< 6	< 8	< 7	< 7	< 8	< 3	< 23	< 5
	10/03/05	< 3	< 3	< 6	< 4	< 4	< 3	< 5	< 4	< 4	< 13	< 2
	MEAN*	5 ± 6	3 ± 2	11 ± 13	5 ± 3	6 ± 6	5 ± 6	6 ± 2	6 ± 7	4 ± 1	18 ± 15	3 ± 4

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

TABLE D-II.1 CONCENTRATIONS OF TRITIUM IN WELL WATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2006

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	1	QCA	QCB
01/10/06 - 03/13/06	< 169	< 170	< 159
04/26/06 - 06/14/06	< 185	< 185	< 168
07/23/06 - 09/21/06	< 169	< 169	< 157
10/19/06 - 12/14/06	< 182	< 186	< 144
MEAN*	176 ± 17	178 ± 19	157 ± 20

* 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, 2006**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
1	01/10 - 03/13/06	< 2	< 2	< 6	< 3	< 5	< 3	< 4	< 2	< 2	< 23	< 8
	04/26 - 06/14/06	< 5	< 5	< 10	< 5	< 10	< 6	< 9	< 5	< 5	< 33	< 10
	07/23 - 09/21/06	< 1	< 2	< 4	< 2	< 3	< 2	< 3	< 1	< 2	< 13	< 5
	10/19 - 12/14/06	< 2	< 2	< 4	< 2	< 4	< 2	< 4	< 2	< 2	< 14	< 4
	MEAN*	2.6 ± 2.9	2.8 ± 3.3	6 ± 5.8	2.6 ± 2.9	5 ± 6.1	3.0 ± 3.5	5.0 ± 5.7	2.6 ± 3.4	2.7 ± 3.1	21 ± 19	7 ± 5.7
QCA	01/10 - 03/13/06	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 2	< 2	< 21	< 8
	04/26 - 06/14/06	< 3	< 4	< 8	< 4	< 8	< 4	< 7	< 4	< 4	< 26	< 8
	07/23 - 09/21/06	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 2	< 2	< 17	< 6
	10/19 - 12/14/06	< 1	< 1	< 3	< 1	< 3	< 2	< 3	< 1	< 1	< 10	< 3
	MEAN*	2.2 ± 1.8	2.4 ± 2.0	5.3 ± 4.2	2.2 ± 1.9	5 ± 4.8	2.6 ± 2.3	4.4 ± 3.7	2.3 ± 2.3	2.2 ± 1.8	19 ± 14	6.1 ± 4.7
QCB	01/10 - 03/13/06	< 2	< 2	< 5	< 1	< 4	< 2	< 3	< 2	< 1	< 15	< 4
	04/26 - 06/14/06	< 3	< 1	< 4	< 3	< 6	< 5	< 6	< 2	< 4	< 17	< 4
	07/23 - 09/21/06	< 3	< 4	< 12	< 3	< 11	< 3	< 6	< 6	< 4	< 16	< 3
	10/19 - 12/14/06	< 2	< 2	< 8	< 2	< 4	< 2	< 6	< 4	< 2	< 21	< 4
	MEAN*	2.4 ± 1.7	2.2 ± 2.1	7.1 ± 7.0	2.4 ± 1.9	6.2 ± 6.5	3.0 ± 2.3	5.2 ± 2.5	3.5 ± 3.7	2.7 ± 2.7	17 ± 5	3.9 ± 0.9

* 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, 2006

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Cs-134	Cs-137
24	04/18/06	1400 ± 664	< 62	< 61	< 148	< 59	< 165	< 67	< 66
	10/09/06	2160 736	< 41	< 53	< 121	< 21	< 68	< 43	< 44
	MEAN	1780 ± 1075	51 ± 30	57 ± 11	135 ± 38	40 ± 54	117 ± 137	55 ± 34	55 ± 32
QCA	04/18/06	1850 ± 455	< 39	< 44	< 97	< 38	< 96	< 51	< 45
QCB	04/18/06	1551 ± 491	< 17	< 15	< 22	< 14	< 17	< 14	< 17

TABLE D-IV.1 CONCENTRATIONS OF GAMMA EMITTERS IN SEDIMENT SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2006

RESULTS IN UNITS OF PCI/KG DRY ± 2 SIGMA

STC	COLLECTION PERIOD	Be-7	K-40	Mn-54	Co-58	Co-60	Cs-134	Cs-137	Ra-226	Th-232
24	04/17/06	< 1060	6770 ± 1610	< 136	< 116	< 144	< 142	< 141	< 2650	< 606
	10/09/06	< 1710	7650 ± 1970	< 136	< 183	< 153	< 146	< 138	< 2850	< 635
	MEAN*	1385 ± 919	7210 ± 1245	136 ± 0	150 ± 95	149 ± 13	144 ± 6	140 ± 4	2750 ± 283	621 ± 41
QCA	04/17/06	< 1180	3460 ± 1270	< 136	< 140	< 163	< 127	< 142	< 3480	< 370
	10/09/06	< 1320	7010 ± 1990	< 133	< 154	< 147	< 124	< 133	< 1980	< 670
	MEAN*	1250 ± 198	5235 ± 5020	135 ± 4	147 ± 20	155 ± 23	126 ± 4	138 ± 13	2730 ± 2121	520 ± 424
QCB	04/17/06	< 142	2472 ± 325	< 9	< 13	< 13	< 16	< 18	< 394	NA
	10/09/06	< 288	4779 ± 488	< 16	< 22	< 21	< 23	< 15	1566 ± 604	NA
	MEAN*	215 ± 207	3625 ± 3263	12 ± 9	18 ± 13	17 ± 11	20 ± 10	17 ± 4	980 ± 1658	

* 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, 2006**

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC		COLLECTION PERIOD	Sr-89	Sr-90	K-40	I-131	Cs-134	Cs-137	Ba-140	La-140
36	CABBAGE	JULY	< 22	< 3	2020 ± 117	< 28	< 5	< 5	< 50	< 16
	COLLARDS	JULY	< 19	8 ± 3	5010 ± 161	< 35	< 5	< 6	< 60	< 17
	KALE	JULY	< 21	< 2	4780 ± 156	< 42	< 6	< 6	< 73	< 20
		MEAN*	21 ± 2	4 ± 6	3937 ± 3328	35 ± 14	5 ± 1	6 ± 1	61 ± 23	17 ± 4
36	CABBAGE	AUGUST	< 24	7 ± 3	2510 ± 285	< 48	< 13	< 13	< 295	< 76
	COLLARDS	AUGUST	< 15	30 ± 3	5270 ± 529	< 54	< 21	< 25	< 494	< 136
	KALE	AUGUST	< 25	48 ± 2	5900 ± 596	< 49	< 23	< 26	< 532	< 182
		MEAN*	21 ± 11	28 ± 41	4560 ± 3606	50 ± 6	19 ± 11	21 ± 14	440 ± 255	131 ± 106
36	CABBAGE	SEPTEMBER	< 12	< 3	1930 ± 161	< 20	< 7	< 7	< 46	< 13
	COLLARDS	SEPTEMBER	< 17	< 2	3690 ± 246	< 32	< 11	< 11	< 80	< 22
	KALE	SEPTEMBER	< 18	< 2	6310 ± 423	< 45	< 16	< 17	< 113	< 32
	CHERRY LEAVES	SEPTEMBER	< 23	28 ± 2	3810 ± 319	< 36	< 13	< 15	< 90	< 24
		MEAN*	18 ± 10	9 ± 26	3935 ± 3603	33 ± 21	12 ± 8	12 ± 8	82 ± 55	23 ± 16
QCA	CABBAGE	JULY	< 13	< 2	1860 ± 124	< 40	< 6	< 7	< 70	< 22
	COLLARDS	JULY	< 18	6 ± 2	5050 ± 163	< 34	< 5	< 6	< 61	< 18
	KALE	JULY	< 15	3 ± 2	4740 ± 158	< 39	< 5	< 6	< 61	< 18
		MEAN*	15 ± 5	4 ± 5	3883 ± 3518	37 ± 6	5 ± 1	6 ± 1	64 ± 11	19 ± 5
QCB	CABBAGE	JULY	< 2	< 1	1924 ± 361	< 21	< 16	< 14	< 61	< 11
	COLLARDS	JULY	< 7	< 3	4687 ± 555	< 26	< 18	< 20	< 82	< 18
	KALE	JULY	< 8	7 ± 3	4535 ± 555	< 15	< 15	< 13	< 79	< 14
		MEAN*	6 ± 6	4 ± 6	3715 ± 3106	21 ± 11	16 ± 4	16 ± 8	74 ± 23	14 ± 7

