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10CFR 50, Appendix I

May 24, 2002

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Peach Bottom Atomic Power Station Unit Nos. 2 and 3
Facility Operating License Nos. DPR-44 and DPR-56
NRC Docket Nos. 50-277 and 50-278

Subject: Annual Radiological Environmental Operating Report No. 59

In accordance with the requirements of Section 5.6.2 of the Peach Bottom Atomic Power Station, Units 2 & 3 Technical Specifications, this letter submits the Annual Radiological Environmental Operating Report No. 59. This report provides the 2001 results for the Radiological Environmental Monitoring Program (REMP) as called for in the Offsite Dose Calculation Manual.

In assessing the data collected for the REMP, we have concluded that the operation of PBAPS, Units 2 & 3, had no adverse impact on the environment. No plant produced fission or activation products with the exception of Cs-137 were found in any pathway modeled by the REMP. Cesium-137 levels detected in sediment were similar to those found in previous years. Calculated doses from this pathway were less than 0.003% of the allowable 10 CFR 50, Appendix I limits.

Sincerely,

for JOHN DOERING, JR.

John Doering, Jr.
Vice President,
Peach Bottom Atomic Power Station

JD/GLJ/IWS:tlm

CCN 02-14045
Enclosure

cc: H. J. Miller, Administrator, Region I, USNRC
A. C. McMurtray, USNRC Senior Resident Inspector, PBAPS
J. Boska, Senior Project Manager, USNRC

IE25

Docket No: 50-277
50-278

PEACH BOTTOM ATOMIC POWER STATION
UNITS 2 and 3

Annual Radiological
Environmental Operating Report

Report No. 59

1 January Through 31 December 2001

Prepared By

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May 2002

I. Summary and Conclusions

This report on the Radiological Environmental Monitoring Program conducted for the Peach Bottom Atomic Power Station (PBAPS) by Exelon Nuclear covers the period 1 January 2001 through 31 December 2001. During that time period, 1101 analyses were performed on 968 samples.

Surface water samples were analyzed for concentrations of tritium and gamma emitting nuclides. No fission or activation products were found. Tritium levels were consistent with those observed in previous years and lower than levels seen during the preoperational years.

Drinking water samples were analyzed for concentrations of gross beta (soluble and insoluble fractions), tritium, and gamma emitting nuclides. No fission or activation products were found. Gross beta and tritium activities detected were consistent with those observed in previous years.

The remaining sample media representing the aquatic environment included fish and sediment samples. These media were analyzed for concentrations of gamma emitting nuclides. Fish samples showed no detectable fission or activation products from the operation of PBAPS. Cesium-137 activity was found at all sediment locations and was consistent with data from previous years. No other fission or activation products were found. The dose to a teenager's skin from the sediment pathway was calculated to be 5.93 E-04 mrem, which represents 0.003% of the allowable fraction of 10 CFR 50, Appendix I limits.

The atmospheric environment was divided into two parts for examination: airborne and terrestrial. Sample media for determining airborne effects included air particulates and air iodine samples. Analyses performed on air particulate samples included gross beta and gamma spectrometry. No fission or activation products were found. The gross beta results were consistent with results from the previous years. Furthermore, no notable differences between control and indicator locations were observed. These findings indicate no measurable effects from the operation of PBAPS.

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

Examination of the terrestrial environment was accomplished by analyzing milk samples for low level concentrations of Iodine-131 and gamma emitting nuclides. No fission or activation products were found.

Ambient gamma radiation levels were measured quarterly throughout the year. All measurements were below 10 mR/standard month and except for the fourth quarter, results were consistent with those measured in previous years. The fourth quarter results were about 1 mR to 2 mR higher than results observed in the other quarters. The results were consistent at all stations indicating a non Peach Bottom induced effect.

The results of the TLD monitoring program were used to determine if the Independent Spent Fuel Storage Installation (ISFSI) had any measurable impact on the dose rate in the environs. Except for the fourth quarter data discussed above, no increase in dose was evident.

In assessing all the data gathered for this report and comparing these results with preoperational data, it was evident that the operation of PBAPS had no adverse radiological impact on the environment.

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II. Introduction

Peach Bottom Atomic Power Station (PBAPS) is located along the Susquehanna River between Holtwood and Conowingo Dams in Peach Bottom Township, York County, Pennsylvania. The initial loading of fuel into Unit 1, a 40 MWe (net) high temperature, gas-cooled reactor, began on 5 February 1966, and initial criticality was achieved on 3 March 1966. Shutdown of Peach Bottom Unit 1 for decommissioning was on 31 October 1974. For the purposes of the monitoring program, the beginning of the operational period for Unit 1 was considered to be 5 February 1966. A summary of the Unit 1 preoperational monitoring program was presented in a previous report [1]. PBAPS Units 2 and 3 are boiling water reactors, each with a power output of approximately 1159 MWe. The first fuel was loaded into Peach Bottom Unit 2 on 9 August 1973. Criticality was achieved on 16 September 1973, and full power was reached on 16 June 1974. The first fuel was loaded into Peach Bottom Unit 3 on 5 July 1974. Criticality was achieved on 7 August 1974, and full power was first reached on 21 December 1974. Preoperational summary reports [2][3] for Units 2 and 3 have been previously issued and summarize the results of all analyses performed on samples collected from 5 February 1966 through 8 August 1973.