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

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APPENDIX E

INTER-LABORATORY COMPARISON PROGRAM

TABLE E-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING, 2006
(PAGE 1 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
March 2006	E4964-396	Milk	Sr-89	pCi/L	91.5	99.2	0.92	A
			Sr-90	pCi/L	12.2	10.8	1.13	A
	E4965-396	Milk	I-131	pCi/L	74.4	78.0	0.95	A
			Ce-141	pCi/L	95.1	104	0.91	A
			Cr-51	pCi/L	278	280	0.99	A
			Cs-134	pCi/L	103	121	0.85	A
			Cs-137	pCi/L	87.6	88.8	0.99	A
			Co-58	pCi/L	93.9	105	0.89	A
			Mn-54	pCi/L	90.0	93.3	0.96	A
			Fe-59	pCi/L	83.0	86.6	0.96	A
			Zn-65	pCi/L	178	176	1.01	A
			Co-60	pCi/L	118	128	0.92	A
	E4967-396	AP	Ce-141	pCi	89.9	74	1.21	W
			Cr-51	pCi	253	200	1.27	W
			Cs-134	pCi	71.5	86.1	0.83	A
			Cs-137	pCi	67.5	63.3	1.07	A
			Co-58	pCi	79.7	74.6	1.07	A
			Mn-54	pCi	74.9	67	1.12	A
			Fe-59	pCi	75.5	61.8	1.22	W
			Zn-65	pCi	146	126	1.16	A
			Co-60	pCi	91.2	91	1.00	A
	E4966-396	Charcoal	I-131	pCi	87.4	86.2	1.01	A
June 2006	E5018-396	Milk	Sr-89	pCi/L	118	129	0.91	A
			Sr-90	pCi/L	9.29	9.74	0.95	A
	E5019-396	Milk	I-131	pCi/L	49.9	63.2	0.79	W
			Ce-141	pCi/L	174	184	0.95	A
			Cr-51	pCi/L	266	259	1.03	A
			Cs-134	pCi/L	111	127	0.88	A
			Cs-137	pCi/L	116	117	0.99	A
			Co-58	pCi/L	101	100	1.01	A
			Mn-54	pCi/L	144	146	0.98	A
			Fe-59	pCi/L	96.7	93.6	1.03	A
			Zn-65	pCi/L	182	185	0.98	A
			Co-60	pCi/L	126	129	0.98	A
	E5021-396	AP	Ce-141	pCi	113	124	0.91	A
			Cr-51	pCi	176	174	1.01	A
			Cs-134	pCi	63.7	85.1	0.75	W
			Cs-137	pCi	76.8	79.0	0.97	A
			Co-58	pCi	63.1	67.4	0.94	A
			Mn-54	pCi	102	99	1.04	A
			Fe-59	pCi	64.6	62.9	1.03	A
			Zn-65	pCi	131	125	1.05	A
			Co-60	pCi	81.6	86.5	0.94	A
	E5020-396	Charcoal	I-131	pCi	65.4	65.9	0.99	A

TABLE E-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING, 2006
(PAGE 2 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
September 2006	E5120-396	Milk	Sr-89	pCi/L	90.3	89.2	1.01	A
			Sr-90	pCi/L	11.6	12.4	0.94	A
	E5121-396	Milk	I-131	pCi/L	67.8	73.8	0.92	A
			Ce-141	pCi/L	85.0	86.0	0.99	A
			Cr-51	pCi/L	263	282	0.93	A
			Cs-134	pCi/L	74.7	85.0	0.88	A
			Cs-137	pCi/L	172	175	0.98	A
			Co-58	pCi/L	107	109	0.98	A
			Mn-54	pCi/L	110	113	0.98	A
			Fe-59	pCi/L	46.6	43.7	1.07	A
			Zn-65	pCi/L	144	145	0.99	A
			Co-60	pCi/L	127	134	0.95	A
	E5123-396	AP	Ce-141	pCi	67.1	66.4	1.01	A
			Cr-51	pCi	223	217	1.03	A
			Cs-134	pCi	51.7	65.6	0.79	W
			Cs-137	pCi	134	135.0	0.99	A
			Co-58	pCi	84.8	84.3	1.01	A
			Mn-54	pCi	95.2	87	1.10	A
			Fe-59	pCi	41.6	33.7	1.23	W
			Zn-65	pCi	123	112	1.10	A
			Co-60	pCi	98.9	103	0.96	A
			Co-57	pCi	0.922	(1)	NA	NA
	E5122-396	Charcoal	I-131	pCi	77.7	90.7	0.86	A
December 2006	E5172-396	Milk	Sr-89	pCi/L	72.4	72.0	1.01	A
			Sr-90	pCi/L	7.05	5.90	1.19	A
	E5173-396	Milk	I-131	pCi/L	71.9	70.8	1.02	A
			Ce-141	pCi/L	268	294	0.91	A
			Cr-51	pCi/L	420	433	0.97	A
			Cs-134	pCi/L	128	147	0.87	A
			Cs-137	pCi/L	231	237	0.97	A
			Co-58	pCi/L	82.0	83.8	0.98	A
			Mn-54	pCi/L	113	111	1.02	A
			Fe-59	pCi/L	79.8	79.7	1.00	A
			Zn-65	pCi/L	170	164	1.04	A
			Co-60	pCi/L	265	281	0.94	A
	E5175-396	AP	Ce-141	pCi	220	210	1.05	A
			Cr-51	pCi	343	309	1.11	A
			Cs-134	pCi	90.8	105	0.86	A
			Cs-137	pCi	185	169.0	1.09	A
			Co-58	pCi	65.0	59.7	1.09	A
			Mn-54	pCi	90.6	79	1.15	A
			Fe-59	pCi	70.7	56.7	1.25	W
			Zn-65	pCi	136	117	1.16	A
			Co-60	pCi	208	200	1.04	A

TABLE E-1 **ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM**
TELEDYNE BROWN ENGINEERING, 2006
(PAGE 3 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
December 2006	E5174-396	Charcoal	I-131	pCi	77.4	85.4	0.91	A

(1) Impurity detected but not measured by Analytics.

(a) Teledyne Brown Engineering reported result.

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

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

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

TABLE E-2 **ERA ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM**
TELEDYNE BROWN ENGINEERING, 2006
(PAGE 1 OF 1)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Control Limits	Evaluation (c)
May 2006	Rad 65	Water	Sr-89	pCi/L	30.2	32.4	23.6 - 41.1	A
			Sr-90	pCi/L	8.74	9.00	0.340 - 17.7	A
			Ba-133	pCi/L	10.9	10.0	1.34 - 18.7	A
			Cs-134	pCi/L	39.7	43.4	34.7 - 52.1	A
			Cs-137	pCi/L	199	214	195 - 233	A
			Co-60	pCi/L	111	113.0	103 - 123	A
			Zn-65	pCi/L	146	152	126 - 178	A
			Gr-A	pCi/L	22.9	21.3	12.1 - 30.5	A
			Gr-B	pCi/L	23.7	23.0	14.3 - 31.7	A
			Ra-226	pCi/L	2.64	3.02	2.23 - 3.81	A
			U-Nat	pCi/L	74.9	69.1	57.1 - 81.1	A
			H-3	pCi/L	7950	8130	6720 - 9540	A
	Rad 65	Water	I-131	pCi/L	18.2	19.1	13.9 - 24.3	A
November 2006	Rad 67	Water	Sr-89	pCi/L	40.0	39.9	31.2 - 48.6	A
			Sr-90	pCi/L	16.2	16.0	7.34 - 24.7	A
			Ba-133	pCi/L	65.0	70.2	58.1 - 82.3	A
			Cs-134	pCi/L	27.4	29.9	21.2 - 38.6	A
			Cs-137	pCi/L	74.4	78.2	69.5 - 86.9	A
			Co-60	pCi/L	61.6	62.3	53.6 - 71.0	A
			Zn-65	pCi/L	277	277	229 - 325	A
			Gr-A	pCi/L	23.3	28.7	16.3 - 41.1	A
			Gr-B	pCi/L	22.0	20.9	12.2 - 29.6	A
			U-Nat	pCi/L	3.18	3.20	0.00 - 8.40	A
			H-3	pCi/L	2930	3050	2430 - 3670	A
		Water	I-131	pCi/L	19.8	22.1	16.9 - 27.3	A

(a) Teledyne Brown Engineering reported result.

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

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

TABLE E-3 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)
TELEDYNE BROWN ENGINEERING, 2006
(PAGE 1 OF 3)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Acceptance Range	Evaluation (c)
January 2006	06-MaW15	Water	Am-241	Bq/L	1.29	1.30	0.91 - 1.69	A
			Cs-134	Bq/L	79.2	95.1	66.57 - 123.63	A
			Cs-137	Bq/L	-0.188			A
			Co-57	Bq/L	151	166.12	116.28 - 215.96	A
			Co-60	Bq/L	141	153.50	107.45 - 199.55	A
			H-3	Bq/L	988	952.01	666.41 - 1237.61	A
			Fe-55	Bq/L	106.0	129.60	90.72 - 168.48	A
			Mn-54	Bq/L	297	315.00	220.50 - 409.50	A
			Ni-63	Bq/L	61.5	60.34	44.24 - 78.44	A
			Pu-238	Bq/L	0.961	0.91	0.64 - 1.18	A
			Pu-239/240	Bq/L	0.00965	0.00710	(1)	A
			Sr-90	Bq/L	12.6	13.16	9.21- 17.11	A
			Tc-99	Bq/L	22.5	23.38	16.37 - 30.39	A
			U-234/233	Bq/L	2.20	2.09	1.46 - 2.72	A
			U-238	Bq/L	2.23	2.17	1.52 - 2.82	A
			Zn-65	Bq/L	219	228.16	159.71 - 296.61	A
	06-GrW15	Water	Gr-A	Bq/L	0.575	0.581	>0.0 - 1.162	A
			Gr-B	Bq/L	1.52	1.13	0.56 - 1.70	A
	06-MaS15	Soil	Am-241	Bq/kg	48.8	57.08	39.96 - 74.20	A
			Cs-134	Bq/kg	15.9			N (1)
			Cs-137	Bq/kg	370	339.69	237.78 - 441.60	A
			Co-57	Bq/kg	667	656.29	459.40 - 853.18	A
			Co-60	Bq/kg	478	447.10	312.97 - 581.23	A
			Mn-54	Bq/kg	384	346.77	242.74 - 450.80	A
			Ni-63	Bq/kg	394	323.51	226.46 - 420.56	W
			K-40	Bq/kg	667	604	423 - 785	A
			Sr-90	Bq/kg	253	314.35	220.04 - 408.66	A
			Tc-99	Bq/kg	146	154.76	108.33 - 201.19	A
			Zn-65	Bq/kg	740	657.36	460.15 - 854.57	A
	06-RdF15	AP	Am-241	Bq/sample	0.0850	0.093	0.065 - 0.121	A
			Cs-134	Bq/sample	2.34	2.934	2.054 - 3.814	A
			Cs-137	Bq/sample	2.45	2.531	1.772 - 3.290	A
			Co-57	Bq/sample	3.87	4.096	2.867 - 5.325	A
			Co-60	Bq/sample	2.12	2.186	1.530 - 2.842	A
			Mn-54	Bq/sample	0.0206			A
			Pu-238	Bq/sample	0.0766	0.067	0.047 - 0.087	A
			Pu-239/240	Bq/sample	0.00520	0.00041	(1)	A
			Sr-90	Bq/sample	0.761	0.792	0.554 - 1.030	A
			U-234/233	Bq/sample	0.0217	0.020	0.014 - 0.026	A
			U-238	Bq/sample	0.0220	0.021	0.015 - 0.027	A
			Zn-65	Bq/sample	3.86	3.423	2.396 - 4.450	A
	06-GrF15	AP	Gr-A	Bq/sample	0.257	0.361	>0.0 - 0.722	A
			Gr-B	Bq/sample	0.398	0.481	0.241 - 0.722	A