A. Objectives

The objectives of the REMP are:

1. To identify, measure, and evaluate existing radionuclides in the environs of PBAPS site and any fluctuations in radioactivity levels, which may occur.

2. To monitor and evaluate ambient radiation levels

3. To determine within the scope of the program, any measurable quantity of radioactivity introduced to the environment by the operation of PBAPS.

B. Implementation of the Objectives

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 plant operation to assess plant effects (if any) on man and the environment.

III. Program Description

A. Sample Collection

Samples for the PBAPS REMP were collected by Normandeau Associates, RMC Environmental Services Division (RMC). This section describes the general collection methods used by RMC to obtain environmental samples for the PBAPS REMP in 2001. Sample locations and descriptions can be found in Table B-1 and Figures B-1 through B-3, Appendix B. The collection procedures used by RMC are listed in Table B-2, Appendix B.

Aquatic Environment

The aquatic environment was examined by analyzing samples of surface water, drinking water, fish, and sediment. Surface water from two locations (1LL and 1MM) and drinking water from two locations (4L and 6I) were collected weekly by automatic sampling equipment. Weekly samples from each of the surface and drinking water locations were composited into a separate monthly sample for analysis. Approximately, two quarts of water were removed from the weekly sample container and placed into a clean two-gallon polyethylene bottle to form a monthly composite. Control locations were 1LL and 6I.

Fish samples comprising the flesh from two groups: Bottom Feeder (catfish) and Predator (smallmouth bass, largemouth bass, or bass) were collected semiannually from two locations: 4 and 6 (control) using several methods such as trapnet, seine or electroshocking.

Sediment samples composed of recently deposited substrate were collected semiannually at three locations: 4J, 4T and 6F (control) using one of two methods, determined by the depth from which the sediment was obtained. In water greater than 4 feet deep, either a Ponar or Ekman Grab was used to collect sediment. In shallow water (1-4 feet), sediment was collected by scooping up mud with a plastic bucket.

Atmospheric Environment

The atmospheric environment was examined by analyzing airborne and terrestrial samples. These consisted of air particulates, airborne iodine, and milk. Air particulate and air iodine samples were collected and analyzed weekly from five locations (1B, 1Z, 1C, 3A, and 5H2). The control location was 5H2. Air samples were obtained using a vacuum sampler, glass fiber and charcoal filters, respectively. The filters were replaced weekly and sent to the laboratory for analysis. The vacuum samplers were run continuously at approximately 1 cubic foot per minute.

Milk samples were collected from five locations (A, J, O, R and S) monthly from December through March and biweekly April through November. Additionally, samples from seven locations (B, C, D, E, L, and P) were collected quarterly. Locations A, B, C, and E were controls. Milk samples were obtained by removing two gallons from the dairyman's bulk tank after mixing. The sample from each location was therefore a composite of all the milk collected from the dairy herd (from 1 to 3 milkings). The milk was scooped from the agitated bulk tank and placed in new plastic containers.

Ambient Gamma Radiation

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

A site boundary ring consisting of eighteen locations (1L, 1P, 1A, 1Q, 1D, 2, 1M, 1R, 1I, 1C, 1J, 1F, 40, 1NN, 1H, 1G, 1B, and 1E) near and within the site perimeter representing fence post doses (i.e., at locations where the doses will be potentially greater than maximum annual off-site doses) from PBAPS releases.

An intermediate distance ring consisting of nineteen locations (15, 22, 44, 32, 45, 14, 17, 31A, 4K, 23, 27, 48, 3A, 49, 50, 51, 26, 6B, and 42) extending to approximately 5 miles from the site designed to measure possible exposures to close-in population.

The balance of nine locations (2B, 43, 5, 16, 24, 46, 47, 18, and 19) representing control and special interests areas such as population centers, schools, etc.

The specific TLD locations were determined by the following criteria:

1. The presence of relatively dense population;

2. Site meteorological data taking into account distance and elevation for each of the 36 ten-degree sectors around the site, where estimated annual dose from PBAPS, if any, would be more significant;

3. On hills free from local obstructions and within sight of the vents (where practical);

4. Near the dwelling closest to the main stack in the prevailing down wind direction.

A TLD set was placed at each location in a Formica "birdhouse" or polyethylene jar located approximately six feet above ground level. The TLD sets were exchanged quarterly, then sent to the laboratory for analysis.

B. Sample Analysis

This section describes the general analytical methodologies used by Environmental Inc. and Teledyne Brown Engineering to analyze the environmental samples for radioactivity for the PBAPS REMP in 2001. The analytical procedures used by the laboratories are listed Table B-3, Appendix B.

The current program includes the following analyses:

1. Concentrations of beta emitters in drinking water and air particulates.

2. Concentrations of gamma emitting nuclides in surface and drinking water, air particulates, milk, fish, and sediment.

3. Concentrations of tritium in surface and drinking water.

4. Concentrations of I-131 in air and milk.

5. Ambient gamma radiation levels at various site environs.

C. Data Interpretation

Several factors are important in the interpretation of the data. These factors are discussed here to avoid undue repetition in the discussion of the results.

1. Lower Limit of Detection and Minimum Detectable Activity

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

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

2. Net Activity Calculation and Reporting of Results

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

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

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

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

For sediment five nuclides, K-40, 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 milk five nuclides, K-40 , Cs–134, Cs–137, Ba–140, and La–140 were reported.

Means and standard deviations of the results (including MDA values) were calculated. The standard deviations represent the variability of measured results for different samples rather than single analysis uncertainty. Including the MDA values will bias the mean calculations high.

D. Program Exceptions

For 2001 the PBAPS REMP had a sample collection recovery rate of better than 99%. The exceptions to this program are listed below:

1. Drinking water sampler at location 4L was out of service for the following dates:
   03/16/2001 to 03/23/2001 due to maintenance work in area.
   06/08/2001 to 06/15/2000 due to equipment problems.

   A weekly grab sample was taken.

2. Air particulate and air iodine samples from location 1C were not available for the period 08/09/2001 to 08/16/2001 due to a pump failure most likely caused by an electrical storm.

3. The following samples processed by TBE, the QC laboratory, did not meet the LLDs required by Table 4.8.E.2 of the Peach Bottom ODCM:

   a. Drinking water - 4L, January, Ba-140 and La-140

The LLDs were missed because samples were not processed in a timely manner. TBE was shipping the QC samples to another laboratory while they were staffing up their laboratory in Knoxville, TN.

Each program exception was reviewed to understand the causes of the program exception. Sampling and maintenance errors were reviewed with the personnel involved to prevent a recurrence. Occasional equipment breakdowns and power outages were unavoidable. The overall sample recovery rate indicates that the appropriate procedures and equipment are in place to assure reliable program implementation.

E. Program Changes

No changes were made to the REMP in 2001.

IV. Results and Discussion

A. Aquatic Environment

1. Surface Water

Samples were collected from two locations monthly (1LL and 1MM). 1LL served as the control location. The following analyses were performed.

Tritium

Samples from both locations were analyzed for concentrations of tritium (Table C-I.1, Appendix C). Results ranged from <106 to 177 pCi/l and averaged 112 pCi/l at the control location and 128 pCi/l at the indicator location. Concentrations found were lower than those observed during the preoperational period.

Gamma Spectrometry

Samples from both locations were analyzed for concentrations of gamma emitting nuclides (Table C-I.2, Appendix C). All nuclides were less than the MDA.

2. Drinking Water

Samples were collected from two locations monthly (4L and 6I). 6I served as the control location. The following analyses were performed.

Gross Beta

Samples from both locations were analyzed for concentrations of gross beta activity in insoluble and soluble fractions (Tables C-II.1 and C-II.2 and Figures C-1 and C-2, Appendix C). Gross beta activity in the insoluble fraction ranged from <1.0 to < 1.9 pCi/l. The values in the soluble fraction ranged from 1.6 to 4.4 pCi/l. No differences were observed between the means of the control and indicator stations. The values were generally below those seen in the preoperational period.

Tritium

Samples from both locations were analyzed for tritium quarterly (Table C-II.3, Appendix C). The values for the indicator location (4L) ranged from <106 to 177 pCi/l with a mean of 126 pCi/l. Control location (6I) values ranged from <106 to 144 pCi/l with a mean of 118 pCi/l. The concentrations found were lower than those observed during the preoperational period.

Gamma Spectrometry

Samples from both locations were analyzed for concentrations of gamma emitting nuclides (Table C-II.4, Appendix C). All nuclides were less than the MDA.

3. Fish

Samples were collected from two locations semiannually (4 and 6). The control location was 6. The following analyses were performed.

Gamma Spectrometry

The edible portion of fish samples from both locations was analyzed for concentrations of gamma emitting nuclides (Table C-III.1, Appendix C). Naturally occurring K-40 was found at all stations and ranged from 2,328 to 3,232 pCi/kg wet and was consistent with levels detected in previous years. No fission or activation products were found. Figure C-3 illustrates the Cs-137 activity for indicator and control locations from the beginning of the operational period through the present. Cesium-137 activity has declined to non-detectable levels.