TABLE E-3 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)
TELEDYNE BROWN ENGINEERING, 2006
(PAGE 2 OF 3)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Acceptance Range	Evaluation (c)
January 2006	06-RdV15	Vegetation	Am-241	Bq/sample	0.156	0.156	0.109 - 0.203	A
			Cs-134	Bq/sample	0.369			A
			Cs-137	Bq/sample	3.15	3.074	2.152 - 3.996	A
			Co-57	Bq/sample	10.1	8.578	6.005 - 11.151	A
			Co-60	Bq/sample	4.69	4.520	3.164 - 5.876	A
			Mn-54	Bq/sample	6.53	6.247	4.373 - 8.121	A
			Pu-238	Bq/sample	0.183	0.137	0.096 - 0.178	N (2)
			Pu-239/240	Bq/sample	0.111	0.164	0.115 - 0.213	N (2)
			Sr-90	Bq/sample	2.22	1.561	1.093 - 2.029	N (2)
			U-234/233	Bq/sample	0.208	0.208	0.146 - 0.270	A
			U-238	Bq/sample	0.176	0.216	0.151 - 0.281	A
			Zn-65	Bq/sample	10.5	9.798	6.859 - 12.737	A
July 2006	06-MaW16	Water	Am-241	Bq/L	2.09	2.31	1.62 - 3.00	A
			Cs-134	Bq/L	99.8	112.82	78.98 - 146.66	A
			Cs-137	Bq/L	191	196.14	137.30 - 254.98	A
			Co-57	Bq/L	203	213.08	149.16 - 277.00	A
			Co-60	Bq/L	46.2	47.5	33.2 - 61.8	A
			H-3	Bq/L	471	428.85	300.20 - 557.50	A
			Fe-55	Bq/L	173	165.4	115.8 - 215.0	A
			Ni-63	Bq/L	109	118.62	83.03 - 154.21	A
			Pu-238	Bq/L	1.50	1.39	0.97 - 1.81	A
			Pu-239/240	Bq/L	2.01	1.94	1.36 - 2.52	A
			Sr-90	Bq/L	13.7	15.69	10.98- 20.40	A
			Tc-99	Bq/L	29.0	27.15	19.00 - 35.29	A
			U-234/233	Bq/L	2.19	2.15	1.50 - 2.80	A
			U-238	Bq/L	2.25	2.22	1.55 - 2.89	A
			Zn-65	Bq/L	178	176.37	123.46 - 229.28	A
	06-GrW16	Water	Gr-A	Bq/L	1.52	1.033	>0.0 - 2.066	A
			Gr-B	Bq/L	1.18	1.03	0.52 - 1.54	A
	06-MaS16	Soil	Am-241	Bq/kg	83.6	105.47	73.83 - 137.11	W
			Cs-134	Bq/kg	393	452.13	316.49 - 587.77	A
			Cs-137	Bq/kg	522	525.73	368.01 - 683.45	A
			Co-57	Bq/kg	636	676.33	473.43 - 879.23	A
			Co-60	Bq/kg	3.78	1.98		A (3)
			Mn-54	Bq/kg	598	594.25	415.98 - 772.52	A
			Ni-63	Bq/kg	571	627.3	470.6 - 874.0	A
			Pu-238	Bq/kg	71.2	82	57 - 107	A
			Pu-239240	Bq/kg	0.487	0.93		A (3)
			K-40	Bq/kg	615	604	423 - 785	A
			Sr-90	Bq/kg	178	223.3	156.3 - 290.3	W
			Tc-99	Bq/kg	175	218.01	152.61 - 283.41	A
			U-234/233	Bq/kg	119	152.44	106.71 - 198.17	W
			U-238	Bq/kg	115	158.73	111.11 -206.35	W
			Zn-65	Bq/kg	937	903.61	632.53 - 1174.69	A

TABLE E-3 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)
TELEDYNE BROWN ENGINEERING, 2006
(PAGE 3 OF 3)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Acceptance Range	Evaluation (c)
July 2006	06-RdF16	AP	Am-241	Bq/sample	0.124	0.142	0.099 - 0.185	A
			Cs-134	Bq/sample	2.62	3.147	2.203 - 4.091	A
			Cs-137	Bq/sample	1.98	1.805	1.263 - 2.346	A
			Co-57	Bq/sample	2.65	2.582	1.807 - 3.357	A
			Co-60	Bq/sample	1.63	1.577	1.104 - 2.050	A
			Mn-54	Bq/sample	2.10	1.92	1.34 - 2.50	A
			Pu-238	Bq/sample	0.118	0.118	0.083 - 0.153	A
			Pu-239/240	Bq/sample	0.00822	NA		A
			Sr-90	Bq/sample	0.549	0.62	0.43 - 0.81	A
			U-234/233	Bq/sample	0.140	0.134	0.094 - 0.174	A
			U-238	Bq/sample	0.136	0.139	0.097 - 0.181	A
			Zn-65	Bq/sample	-0.163	NA		A
	06-GrF16	AP	Gr-A	Bq/sample	0.134	0.290	>0.0 - 0.580	A
			Gr-B	Bq/sample	0.358	0.359	0.180 - 0.538	A

(1) False positive test

(2) Evaluated as a false positive by MAPEP although we considered the result a non-detect due to the peak not being identified by the gamma software. For Cs-134, MAPEP suggests the Bi-214 is not being differentiated from the Cs-134 peak. See email attached with MAPEP results in Appendix A. NCR 06-07.

(3) Sr samples analyzed in triplicate and one high result of 2.43 pCi/kg biased the submitted results on the high side. We were unable to determine the cause for the higher result. Since we do not analyze vegetation for isotpic Pu, no NCR was initiated for the Pu failure. MAPEP suggest pyrosulfate fusion preparation prior to analysis for isotopic Pu in vegetation samples.

(4) Not detected, reported a statistically zero result. (False positive test)

(a) Teledyne Brown Engineering reported result.

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

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

TABLE E-4 ERA[a] STATISTICAL SUMMARY PROFICIENCY TESTING PROGRAM ENVIRONMENTAL, INC., 2006

(Page 1 of 2)

Lab Code	Date	Concentration (pCi/L)				
		Analysis	Laboratory Result[b]	ERA Result[c]	Control Limits	Acceptance
STW-1078	01/16/06	Sr-89	49.9 ± 3.5	50.2	41.5 - 58.9	Pass
STW-1078	01/16/06	Sr-90	31.5 ± 1.5	30.7	22.0 - 39.4	Pass
STW-1079	01/16/06	Ba-133	86.5 ± 4.1	95.0	78.6 - 111.0	Pass
STW-1079	01/16/06	Co-60	96.3 ± 4.1	95.3	86.6 - 104.0	Pass
STW-1079	01/16/06	Cs-134	22.6 ± 3.0	23.1	14.4 - 31.8	Pass
STW-1079	01/16/06	Cs-137	109.0 ± 5.9	111.0	101.0 - 121.0	Pass
STW-1079	01/16/06	Zn-65	198.0 ± 11.2	192.0	159.0 - 225.0	Pass
STW-1080	01/16/06	Gr. Alpha	10.8 ± 1.4	9.6	1.0 - 18.3	Pass
STW-1080	01/16/06	Gr. Beta	56.9 ± 1.9	61.9	44.6 - 79.2	Pass
STW-1081	01/16/06	Ra-226	4.3 ± 0.4	4.6	3.4 - 5.8	Pass
STW-1081	01/16/06	Ra-228	7.1 ± 1.8	6.6	3.7 - 9.5	Pass
STW-1081	01/16/06	Uranium	20.7 ± 0.5	22.1	16.9 - 27.3	Pass
STW-1088	04/10/06	Sr-89	29.0 ± 1.8	32.4	23.7 - 41.1	Pass
STW-1088	04/10/06	Sr-90	8.7 ± 1.0	9.0	0.3 - 17.7	Pass
STW-1089	04/10/06	Ba-133	10.3 ± 0.4	10.0	1.3 - 18.7	Pass
STW-1089	04/10/06	Co-60	114.0 ± 2.8	113.0	103.0 - 123.0	Pass
STW-1089	04/10/06	Cs-134	41.9 ± 1.4	43.4	34.7 - 52.1	Pass
STW-1089	04/10/06	Cs-137	208.0 ± 1.1	214.0	195.0 - 233.0	Pass
STW-1089	04/10/06	Zn-65	154.0 ± 0.8	152.0	126.0 - 178.0	Pass
STW-1090	04/10/06	Gr. Alpha	13.4 ± 1.1	21.3	12.1 - 30.5	Pass
STW-1090	04/10/06	Gr. Beta	27.7 ± 2.1	23.0	14.3 - 31.7	Pass
STW-1091	04/10/06	I-131	22.0 ± 0.3	19.1	13.9 - 24.3	Pass
STW-1092	04/10/06	H-3	7960.0 ± 57.0	8130.0	6720.0 - 9540.0	Pass
STW-1092	04/10/06	Ra-226	2.9 ± 0.4	3.0	2.2 - 3.8	Pass
STW-1092	04/10/06	Ra-228	20.9 ± 1.2	19.1	10.8 - 27.4	Pass
STW-1092	04/10/06	Uranium	68.6 ± 3.4	69.1	57.1 - 81.1	Pass
STW-1094	07/10/06	Sr-89	15.9 ± 0.7	19.7	11.0 - 28.4	Pass
STW-1094	07/10/06	Sr-90	24.3 ± 0.4	25.9	17.2 - 34.6	Pass
STW-1095	07/10/06	Ba-133	94.9 ± 8.9	88.1	72.9 - 103.0	Pass
STW-1095	07/10/06	Co-60	104.0 ± 1.8	99.7	91.0 - 108.0	Pass
STW-1095	07/10/06	Cs-134	48.7 ± 1.3	54.1	45.4 - 62.8	Pass
STW-1095	07/10/06	Cs-137	236.0 ± 3.0	238.0	217.0 - 259.0	Pass
STW-1095	07/10/06	Zn-65	126.0 ± 8.0	121.0	100.0 - 142.0	Pass
STW-1096	07/10/06	Gr. Alpha	10.9 ± 1.0	10.0	1.3 - 18.6	Pass
STW-1096	07/10/06	Gr. Beta	9.7 ± 0.4	8.9	0.2 - 17.5	Pass
STW-1097	07/10/06	Ra-226	11.0 ± 0.5	10.7	7.9 - 13.5	Pass
STW-1097	07/10/06	Ra-228	12.2 ± 0.8	10.7	6.1 - 15.3	Pass
STW-1097	07/10/06	Uranium	43.4 ± 0.1	40.3	33.3 - 47.3	Pass

TABLE E-4 ERA[a] STATISTICAL SUMMARY PROFICIENCY TESTING PROGRAM ENVIRONMENTAL, INC., 2006

Lab Code	Date	Analysis	Concentration (pCi/L) Laboratory Result[b]	ERA Result[c]	Control Limits	Acceptance
STW-1104	10/06/06	Sr-89	38.4 ± 1.3	39.9	31.2 - 45.7	Pass
STW-1104	10/06/06	Sr-90	15.5 ± 0.5	16.0	7.3 - 24.7	Pass
STW-1105	10/06/06	Ba-133	64.9 ± 2.8	70.2	58.1 - 82.3	Pass
STW-1105	10/06/06	Co-60	61.6 ± 1.0	62.3	53.6 - 71.0	Pass
STW-1105	10/06/06	Cs-134	29.0 ± 0.9	29.9	21.2 - 38.6	Pass
STW-1105	10/06/06	Cs-137	77.8 ± 2.4	78.2	69.5 - 86.9	Pass
STW-1105	10/06/06	Zn-65	293.0 ± 2.4	277.0	229.0 - 325.0	Pass
STW-1106	10/06/06	Gr. Alpha	23.9 ± 2.5	28.7	16.3 - 41.1	Pass
STW-1106	10/06/06	Gr. Beta	23.7 ± 1.4	20.9	12.2 - 29.6	Pass
STW-1107 [d]	10/06/06	I-131	28.4 ± 1.2	22.1	16.9 - 27.3	Fail
STW-1108	10/06/06	Ra-226	14.5 ± 0.5	14.4	10.7 - 18.1	Pass
STW-1108	10/06/06	Ra-228	6.6 ± 0.4	5.9	3.3 - 8.4	Pass
STW-1108	10/06/06	Uranium	2.9 ± 0.1	3.2	0.0 - 8.4	Pass
STW-1109	10/06/06	H-3	3000.0 ± 142.0	3050.0	2430.0 - 3670.0	Pass

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

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

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

[d] The reported result was an average of three analyses, results ranged from 25.36 to 29.23 pCi/L. A fourth analysis was performed, result of analysis, 24.89 pCi/L.

TABLE E-5 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)[a] ENVIRONMENTAL, INC., 2006

			Concentration [b]			
Lab Code[c]	Date	Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STVE-1082	01/01/06	Am-241	0.16 ± 0.06	0.16	0.11 - 0.20	Pass
STVE-1082	01/01/06	Co-57	10.40 ± 0.20	8.58	6.00 - 11.15	Pass
STVE-1082	01/01/06	Co-60	5.00 ± 0.20	4.52	3.16 - 5.88	Pass
STVE-1082 [e]	01/01/06	Cs-134	< 0.20	0.00		Pass
STVE-1082	01/01/06	Cs-137	3.40 ± 0.20	3.07	2.15 - 4.00	Pass
STVE-1082	01/01/06	Mn-54	6.90 ± 0.20	6.25	4.37 - 8.12	Pass
STVE-1082 [f]	01/01/06	Pu-238	0.08 ± 0.03	0.14	0.10 - 0.18	Fail
STVE-1082	01/01/06	Pu-239/40	0.17 ± 0.03	0.16	0.11 - 0.21	Pass
STVE-1082	01/01/06	Sr-90	1.40 ± 0.20	1.56	1.09 - 2.03	Pass
STVE-1082	01/01/06	U-233/4	0.24 ± 0.05	0.21	0.15 - 0.27	Pass
STVE-1082	01/01/06	U-238	0.19 ± 0.04	0.22	0.15 - 0.28	Pass
STVE-1082	01/01/06	Zn-65	11.10 ± 0.50	9.80	6.86 - 12.74	Pass
STSO-1083	01/01/06	Am-241	54.60 ± 5.50	57.08	39.96 - 74.20	Pass
STSO-1083	01/01/06	Co-57	762.90 ± 12.70	656.29	459.40 - 853.18	Pass
STSO-1083	01/01/06	Co-60	504.90 ± 3.10	447.10	312.97 - 581.23	Pass
STSO-1083 [e]	01/01/06	Cs-134	< 1.70	0.00		Pass
STSO-1083	01/01/06	Cs-137	406.50 ± 3.70	339.69	237.78 - 441.60	Pass
STSO-1083	01/01/06	K-40	719.20 ± 18.40	604.00	422.80 - 785.20	Pass
STSO-1083	01/01/06	Mn-54	415.60 ± 4.80	346.77	242.74 - 450.80	Pass
STSO-1083	01/01/06	Ni-63	261.40 ± 14.70	323.51	226.46 - 420.56	Pass
STSO-1083	01/01/06	Pu-238	14.60 ± 2.90	61.15	42.81 - 79.50	Fail
STSO-1083	01/01/06	Pu-239/40	14.60 ± 2.40	45.85	32.09 - 59.61	Fail
STSO-1083	01/01/06	U-233/4	13.50 ± 1.70	37.00	25.90 - 48.10	Fail
STSO-1083	01/01/06	U-238	15.40 ± 1.80	38.85	27.20 - 50.50	Fail
STSO-1083	01/01/06	Zn-65	783.40 ± 7.00	657.36	460.15 - 854.57	Pass
STAP-1084	01/01/06	Gr. Alpha	0.26 ± 0.02	0.36	0.00 - 0.72	Pass
STAP-1084	01/01/06	Gr. Beta	0.51 ± 0.03	0.48	0.24 - 0.72	Pass
STAP-1085	01/01/06	Am-241	0.12 ± 0.02	0.09	0.07 - 0.12	Pass
STAP-1085	01/01/06	Co-57	4.32 ± 0.10	4.10	2.87 - 5.32	Pass
STAP-1085	01/01/06	Co-60	2.24 ± 0.16	2.19	1.53 - 2.84	Pass
STAP-1085	01/01/06	Cs-134	2.96 ± 0.19	2.93	2.05 - 3.81	Pass
STAP-1085	01/01/06	Cs-137	2.64 ± 0.20	2.53	1.77 - 3.29	Pass
STAP-1085 [f]	01/01/06	Pu-238	0.03 ± 0.01	0.07	0.05 - 0.09	Fail
STAP-1085 [e]	01/01/06	Pu-239/40	< 0.01	0.00		Pass
STAP-1085	01/01/06	Sr-90	0.77 ± 0.21	0.79	0.55 - 1.03	Pass
STAP-1085	01/01/06	U-233/4	0.03 ± 0.01	0.02	0.01 - 0.03	Pass
STAP-1085	01/01/06	U-238	0.02 ± 0.01	0.02	0.01 - 0.03	Pass
STAP-1085	01/01/06	Zn-65	3.94 ± 0.44	3.42	2.40 - 4.45	Pass

TABLE E-5 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)[a] ENVIRONMENTAL, INC., 2006