4. Sediment

Samples were collected from three locations semi-annually (4J, 4T and 6F). The control location was 6F. The following analyses were performed.

Gamma Spectrometry

Sediment samples from all locations were analyzed for concentrations of gamma emitting nuclides (Table C-IV.1, Appendix C). Naturally occurring K-40 was found at all locations. K-40 results ranged from 8,711 to 23,482 pCi/kg (dry).

Statistically significant activity for Cs-137 was found at all locations with a mean value of 139 pCi/kg (dry) for the indicator locations and 70 pCi/kg (dry) for the control location. No other fission or activation products were found. The maximum calculated dose from this pathway to a teenager's skin was 5.93 E-04 mrem/yr. This value is based upon the assumption the maximum concentrations of Cs-137 at the downstream location (4T) was present the entire year. This dose represents 0.003% of the allowable fraction of 10 CFR 50, Appendix I limits. Results found were consistent with those from previous years. Figure C-4, Appendix C illustrates the comparison of activities of Cs-137 detected at the control location and indicator locations from the preoperational period through the present.

B. Atmospheric Environment

1. Airborne

a. Air Particulates

Samples were collected from five locations (1B, 1Z, 1C, 3A, and 5H2). Control location was 5H2. The following analyses were performed.

Gross Beta

Samples from all locations were analyzed for concentrations of gross beta (Tables C-V.1 and C-V.2 and Figures C-5 and C-6, Appendix C). Air particulate locations were divided into three groups: Group I, consisting of 1B, 1Z, and 1C, located on PBAPS site; Group II, comprised of 3A, located at an intermediate distance from PBAPS; and Group III, consisting of 5H2, located at a remote distance from PBAPS. The results from these three groups help in determining the effects, if any, resulting from the operation of PBAPS. The results from the on-site locations ranged from 10 E-3 to 49 E-3 pCi/m^3, with a mean of 21 E-3 pCi/m^3. The results from intermediate distance location ranged from 9 E-3 to 44 E-3 pCi/m^3, with a mean of 21 E-3 pCi/m^3. The results from the distant location ranged from 4 E-3 to 38 E-3 pCi/m^3, with a mean of 20 E-3 pCi/m^3. Comparison of the values indicates no notable difference among the three groups suggesting no effects from the operation of PBAPS (Figure C-5, Appendix C).

Gamma Spectrometry

Weekly samples from five locations (1B, 1Z, 1C, 3A, and 5H2) were composited and analyzed quarterly for the presence of gamma emitting nuclides (Table C-V.3). Naturally occurring Be-7 was found in all samples with activity values similar to those from the preoperational years. No other fission or activation nuclides were detected.

b. Airborne Iodine

Continuous air samples were collected weekly at five locations (1B, 1Z, 1C, 3A, and 5H2) and analyzed for I-131 via gamma spectroscopy (Table C-VI.1, Appendix C). All results were less than MDA.

2. Terrestrial

a. Milk

Samples were collected from eleven locations (A, B, C, D, E, J, L, O, P, R, and S). Farms A, B, C, and E were control locations. The following analyses were performed.

Iodine-131

Samples from all locations were analyzed for low level concentrations of I-131 (Tables C-VII.1, Appendix C). All results were less than MDA.

Gamma Spectrometry

Samples from five locations were analyzed quarterly for concentrations for gamma emitting nuclides (Table C-VII.2, Appendix C). Naturally occurring K-40 was found in all samples with values ranging from 1,260 to 1,587 pCi/l. All other nuclides searched for were less than MDA. Figure C-7 (Appendix C) illustrates the Cs-137 activity in milk from the beginning of the operational period through the present. Cesium-137 activity has declined to non-detectable levels.

C. Ambient Gamma Radiation

Ambient gamma radiation levels were measured quarterly at forty-six locations (as described in the program description section) using Panasonic 814 ($CaSO_4$) thermoluminescent dosimeters. Each 814 badge has three $CaSO_4$ phosphors. All TLD readings were below 10 mR/std. month with a range of 2.9 to 9.0 mR per standard month (Tables C-VIII.1 through C-VIII.3 and Figure C-8, Appendix C). Except for the fourth quarter, results were consistent with those measured in previous years. The fourth quarter results were about 1 mR to 2 mR higher than results observed in the other quarters. The results were consistent at all stations indicating a non Peach Bottom induced effect.