		Concentration [b]				
Lab Code[c]	Date	Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STW-1086	01/01/06	Am-241	1.29 ± 0.05	1.30	0.91 - 1.69	Pass
STW-1086	01/01/06	Co-57	177.10 ± 1.00	166.12	116.28 - 215.96	Pass
STW-1086	01/01/06	Co-60	158.30 ± 1.00	153.50	107.45 - 199.55	Pass
STW-1086	01/01/06	Cs-134	96.40 ± 1.50	95.10	66.57 - 123.63	Pass
STW-1086 [e]	01/01/06	Cs-137	< 0.80	0.00		Pass
STW-1086	01/01/06	Fe-55	102.50 ± 18.10	129.60	90.72 - 168.48	Pass
STW-1086	01/01/06	H-3	956.60 ± 16.50	952.01	666.41 - 1238.00	Pass
STW-1086	01/01/06	Mn-54	335.30 ± 2.20	315.00	220.50 - 409.50	Pass
STW-1086	01/01/06	Ni-63	62.90 ± 3.60	60.34	42.24 - 78.44	Pass
STW-1086	01/01/06	Pu-238	0.96 ± 0.07	0.91	0.70 - 1.30	Pass
STW-1086 [e]	01/01/06	Pu-239/40	< 0.20	0.00		Pass
STW-1086	01/01/06	Sr-90	12.80 ± 1.60	13.16	9.21 - 17.11	Pass
STW-1086	01/01/06	Tc-99	22.30 ± 1.20	23.38	16.37 - 30.39	Pass
STW-1086	01/01/06	U-233/4	2.02 ± 0.12	2.09	1.46 - 2.72	Pass
STW-1086	01/01/06	U-238	2.03 ± 0.12	2.17	1.52 - 2.82	Pass
STW-1086	01/01/06	Zn-65	249.50 ± 3.40	228.16	159.71 - 296.61	Pass
STW-1087	01/01/06	Gr. Alpha	0.59 ± 0.10	0.58	0.00 - 1.16	Pass
STW-1087	01/01/06	Gr. Beta	1.69 ± 0.07	1.13	0.56 - 1.70	Pass
STVE-1098 [e]	07/01/06	Co-57	< 0.14	0.00		Pass
STVE-1098 [g]	07/01/06	Co-60	6.89 ± 0.17	5.81	4.06 - 7.55	Pass
STVE-1098	07/01/06	Cs-134	8.46 ± 0.16	7.49	5.24 - 9.73	Pass
STVE-1098	07/01/06	Cs-137	6.87 ± 0.29	5.50	3.85 - 7.14	Pass
STVE-1098	07/01/06	Mn-54	10.36 ± 0.29	8.35	5.85 - 10.86	Pass
STVE-1098	07/01/06	Zn-65	7.46 ± 0.50	5.98	4.19 - 7.78	Pass
STSO-1099	07/01/06	Am-241	130.00 ± 11.60	105.47	73.83 - 137.11	Pass
STSO-1099	07/01/06	Co-57	784.90 ± 3.80	676.33	473.43 - 879.23	Pass
STSO-1099	07/01/06	Co-60	2.10 ± 0.90	1.98	0.00 - 5.00	Pass
STSO-1099	07/01/06	Cs-134	500.70 ± 7.40	452.13	316.49 - 587.77	Pass
STSO-1099	07/01/06	Cs-137	624.20 ± 4.90	525.73	368.01 - 683.45	Pass
STSO-1099	07/01/06	K-40	701.30 ± 3.40	604.00	423.00 - 785.00	Pass
STSO-1099	07/01/06	Mn-54	699.20 ± 5.20	594.25	415.98 - 772.52	Pass
STSO-1099	07/01/06	Ni-63	614.40 ± 17.10	672.30	470.60 - 874.00	Pass
STSO-1099	07/01/06	Pu-238	79.90 ± 5.80	82.00	57.00 - 107.00	Pass
STSO-1099 [e]	07/01/06	Pu-239/40	< 0.70	0.00		Pass
STSO-1099	07/01/06	U-233/4	150.50 ± 5.90	152.44	106.71 - 198.17	Pass
STSO-1099	07/01/06	U-238	151.60 ± 6.00	158.73	111.11 - 206.35	Pass
STSO-1099	07/01/06	Zn-65	1021.90 ± 9.20	903.61	632.53 - 1175.00	Pass

TABLE E-5 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)[a] ENVIRONMENTAL, INC., 2006

			Concentration [b]			
Lab Code[c]	Date	Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STAP-1100	07/01/06	Am-241	0.16 ± 0.03	0.14	0.10 - 0.19	Pass
STAP-1100	07/01/06	Co-57	2.17 ± 0.06	2.58	1.81 - 3.36	Pass
STAP-1100	07/01/06	Co-60	1.38 ± 0.07	1.58	1.10 - 2.05	Pass
STAP-1100	07/01/06	Cs-134	2.52 ± 0.13	3.15	2.20 - 4.09	Pass
STAP-1100	07/01/06	Cs-137	1.64 ± 0.08	1.81	1.26 - 2.35	Pass
STAP-1100	07/01/06	Mn-54	1.76 ± 0.18	1.92	1.34 - 2.50	Pass
STAP-1100	07/01/06	Pu-238	0.09 ± 0.02	0.12	0.08 - 0.15	Pass
STAP-1100	07/01/06	Sr-90	0.66 ± 0.21	0.62	0.43 - 0.81	Pass
STAP-1100	07/01/06	U-233/4	0.15 ± 0.02	0.13	0.09 - 0.17	Pass
STAP-1100	07/01/06	U-238	0.13 ± 0.02	0.14	0.10 - 0.18	Pass
STAP-1100 [e]	07/01/06	Zn-65	< 0.07	0.00		Pass
STAP-1101	07/01/06	Gr. Alpha	0.08 ± 0.03	0.29	0.00 - 0.58	Pass
STAP-1101	07/01/06	Gr. Beta	0.41 ± 0.05	0.36	0.18 - 0.54	Pass
STW-1102	07/01/06	Gr. Alpha	0.76 ± 0.07	1.03	0.00 - 2.07	Pass
STW-1102	07/01/06	Gr. Beta	1.23 ± 0.06	1.03	0.52 - 1.54	Pass
STW-1103	07/01/06	Am-241	1.86 ± 0.09	2.31	1.62 - 3.00	Pass
STW-1103	07/01/06	Co-57	224.10 ± 1.20	213.08	149.16 - 277.00	Pass
STW-1103	07/01/06	Co-60	49.40 ± 0.50	47.50	33.20 - 61.80	Pass
STW-1103	07/01/06	Cs-134	112.70 ± 0.90	112.82	78.97 - 146.66	Pass
STW-1103	07/01/06	Cs-137	206.60 ± 1.40	196.14	137.30 - 254.98	Pass
STW-1103	07/01/06	Fe-55	138.40 ± 5.40	165.40	115.80 - 215.00	Pass
STW-1103	07/01/06	H-3	446.50 ± 11.80	428.85	300.20 - 557.50	Pass
STW-1103 [e]	07/01/06	Mn-54	< 0.30	0.00		Pass
STW-1103	07/01/06	Ni-63	116.70 ± 3.60	118.62	83.03 - 154.21	Pass
STW-1103	07/01/06	Pu-238	1.27 ± 0.07	1.39	0.97 - 1.81	Pass
STW-1103	07/01/06	Pu-239/40	1.67 ± 0.08	1.94	1.36 - 2.52	Pass
STW-1103	07/01/06	Sr-90	16.40 ± 1.90	15.69	10.98 - 20.40	Pass
STW-1103	07/01/06	Tc-99	29.40 ± 1.10	27.15	19.00 - 35.29	Pass
STW-1103	07/01/06	U-233/4	1.97 ± 0.08	2.15	1.50 - 2.80	Pass
STW-1103	07/01/06	U-238	1.97 ± 0.08	2.22	1.55 - 2.89	Pass
STW-1103	07/01/06	Zn-65	192.50 ± 2.40	176.37	123.46 - 229.28	Pass

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

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

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

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

[e] Included in the MAPEP as a false positive.

[f] Difficulties with the analyses for transuranics isotopes in solid samples (Filters, Soil and vegetation), were attributed to incomplete dissolution of the samples. Soil samples were repeated, results of reanalyses: Pu-238, 53.1 ± 5.3 bq/kg. Pu-239/240, 42.4 ± 4.7 bq/kg. U-233/4, 33.3 ± 3.5 bq/kg. U-238, 35.5 ± 3.6 bq/kg.

[g] The July vegetation sample was provided in two separate geometries, (100 ml. and 500 ml.). Results reported here used the 500 ml. standard size geometry. Results for the 100 ml. geometry showed approximately a 15% higher bias.

APPENDIX F

ANNUAL RADIOLOGICAL GROUNDWATER PROTECTION PROGRAM REPORT (ARGPPR)

Docket No: 50-219

OYSTER CREEK GENERATING STATION UNIT 1

Annual Radiological Groundwater Protection Program Report

1 January Through 31 December 2006

Prepared By

Teledyne Brown Engineering
Environmental Services

AmerGen SM
An Exelon Company

Oyster Creek Generating Station
Forked River, NJ 08731

May 2007

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I. Summary and Conclusions

This report on the Radiological Groundwater Protection Program (RGPP) conducted for the Oyster Creek Generating Station (OCGS) by AmerGen Energy Company covers the period 01 January 2006 through 31 December 2006.

In 2006, Exelon instituted a comprehensive program to evaluate the impact of station operations on groundwater and surface water in the vicinity of Oyster Creek Generating Station. This evaluation involved numerous station personnel and contractor support personnel.

This is the first in a series of annual reports on the status of the Radiological Groundwater Protection Program (RGPP) conducted at Oyster Creek Generating Station. This report covers groundwater and surface water samples collected from the environment, both on and off station property in 2006. At Oyster Creek Generating Station, 62 existing groundwater monitoring wells and three surface water locations were measured for ground water levels in early 2006. Following that, 252 analyses were performed on 86 samples from 44 locations. The monitoring was conducted in two phases. Phase 1 of the monitoring was part of a comprehensive study initiated by Exelon to determine whether groundwater or surface water at and in the vicinity of Oyster Creek Generating Station had been adversely impacted by any releases of radionuclides.

Phase 1 was conducted by Connestoga Rovers and Associates (CRA) and the conclusions were made available to state and federal regulators as well as the public on an Exelon web site:
http://www.exeloncorp.com/ourcompanies/powergen/nuclear/Tritium.htm.

Phase 2 of the RGPP was conducted by Exelon corporate and station personnel to begin long-term monitoring at groundwater and surface water locations selected during Phase 1. All analytical results from both the Phase 1 and Phase 2 monitoring are reported herein.

In assessing all the data gathered for this report, it was concluded that the operation of Oyster Creek Generating Station had no adverse radiological impact on the environment, and there are no known active releases into the groundwater at Oyster Creek Generating Station.

Gamma-emitting radionuclides associated with licensed plant operations were not detected at concentrations greater than their respective Lower Limits of Detection (LLDs) as specified in the Offsite Dose Calculation Manual (ODCM) in any of the groundwater or surface water samples. In the case of tritium, Exelon specified that it's laboratories achieve a lower limit of detection 100 times lower than that required by federal regulation (200 pCi/liter versus 20,000 pCi/liter).

Strontium-89/90 was not detected in any of the groundwater or surface water samples tested.

Tritium was not detected in any of the groundwater or surface water samples at concentrations greater than the United States Environmental Protection Agency (USEPA) drinking water standard (and the Nuclear Regulatory Commission Reporting Limit) of 20,000 pCi/liter. Tritium was detected in a single groundwater sample from a monitoring well onsite at an activity level of 211 ± 115 pCi/liter, which is slightly above the LLD of 200 pCi/liter. This detection is consistent with low-level historical tritium detections in groundwater and is considered background.

II. Introduction

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

This report covers those analyses performed by Teledyne Brown Engineering (TBE) and Environmental Inc. (Midwest Labs) on samples collected in 2006.

A. Objectives of the RGPP

The long-term objectives of the RGPP are as follows:

1. Identify suitable locations to monitor and evaluate potential impacts from station operations before significant radiological impact to the environment and potential drinking water sources.

2. Understand the local hydrogeologic regime in the vicinity of the station and maintain up-to-date knowledge of flow patterns on the surface and shallow subsurface.

3. Perform routine water sampling and radiological analysis of water from selected locations.

4. Report new leaks, spills, or other detections with potential radiological significance to stakeholders in a timely manner.

5. Regularly assess analytical results to identify adverse trends.

6. Take necessary corrective actions to protect groundwater resources.

B. Implementation of the Objectives

The objectives identified have been implemented at Oyster Creek Generating Station as discussed below:

1. Exelon and its consultant identified locations as described in the Phase 1 study. Phase 1 studies were conducted by Connestoga Rovers and Associates (CRA) and the results and conclusions were made available to state and federal regulators as well as the public on an Exelon web site in station specific reports. http://www.exeloncorp.com/ourcompanies/powergen/nuclear/Tritium.htm

2. The Oyster Creek Generating Station report describes the local hydrogeologic regime. Periodically, the flow patterns on the surface and shallow subsurface are updated based on ongoing measurements.

3. Oyster Creek Generating Station will continue to perform routine sampling and radiological analysis of water from selected locations.

4. Oyster Creek Generating Station has implemented new procedures to identify and report new leaks, spills, or other detections with potential radiological significance in a timely manner.

5. Oyster Creek Generating Station staff and independent consults, including a hydrogeologist, assess analytical results on an ongoing basis to identify adverse trends.

C. Program Description

Samples for the OCGS RGPP Phase 1 were collected for AmerGen Energy Company by Connestoga Rovers and Associates (CRA) and samples for Phase 2 were collected by on-site personnel and Normandeau Associates, RMC Environmental Services Division (RMC). This section describes the general collection methods used to obtain environmental samples for the OCGS RGPP in 2006. Sample locations can be found in Table A–1, Appendix A.

1. Sample Collection

Groundwater and Surface Water

Samples of water are collected, managed, transported and analyzed in accordance with approved procedures following EPA

methods. Both groundwater and surface water are collected. Sample locations, sample collection frequencies and analytical frequencies are controlled in accordance with approved station procedures. Contractor and/or station personnel are trained in the collection, preservation management, and shipment of samples, as well as in documentation of sampling events. Analytical laboratories are subject to internal quality assurance programs, industry cross-check programs, as well as nuclear industry audits. Station personnel review and evaluate all analytical data deliverables as data are received.

Analytical data results are reviewed by both station personnel and independent consultants, including a hydrogeologist for adverse trends or changes to hydrogeologic conditions.

D. Characteristics of Tritium (H-3)

Tritium (chemical symbol H-3) is a radioactive isotope of hydrogen. The most common form of tritium is tritium oxide, which is also called "tritiated water." The chemical properties of tritium are essentially those of ordinary hydrogen.

Tritiated water behaves the same as ordinary water in both the environment and the body. Tritium can be taken into the body by drinking water, breathing air, eating food, or absorption through skin. Once tritium enters the body, it disperses quickly and is uniformly distributed throughout the body. Tritium is excreted primarily through urine with a clearance rate characterized by an effective biological half-life of about 14 days. Within one month or so after ingestion, essentially all tritium is cleared. Organically bound tritium (tritium that is incorporated in organic compounds) can remain in the body for a longer period. Tritium atoms can exchange with any hydrogen atom. If the hydrogen atom is part of an organic molecule, the tritium becomes 'organically bound' and is transported with the molecule rather than moving freely like water.

Tritium is produced naturally in the upper atmosphere when cosmic rays strike air molecules. Tritium is also produced during nuclear weapons explosions, as a by-product in reactors producing electricity, and in special production reactors, where the isotopes lithium-7 and/or boron-10 are activated to produce tritium. Also, tritium was released into the atmosphere from Chernobyl in 1986. Like normal water, tritiated water is colorless and odorless. Tritiated water behaves chemically and physically like non-tritiated water in the subsurface, and therefore tritiated water will travel at the same velocity as the average groundwater velocity.

Tritium has a half-life of approximately 12.3 years. It decays spontaneously to helium-3 (He-3). This radioactive decay releases a beta particle (low-energy electron). The radioactive decay of tritium is the source of the health risk from exposure to tritium. Tritium is one of the least dangerous radionuclides because it emits very weak radiation and leaves the body relatively quickly. Since tritium is almost always found as water, it goes directly into soft tissues and organs. The associated dose to these tissues is generally uniform and is dependent on the water content of the specific tissue.

III. Program Description

A. Sample Analysis

This section describes the general analytical methodologies used by TBE and EIML to analyze the environmental samples for radioactivity for the Oyster Creek Generating Station RGPP in 2006.

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

1. Concentrations of gamma emitters in groundwater and surface water.

2. Concentrations of strontium in groundwater and surface water.

3. Concentrations of tritium in groundwater and surface water.

B. Data Interpretation

The radiological data collected prior to Oyster Creek Generating Station becoming operational were used as a baseline with which these operational data were compared. For the purpose of this report, Oyster Creek Generating Station was considered operational at initial criticality. Several factors were important in the interpretation of the data:

1. <u>Lower Limit of Detection and Minimum Detectable Concentration</u>

The lower limit of detection (LLD) is 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 is intended as a before the fact estimate of a system (including instrumentation, procedure and

sample type) and not as an after the fact criterion for the presence of activity. All analyses were designed to achieve the required OCGS detection capabilities for environmental sample analysis.

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

2. Laboratory Measurements Uncertainty

The estimated uncertainty in measurement of tritium in environmental samples is frequently on the order of 50% of the measurement value.

Statistically, the exact value of a measurement is expressed as a range with a stated level of confidence. The convention is to report results with a 95% level of confidence. The uncertainty comes from calibration standards, sample volume or weight measurements, sampling uncertainty and other factors. Exelon reports the uncertainty of a measurement created by statistical process (counting error) as well as all sources of error (Total Propagated Uncertainty or TPU). Each result has two values calculated. Exelon reports the TPU by following the result with plus or minus (±) the estimated sample standard deviation, as TPU, that is obtained by propagating all sources of analytical uncertainty in measurements.

Analytical uncertainties are reported at the 95% confidence level in this report for reporting consistency with the AREOR.

C. Background Analysis

A pre-operational radiological environmental monitoring program (pre-operational REMP) was conducted to establish background radioactivity levels prior to operation of the station. The environmental media sampled and analyzed during the pre-operational REMP were atmospheric radiation, fall-out, domestic water, surface water, marine life, and foodstuffs. The results of the monitoring were detailed in the report entitled, Pre-Operational Environmental Radiation Survey, Oyster Creek Nuclear Electric Generating Station, Jersey Central Power & Light Company, dated March 1968.

This report contains analytical results from samples collected from both surface water and groundwater.

Monthly surface water sampling began in 1966, and the samples were analyzed for tritium as well as other radioactivity. During the preoperational program, tritium was detected at an average concentration of 1.05E+3 pCi/liter, indicating that these preoperational results were from nuclear weapons testing and are radioactively decaying as predicted. At that time, counting instrumentation was not as sensitive as it is now, and the minimum detectable concentration was 1E+3 pCi/liter versus 2E+2 pCi/liter used today. Gamma isotopic and radio strontium analyses results average concentrations were all greater than radioisotope analyses results from operational data.