D. Independent Spent Fuel Storage Installation (ISFSI)

The Independent Spent Fuel Storage Installation (ISFSI) was utilized beginning in June 2000. A total of nine TN-68 casks were each loaded with 68 fuel bundles. As part of the overall REMP, additional TLDs were place at locations near the site boundary and at the nearest resident. Except for the fourth quarter data discussed above, no increase in dose was evident due to operation of the ISFSI (Figure C-9, Appendix C). As a result the doses observed were below both 40CFR190 and 10CFR72.104 limits.

E. Land Use Census

A Land Use Census around the Peach Bottom Atomic Power Station (PBAPS) was conducted by Normandeau Associates, Inc., RMC Environmental Services Division for Exelon Nuclear to comply with Section 3.8.E.2 of PBAPS's Offsite Dose Calculation Manual Specifications (ODCMS) and Bases. The census to locate the nearest milk producing animal in each of the sixteen meteorological sectors out to five miles was conducted during the May to October 2001 growing season. The distance and direction of all locations were positioned from the barn to the PBAPS vents using Global Positioning System (GPS) technology.

A small number of goats were discovered in the SSW sector at a distance of 11,414 feet from the vent stacks. Because of the distance from PBAPS and the small number of goats (2-4) the farm was not added to the REMP. The results of this survey are summarized below.

Location of the Nearest Milk Producing Animal within a Five Mile Radius of PBAPS, 2001

Sector	Distance (ft.) from Vents
N	14,650
NNE	11,078
NE	11,211
ENE	10,978
E	15,163
ESE	20,149
SE	19,085
SSE	-
S	-
SSW	11,144
SW	12,241
WSW	4,694
W	5,119
WNW	9,429
NW	17,866
NNW	-

- INDICATES NO MILK ANIMALS LOCATED

V. References

1. Preoperational Environs Radioactivity Survey Summary Report, March 1960 through January, 1966. (September 1967).

2. Interex Corporation, Peach Bottom Atomic Power Station Regional Environs Radiation Monitoring Program Preoperational Summary Report, Units 2 and 3, 5 February 1966 through 8 August 1973, June 1977, Natick, Massachusetts.

3. Radiation Management Corporation Publication, Peach Bottom Atomic Power Station Preoperational Radiological Monitoring Report for Unit 2 and 3, January 1974, Philadelphia, Pennsylvania.

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APPENDIX A

RADIOLOGICAL ENVIRONMENTAL MONITORING REPORT SUMMARY

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TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE PEACH BOTTOM ATOMIC POWER STATION, 2001

NAME OF FACILITY: PEACH BOTTOM ATOMIC POWER STATION
LOCATION OF FACILITY: YORK COUNTY, PA
DOCKET NUMBER: 50-277 & 50-278
REPORTING PERIOD: 2001

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPE 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)	TRITIUM	8	2000	128 (2/4) (<106/177)	112 (1/4) (<106/122)	128 (2/4) (<106/177)	1MM (INDICATOR) CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	GAMMA	24						
	MN-54		15	2.4 (0/12) (<1/<3)	2.4 (0/12) (<1/<3)	2.4 (0/12) (<1/<3)	1LL (CONTROL) UNITS 2 & 3 INTAKE 0.24 MILES ENE OF SITE	0
	CO-58		15	2.6 (0/12) (<1/<4)	2.2 (0/12) (<1/<3)	2.6 (0/12) (<1/<4)	1MM (INDICATOR) CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	CO-60		15	2.1 (0/12) (<1/<2)	1.9 (0/12) (<1/<4)	2.1 (0/12) (<1/<2)	1MM (INDICATOR) CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	FE-59		30	3.9 (0/12) (<2/<7)	3.9 (0/12) (<2/<9)	3.9 (0/12) (<2/<7)	1MM (INDICATOR) CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	ZN-65		30	3.4 (0/12) (<2/<6)	3.6 (0/12) (<2/<5)	3.6 (0/12) (<2/<5)	1LL (CONTROL) UNITS 2 & 3 INTAKE 0.24 MILES ENE OF SITE	0
	ZR-95		15	5.3 (0/12) (<4/<7)	4.9 (0/12) (<3/<7)	5.3 (0/12) (<4/<7)	1MM (INDICATOR) CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	NB-95		15	2.6 (0/12) (<2/<4)	2.9 (0/12) (<2/<4)	2.9 (0/12) (<2/<4)	1LL (CONTROL) UNITS 2 & 3 INTAKE 0.24 MILES ENE OF SITE	0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE PEACH BOTTOM ATOMIC POWER STATION, 2001

NAME OF FACILITY: PEACH BOTTOM ATOMIC POWER STATION
LOCATION OF FACILITY: YORK COUNTY, PA
DOCKET NUMBER: 50-277 & 50-278
REPORTING PERIOD: 2001