1. Background Concentrations of Tritium

   The purpose of the following discussion is to summarize background measurements of tritium in various media performed by others. Additional detail may be found by consulting references.

   a. Tritium Production

      Tritium is created in the environment from naturally occurring processes both cosmic and subterranean, as well as from anthropogenic (i.e., man-made) sources. In the upper atmosphere, "cosmogenic" tritium is produced from the bombardment of stable nuclides and combines with oxygen to form tritiated water, which will then enter the hydrologic cycle. Below ground, "lithogenic" tritium is produced by the bombardment of natural lithium present in crystalline rocks by neutrons produced by the radioactive decay of naturally abundant uranium and thorium. Lithogenic production of tritium is usually negligible compared to other sources due to the limited abundance of lithium in rock. The lithogenic tritium is introduced directly to groundwater.

      A major anthropogenic source of tritium and strontium-90 comes from the former atmospheric testing of thermonuclear weapons. Levels of tritium in precipitation increased significantly during the 1950s and early 1960s, and later with additional testing, resulting in the release of significant amounts of tritium to the atmosphere. The Canadian heavy water nuclear power reactors, other commercial power reactors, nuclear research and weapons production continue to influence tritium concentrations in the environment. Also, tritium was released into the atmosphere from Chernobyl, 1986.

b. Precipitation Data

Precipitation samples are routinely collected at stations around the world for the analysis of tritium and other radionuclides. Two publicly available databases that provide tritium concentrations in precipitation are Global Network of Isotopes in Precipitation (GNIP) and USEPA's RadNet database. GNIP provides tritium precipitation concentration data for samples collected world wide from 1960 to 2006. RadNet provides tritium precipitation concentration data for samples collected at stations through out the U.S. from 1960 up to and including 2006. Based on GNIP data for sample stations located in the U.S. Midwest, tritium concentrations peaked around 1963. This peak, which approached 10,000 pCi/liter for some stations, coincided with the atmospheric testing of thermonuclear weapons. Tritium concentrations in surface water showed a sharp decline up until 1975 followed by a gradual decline since that time. Tritium concentrations in precipitation in New Jersey have typically been below 100 pCi/liter since around 1980. Tritium concentrations in wells may still be above the 200 pCi/liter detection limit from the external causes described above. Water from previous years and decades is naturally captured in groundwater, so some well water sources today are affected by the surface water from the 1960s that was elevated in tritium.

c. Surface Water Data

Tritium concentrations are routinely measured in large surface water bodies, including Forked River and Barnegat Bay. New Jersey surface water data were typically less than 100 pCi/liter.

The USEPA RadNet surface water data typically has a reported 'Combined Standard Uncertainty' of 35 to 50 pCi/liter. According to USEPA, this corresponds to a ±70 to 100 pCi/liter 95% confidence bound on each given measurement. Therefore, the typical background data provided may be subject to measurement uncertainty of approximately ± 70 to 100 pCi/liter.

The radio-analytical laboratory is counting tritium results to an Exelon specified LLD of 200 pCi/liter. Typically, the lowest positive measurement will be reported within a range of 40 – 240 pCi/liter or 140 ± 100 pCi/liter. Clearly, these

sample results cannot be distinguished as different from background at this concentration.

IV. Results and Discussion

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

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

A. Groundwater Results

Groundwater

Samples were collected from on and off-site wells throughout the year in accordance with the station radiological groundwater protection program. Analytical results and anomalies are discussed below.

Tritium

Samples from 41 locations were analyzed for tritium activity (Table B–I.1 and B-I.2, Appendix B). Tritium was detected in a single groundwater sample from a monitoring well onsite at an activity level of 211 ± 115 pCi/liter which is slightly above the LLD of 200 pCI/liter. This detection is consistent with low-level historical tritium detections in groundwater and is considered background.

Concentrations of tritium in shallow groundwater reached a maximum of 211 pCi/liter. Tritium concentrations ranged from 149 to 211 pCi/liter. Samples from the location most representative of potential offsite user of drinking water were all less than the LLD of 200 pCi/liter.

Concentrations detected were consistent with those detected in REMP samples.

Strontium

No Sr-90 activity was detected in the 82 samples analyzed. (Table B–I.3 and B-I.4, Appendix B).

Gamma Emitters and Strontium

Naturally occurring potassium-40 was detected in 15 of 84 samples. The concentrations ranged from 24 pCi/liter to 263 pCi/liter. No other gamma emitting nuclides were detected. (Table B–I.5 and B–I.6, Appendix B).

B. Drinking Water Well Survey

A drinking water well survey was conducted during the summer 2006 by CRA (CRA 2006) around the Oyster Creek Generating Station. CRA reviewed the New Jersey Geological Survey Bureau of Water Allocation Database Search included in the report entitled "Remedial Action Work Plan – Non-Radiological GPU Nuclear, Inc.; Oyster Creek Nuclear Generating Station U.S. Route 9 Forked River New Jersey" (URS GWC, 2000). The database provides a list of permitted wells within a 5-mile radius of the station and includes private, public, and industrial water supply wells and monitoring wells. The database indicates no public water supply well permits exist within a 0.5-mile radius of the center of the station (i.e., Reactor Building).

In addition to the two domestic water supply wells located on the OCGS site, the database indicated that there were three individually owned locations permitted for a water supply well within a 0.5-mile radius of the station.

In addition to the water supply wells identified in the database, there are seven wells located on the property to the west of the station (i.e., combustion turbine facility). These seven wells supply water for fire protection (4 wells), process water for the combustion turbine system (2 wells) and one domestic water supply well.

C. Summary of Results – Inter-Laboratory Comparison Program

Inter-Laboratory Comparison Program results for TBE and Environmental Inc. (Midwest Labs) are presented in the 2006 Oyster Creek AREOR.

D. Leaks, Spills, and Releases

The OCGS records inadvertent release of radioactive liquids in accordance with 10 CFR 50.75(g). As part of the fleet wide assessment, a third party environmental engineering firm was contracted to evaluate historic releases, if any, and determine if a potential pathway to the environment existed. Those releases that were determined to have

potentially impacted groundwater were subsequently investigated as part of the fleet wide assessment.

The hydrogeologic investigation determined that there are currently no radiological impacts to groundwater at the Oyster Creek Generating Station.

E. Trends

No trends have been identified.

F. Investigations

Conclusions from the Phase 1 report have been made available to state and federal regulators as well as the public on an Exelon web site: http://www.exeloncorp.com/ourcompanies/powergen/nuclear/Tritium.htm.

G. Actions Taken

1. Compensatory Actions

   There have been no station events requiring compensatory actions at the Oyster Creek Generating Station.

2. Installation of Monitoring Wells

   No new wells were required to be installed.

3. Actions to Recover/Reverse Plumes

   There have been no station events requiring actions to recover/reverse any plumes.

V. References

1. Connestoga Rovers and Associates, Fleetwide Assessment, Oyster Creek Generating Station, Forked River, New Jersey, Ref. No. 045136(18), September 2006

APPENDIX A

LOCATION DESIGNATION

TABLE A-1: Radiological Groundwater Protection Program - Sampling Locations, Oyster Creek Generating Station, 2006

Site	Site Type	Location
CST-13	Lysimeter	Onsite
CST-2	Lysimeter	Onsite
LW-3	Monitoring Well	Onsite
LW-4	Monitoring Well	Onsite
MW-15K-1A	Monitoring Well	Onsite
MW-16D	Monitoring Well	Onsite
MW-1A-2A	Monitoring Well	Onsite
MW-1I-1A	Monitoring Well	Onsite
MW-1I-2A	Monitoring Well	Onsite
MW-1L-1A	Monitoring Well	Onsite
MW-1L-2A	Monitoring Well	Onsite
MW-24-2A	Monitoring Well	Offsite
MW-24-3A	Monitoring Well	Offsite
NORTH WELL	Monitoring Well	Onsite
SOUTH WELL	Monitoring Well	Onsite
SW-1	Surface Water	Onsite
SW-2	Surface Water	Onsite
SW-3	Surface Water	Offsite
W-1	Monitoring Well	Onsite
W-10	Monitoring Well	Onsite
W-12	Monitoring Well	Onsite
W-13	Monitoring Well	Onsite
W-14	Monitoring Well	Onsite
W-15	Monitoring Well	Onsite
W-16	Monitoring Well	Onsite
W-1A	Monitoring Well	Onsite
W-1B	Monitoring Well	Onsite
W-2	Monitoring Well	Onsite
W-20	Monitoring Well	Onsite
W-2A	Monitoring Well	Onsite
W-2B	Monitoring Well	Onsite
W-3	Monitoring Well	Onsite
W-30	Monitoring Well	Onsite
W-3A	Monitoring Well	Onsite
W-3B	Monitoring Well	Onsite
W-3K	Monitoring Well	Offsite
W-4	Monitoring Well	Onsite
W-4A	Monitoring Well	Onsite
W-4B	Monitoring Well	Onsite
W-4K	Monitoring Well	Offsite
W-5	Monitoring Well	Onsite
W-6	Monitoring Well	Onsite
W-7	Monitoring Well	Onsite
W-9	Monitoring Well	Onsite

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APPENDIX B

DATA TABLES

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2006**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE		COLLECTION DATE		
CST-13		08/07/06	< 186	*
CST-2		08/07/06	< 188	*
LW-3		04/28/06	< 163	
LW-3		10/13/06	< 169	*
LW-4		04/28/06	< 164	
LW-4		10/13/06	< 168	*
MW-15K-1A DUP	Dup	05/04/06	211 ± 115	
MW-15K-1A		05/04/06	167 ± 105	
MW-15K-1A		10/11/06	< 168	*
MW-16D		05/01/06	< 164	
MW-16D		10/12/06	< 158	*
MW-1A-2A		05/04/06	< 158	
MW-1A-2A		10/12/06	< 158	*
MW-1I-1A		05/01/06	< 168	
MW-1I-1A		05/01/06	< 163	
MW-1I-2A		05/01/06	< 163	
MW-1L-1A		10/11/06	< 166	*
MW-1L-2A		10/11/06	< 163	*
MW-24-2A		04/25/06	< 164	
MW-24-2A		10/12/06	< 165	*
MW-24-3A		04/25/06	< 165	
MW-24-3A		10/11/06	< 152	*
NORTH WELL		05/03/06	< 166	
NORTH WELL		10/13/06	< 169	*
SOUTH WELL		04/28/06	< 164	
SOUTH WELL		10/13/06	< 165	*
SW-1		05/02/06	< 164	
SW-1		10/11/06	< 170	*
SW-2		05/01/06	< 164	
SW-2		10/12/06	< 157	*
SW-3		04/28/06	< 161	
SW-3		10/12/06	< 151	*
W-1		04/28/06	< 163	
W-1		10/09/06	< 170	*
W-10		05/03/06	< 179	
W-10		10/12/06	< 166	*
W-10		10/12/06	< 167	*
W-12		05/02/06	< 163	
W-12		10/11/06	< 154	*
W-12		10/11/06	< 167	*
W-13		05/02/06	< 179	
W-13		10/11/06	< 165	*
W-14		05/03/06	< 161	
W-14		10/12/06	< 164	*
W-15		05/03/06	< 175	
W-15		10/12/06	< 170	*
W-16		04/27/06	< 161	
W-16		10/12/06	< 167	*
W-1A		04/25/06	< 162	
W-1A		10/10/06	< 152	*

* INDICATES DISTILLED ANALYSES

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2006**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE		COLLECTION DATE		
W-1B		04/26/06	< 164	
W-1B		10/10/06	< 155	*
W-2		05/04/06	< 177	
W-2		10/10/06	< 148	*
W-20		04/27/06	< 163	
W-20		10/11/06	< 166	*
W-2A		04/26/06	< 164	
W-2A		10/10/06	< 158	*
W-2B		04/26/06	< 164	
W-2B		10/10/06	< 151	*
W-3		05/02/06	< 162	
W-3		10/10/06	< 155	*
W-30		05/11/06	< 168	
W-3A		04/26/06	< 167	
W-3A		10/09/06	< 152	*
W-3B		04/25/06	< 162	
W-3B		04/26/06	< 160	
W-3B		10/11/06	< 156	*
W-3K		04/25/06	< 160	
W-3K		10/09/06	< 151	*
W-4		05/02/06	< 164	
W-4		10/12/06	< 156	*
W-4A		05/03/06	< 165	
W-4A		10/13/06	< 150	*
W-4B		05/03/06	< 163	
W-4B		10/12/06	< 151	*
W-4B DUP	Dup	05/03/06	< 165	
W-4K		04/25/06	< 166	
W-4K		10/11/06	< 170	*
W-5		05/02/06	< 164	
W-5		10/10/06	< 168	*
W-6		05/02/06	< 164	
W-6		10/11/06	< 155	*
W-7		04/27/06	167 ± 103	
W-7		10/10/06	< 152	*
W-9		05/03/06	< 161	
W-9		10/12/06	< 169	*

* INDICATES DISTILLED ANALYSES

TABLE B-I.2 **HIGHEST TO LOWEST CONCENTRATIONS OF TRITIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2006**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE		COLLECTION DATE		
MW-15K-1A DUP	Dup	05/04/06	211 ± 115	
MW-15K-1A		05/04/06	167 ± 105	
W-7		04/27/06	167 ± 103	
CST-2		08/07/06	< 188	*
CST-13		08/07/06	< 186	*
W-10		05/03/06	< 179	
W-13		05/02/06	< 179	
W-2		05/04/06	< 177	
W-15		05/03/06	< 175	
SW-1		10/11/06	< 170	*
W-1		10/09/06	< 170	*
W-15		10/12/06	< 170	*
W-4K		10/11/06	< 170	*
LW-3		10/13/06	< 169	*
NORTH WELL		10/13/06	< 169	*
W-9		10/12/06	< 169	*
LW-4		10/13/06	< 168	*
MW-1I-1A		05/01/06	< 168	
MW-15K-1A		10/11/06	< 168	*
W-30		05/11/06	< 168	
W-5		10/10/06	< 168	*
W-10		10/12/06	< 167	*
W-12		10/11/06	< 167	*
W-16		10/12/06	< 167	*
W-3A		04/26/06	< 167	
MW-1L-1A		10/11/06	< 166	*
NORTH WELL		05/03/06	< 166	
W-10		10/12/06	< 166	*
W-20		10/11/06	< 166	*
W-4K		04/25/06	< 166	
MW-24-2A		10/12/06	< 165	*
MW-24-3A		04/25/06	< 165	
SOUTH WELL		10/13/06	< 165	*
W-13		10/11/06	< 165	*
W-4A		05/03/06	< 165	
W-4B DUP	Dup	05/03/06	< 165	
LW-4		04/28/06	< 164	
MW-16D		05/01/06	< 164	
MW-24-2A		04/25/06	< 164	
SOUTH WELL		04/28/06	< 164	
SW-1		05/02/06	< 164	
SW-2		05/01/06	< 164	
W-14		10/12/06	< 164	*
W-1B		04/26/06	< 164	
W-2A		04/26/06	< 164	
W-2B		04/26/06	< 164	
W-4		05/02/06	< 164	
W-5		05/02/06	< 164	
W-6		05/02/06	< 164	
LW-3		04/28/06	< 163	

* INDICATES DISTILLED ANALYSES

TABLE B-I.2 **HIGHEST TO LOWEST CONCENTRATIONS OF TRITIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2006**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE		
MW-1I-1A	05/01/06	< 163	
MW-1I-2A	05/01/06	< 163	
MW-1L-2A	10/11/06	< 163	*
W-1	04/28/06	< 163	
W-12	05/02/06	< 163	
W-20	04/27/06	< 163	
W-4B	05/03/06	< 163	
W-1A	04/25/06	< 162	
W-3	05/02/06	< 162	
W-3B	04/25/06	< 162	
SW-3	04/28/06	< 161	
W-14	05/03/06	< 161	
W-16	04/27/06	< 161	
W-9	05/03/06	< 161	
W-3B	04/26/06	< 160	
W-3K	04/25/06	< 160	
MW-16D	10/12/06	< 158	*
MW-1A-2A	05/04/06	< 158	
MW-1A-2A	10/12/06	< 158	*
W-2A	10/10/06	< 158	*
SW-2	10/12/06	< 157	*
W-3B	10/11/06	< 156	*
W-4	10/12/06	< 156	*
W-1B	10/10/06	< 155	*
W-3	10/10/06	< 155	*
W-6	10/11/06	< 155	*
W-12	10/11/06	< 154	*
MW-24-3A	10/11/06	< 152	*
W-1A	10/10/06	< 152	*
W-3A	10/09/06	< 152	*
W-7	10/10/06	< 152	*
SW-3	10/12/06	< 151	*
W-2B	10/10/06	< 151	*
W-3K	10/09/06	< 151	*
W-4B	10/12/06	< 151	*
W-4A	10/13/06	< 150	*
W-2	10/10/06	< 148	*

TABLE B-I.3 **CONCENTRATIONS OF STRONTIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2006**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE

No strontium detected

TABLE B-I.4 **HIGHEST TO LOWEST CONCENTRATIONS OF STRONTIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2006**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE

No strontium detected

TABLE B-I.5 **CONCENTRATIONS OF GAMMA EMITTERS IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2006**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	Be-7	K-40
LW-4	11/10/06	-	30 ± 29
MW-1L-1A	05/10/06	-	152 ± 28
MW-24-3A	11/10/06	-	263 ± 37
SW-1	11/08/06	-	248 ± 41
SW-1	01/08/06	-	160 ± 40
SW-2	11/08/06	-	159 ± 53
SW-2	11/07/06	-	105 ± 56
SW-3	11/07/06	-	136 ± 40
W-12	11/07/06	-	24 ± 23
W-15	11/07/06	-	175 ± 46
W-15	11/07/06	-	188 ± 31
W-16	11/10/06	-	166 ± 46
W-1A	11/10/06	-	57 ± 38
W-5	05/11/06	-	51 ± 38
W-7	11/10/06	-	67 ± 49

TABLE B-I.6 **HIGHEST TO LOWEST CONCENTRATIONS OF GAMMA EMITTERS IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF OYSTER CREEK GENERATING STATION, 2006**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	Be-7	K-40
MW-24-3A	11/10/06	-	263 ± 37
SW-1	11/08/06	-	248 ± 41
W-15	11/07/06	-	188 ± 31
W-15	11/07/06	-	175 ± 46
W-16	11/10/06	-	166 ± 46
SW-1	01/08/06	-	160 ± 40
SW-2	11/08/06	-	159 ± 53
MW-1L-1A	05/10/06	-	152 ± 28
SW-3	11/07/06	-	136 ± 40
SW-2	11/07/06	-	105 ± 56
W-7	11/10/06	-	67 ± 49
W-1A	11/10/06	-	57 ± 38
W-5	05/11/06	-	51 ± 38
LW-4	11/10/06	-	30 ± 29
W-12	11/07/06	-	24 ± 23