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPE OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (F) RANGE	CONTROL LOCATION MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
	CS-134		15	2.8 (0/12) (<1/<4)	2.6 (0/12) (<2/<4)	2.8 (0/12) (<1/<4)	1MM (INDICATOR) CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	CS-137		18	2.6 (0/12) (<2/<4)	2.3 (0/12) (<1/<5)	2.6 (0/12) (<2/<4)	1MM (INDICATOR) CANAL DISCHARGE 1.04 MILES SE OF SITE	0
	BA-140		60	16 (0/12) (<11/<29)	18 (0/12) (<8/<29)	18 (0/12) (<8/<29)	1LL (CONTROL) UNITS 2 & 3 INTAKE 0.24 MILES ENE OF SITE	0
	LA-140		15	3.8 (0/12) (<2/<6)	4.0 (0/12) (<2/<7)	4.0 (0/12) (<2/<7)	1LL (CONTROL) UNITS 2 & 3 INTAKE 0.24 MILES ENE OF SITE	0
DRINKING WATER (PCI/LITER)	GROSS BETA SOLUBLE	24	4	2.3 (9/12) (<1.7/3.8)	2.3 (8/12) (1.6/4.4)	2.3 (9/12) (<1.7/3.8)	4L (INDICATOR) CONOWINGO DAM EL 33FT. 8.66 MILES SE OF SITE	0
	GROSS BETA INSOLUBLE	24	4	1.6 (0/12) (<1.0/<1.9)	1.6 (0/12) (<1.0/<1.8)	1.6 (0/12) (<1.0/<1.9)	4L (INDICATOR) CONOWINGO DAM EL 33FT. 8.66 MILES SE OF SITE	0
	TRITIUM	8	2000	126 (1/4) (<106/177)	118 (1/4) (<106/144)	126 (1/4) (<106/177)	4L (INDICATOR) CONOWINGO DAM EL 33FT. 8.66 MILES SE OF SITE	0
	GAMMA MN-54	24	15	2.5 (0/12) (<2/<4)	2.7 (0/12) (<2/<4)	2.7 (0/12) (<2/<4)	6I (CONTROL) HOLTWOOD STATION INTAKE 5.74 MILES NW OF SITE	0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE PEACH BOTTOM ATOMIC POWER STATION, 2001

NAME OF FACILITY: PEACH BOTTOM ATOMIC POWER STATION **DOCKET NUMBER:** 50-277 & 50-278
LOCATION OF FACILITY: YORK COUNTY, PA **REPORTING PERIOD:** 2001

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPE 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
	CO-58		15	2.3 (0/12) (<1/<3)	2.4 (0/12) (<2/<4	2.4 (0/12) (<2/<4)	6I (CONTROL) HOLTWOOD STATION INTAKE 5.74 MILES NW OF SITE	0
	CO-60		15	2.0 (0/12) (<1/<3)	2.5 (0/12) (<1/<5)	2.5 (0/12) (<1/<5)	6I (CONTROL) HOLTWOOD STATION INTAKE 5.74 MILES NW OF SITE	0
	FE-59		30	3.4 (0/12) (<2/<6)	4.5 (0/12) (<3/<8)	4.5 (0/12) (<3/<8)	6I (CONTROL) HOLTWOOD STATION INTAKE 5.74 MILES NW OF SITE	0
	ZN-65		30	3.3 (0/12) (<1/<5)	4.3 (0/12) (<2/<8)	4.3 (0/12) (<2/<8)	6I (CONTROL) HOLTWOOD STATION INTAKE 5.74 MILES NW OF SITE	0
	ZR-95		15	4.9 (0/12) (<3/<7)	5.7 (0/12) (<3/<8)	5.7 (0/12) (<3/<8)	6I (CONTROL) HOLTWOOD STATION INTAKE 5.74 MILES NW OF SITE	0
	NB-95		15	2.7 (0/12) (<2/<4)	3.1 (0/12) (<2/<5)	3.1 (0/12) (<2/<5)	6I (CONTROL) HOLTWOOD STATION INTAKE 5.74 MILES NW OF SITE	0
	CS-134		15	2.6 (0/12) (<2/<4)	3.0 (0/12) (<2/<4)	3.0 (0/12) (<2/<4)	6I (CONTROL) HOLTWOOD STATION INTAKE 5.74 MILES NW OF SITE	0
	CS-137		18	2.4 (0/12) (<1/<4)	3.0 (0/12) (<2/<5)	3.0 (0/12) (<2/<5)	6I (CONTROL) HOLTWOOD STATION INTAKE 5.74 MILES NW OF SITE	0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE PEACH BOTTOM ATOMIC POWER STATION, 2001

NAME OF FACILITY: PEACH BOTTOM ATOMIC POWER STATION
LOCATION OF FACILITY: YORK COUNTY, PA
DOCKET NUMBER: 50-277 & 50-278
REPORTING PERIOD: 2001

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPE 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
	BA-140		60	15 (0/12) (<7/<24)	18 (0/12) (<9/<26)	18 (0/12) (<9/<26)	6I (CONTROL) HOLTWOOD STATION INTAKE 5.74 MILES NW OF SITE	0
	LA-140		15	3.4 (0/12) (<2/<5)	3.3 (0/12) (<2/<5)	3.4 (0/12) (<2/<5)	4L (INDICATOR) CONOWINGO DAM EL 33FT. 8.66 MILES SE OF SITE	0
BOTTOM FEEDER (FISH) (PCI/KG WET)	GAMMA K-40	4	N/A	2740 (2/2) (2568/2911)	2521 (2/2) (2328/2714)	2740 (2/2) (2568/2911)	4 (INDICATOR) CONOWINGO POND BELOW DISCHARGE	0
	MN-54		130	7.7 (0/2) (<7/<8)	7.1 (0/2) (<7/<8)	7.7 (0/2) (<7/<8)	4 (INDICATOR) CONOWINGO POND BELOW DISCHARGE	0
	CO-58		130	7.2 (0/2) (<7/<7)	6.5 (0/2) (5.5/7.4)	7.2 (0/2) (<7/<7)	4 (INDICATOR) CONOWINGO POND BELOW DISCHARGE	0
	CO-60		130	5.6 (0/2) (<4/<7)	6.5 (0/2) (<6/<7)	6.5 (0/2) (<6/<7)	6 (CONTROL) HOLTWOOD POND UPSTREAM OF INTAKE	0
	FE-59		260	15 (0/2) (<15/<16)	15 (0/2) (<11/<19)	15 (0/2) (<15/<16)	4 (INDICATOR) CONOWINGO POND BELOW DISCHARGE	0
	ZN-65		260	13 (0/2) (<12/<13)	13 (0/2) (<11/<14)	13 (0/2) (<11/<14)	6 (CONTROL) HOLTWOOD POND UPSTREAM OF INTAKE	0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE PEACH BOTTOM ATOMIC POWER STATION, 2001

NAME OF FACILITY: PEACH BOTTOM ATOMIC POWER STATION
LOCATION OF FACILITY: YORK COUNTY, PA
DOCKET NUMBER: 50-277 & 50-278
REPORTING PERIOD: 2001

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPE OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (F) RANGE	CONTROL LOCATION MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
	CS-134		130	7.6 (0/2) (<6/<9)	9.2 (0/2) (<8/<11)	9.2 (0/2) (<8/<11)	6 (CONTROL) HOLTWOOD POND UPSTREAM OF INTAKE	0
	CS-137		150	7.0 (0/2) (<6/<8)	6.2 (0/2) (<6/<7)	7.0 (0/2) (<6/<8)	4 (INDICATOR) CONOWINGO POND BELOW DISCHARGE	0
PREDATOR (FISH) (PCI/KG WET)	GAMMA K-40	4	N/A	3197 (2/2) (3161/3232)	2857 (2/2) (2770/2942)	3197 (2/2) (3161/3232)	4 (INDICATOR) CONOWINGO POND BELOW DISCHARGE	0
	MN-54		130	7.8 (0/2) (<6/<10)	7 (0/2) (<5/<9)	7.8 (0/2) (<6/<10)	4 (INDICATOR) CONOWINGO POND BELOW DISCHARGE	0
	CO-58		130	8.8 (0/2) (<8/<9)	9.6 (0/2) (<10/<10)	9.6 (0/2) (<10/<10)	6 (CONTROL) HOLTWOOD POND UPSTREAM OF INTAKE	0
	CO-60		130	7.1 (0/2) (<7/<7)	6.9 (0/2) (<6/<8)	7.1 (0/2) (<7/<7)	4 (INDICATOR) CONOWINGO POND BELOW DISCHARGE	0
	FE-59		260	13 (0/2) (<12/<15)	19 (0/2) (<18/<19)	19 (0/2) (<18/<19)	6 (CONTROL) HOLTWOOD POND UPSTREAM OF INTAKE	0
	ZN-65		260	12 (0/2) (<10/<14)	14 (0/2) (<14/<15)	14 (0/2) (<14/<15)	6 (CONTROL) HOLTWOOD POND UPSTREAM OF INTAKE	0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE PEACH BOTTOM ATOMIC POWER STATION, 2001

NAME OF FACILITY: PEACH BOTTOM ATOMIC POWER STATION
LOCATION OF FACILITY: YORK COUNTY, PA
DOCKET NUMBER: 50-277 & 50-278
REPORTING PERIOD: 2001

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPE OF ANALYSES PERFORMED	NUMBER OF ANALYSES PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN (F) RANGE	CONTROL LOCATION MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN MEAN (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
	CS-134		130	7.8 (0/2) (<7/<8)	7.8 (0/2) (<5/<10)	7.8 (0/2) (<5/<10)	6 (CONTROL) HOLTWOOD POND UPSTREAM OF INTAKE	0
	CS-137		150	7.3 (0/2) (<7/<8)	8.6 (0/2) (<8/<9)	8.6 (0/2) (<8/<9)	6 (CONTROL) HOLTWOOD POND UPSTREAM OF INTAKE	0
SILT (PCI/KG DRY)	GAMMA K-40	6	N/A	16783 (4/4) (10583/23482)	9199 (2/2) (8711/9686)	22978 (2/2) (22474/23482)	4T (INDICATOR) CONOWINGO POND NEAR DAM 7.92 MILES SE OF SITE	0
	CO-58		N/A	35 (0/4) (<30/<43)	27 (0/2) (18/36)	37 (0/2) (30/43)	4T (INDICATOR) CONOWINGO POND NEAR DAM 7.92 MILES SE OF SITE	0
	CO-60		N/A	38 (0/4) (<29/<53)	15 (0/2) (14/16)	41 (0/2) (29/53)	4T (INDICATOR) CONOWINGO POND NEAR DAM 7.92 MILES SE OF SITE	0
	CS-134		150	50 (0/4) (<37/<81)	35 (0/2) (18/53)	62 (0/2) (43/81)	4T (INDICATOR) CONOWINGO POND NEAR DAM 7.92 MILES SE OF SITE	0
	CS-137		180	139 (4/4) (56/227)	70 (2/2) (60/81)	209 (2/2) (192/227)	4T (INDICATOR) CONOWINGO POND NEAR DAM 7.92 MILES SE OF SITE	0
AIR PARTICULATE (E-3 PCI/CU. METER)	GROSS BETA	259	10	21 (207/207) (9/49)	20 (52/52) (4/38)	22 (52/52) (11/49)	1B (INDICATOR) WEATHER STATION NO.2 0.49 MILES NW OF SITE	0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE PEACH BOTTOM ATOMIC POWER STATION, 2001

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MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPE 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
	GAMMA	20						
	BE-7		N/A	68 (16/16) (49/93)	61 (4/4) (43/72)	72 (4/4) (49/91)	1B (INDICATOR) WEATHER STATION NO.2 0.49 MILES NW OF SITE	0
	MN-54		N/A	0.7 (16/16) (<0.5/<1.1)	0.7 (0/4) (<0.7/<0.8)	0.8 (0/4) (<0.6/<1.1)	1C (INDICATOR) SOUTH SUBSTATION ROAD 0.85 MILES SSE OF SITE	0
	CO-58		N/A	0.7 (16/16) (<0.4/<1.2)	0.9 (0/4) (<0.5/<1.5)	1.0 (0/4) (<0.7/<1.2)	1Z (INDICATOR) WEATHER STATION 1 0.26 MILES SE OF SITE	0
	CO-60		N/A	0.8 (16/16) (<0.6/<1.1)	1.1 (0/4) (<0.9/<1.3)	1.1 (0/4) (<0.9/<1.3)	5H2 (CONTROL) MANOR SUBSTATION 30.79 MILES NE OF SITE	0
	CS-134		50	0.8 (0/16) (<0.4/<1.1)	0.8 (0/4) (<0.4/<1.5)	0.9 (0/4) (<0.9/<1.1)	1Z (INDICATOR) WEATHER STATION 1 0.26 MILES SE OF SITE	0
	CS-137		60	0.7 (16/16) (<0.3/<1.1)	0.9 (0/4) (<0.5/<1.3)	0.9 (0/4) (<0.5/<1.3)	5H2 (CONTROL) MANOR SUBSTATION 30.79 MILES NE OF SITE	0
AIR IODINE (E-3 PCI/CU. METER)	I-131	259	70	14 (0/207) (<8/<26)	11 (0/52) (<4/<19)	15 (0/52) (<8/<26)	1B (INDICATOR) WEATHER STATION NO.2 0.49 MILES NW OF SITE	0
MILK (PCI/LITER)	I-131	108	1	0.3 (0/75) (<0.2/<0.5)	0.3 (0/33) (<0.2/<0.4)	0.3 (0/4) (<0.3</0.4)	B (CONTROL) DISTANCE FARM B 10.58 MILES S OF SITE	0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR THE PEACH BOTTOM ATOMIC POWER STATION, 2001

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	GAMMA	28						
	K-40		N/A	1434 (21/21) (1309/1587)	1425 (7/7) (1356/1483)	1474 (7/7) (1410/1557)	J (INDICATOR) NEARBY FARM J 0.97 MILES W OF SITE	0
	CS-134		15	3.3 (0/21) (<2/<6)	3.5 (0/7) (<3/5)	3.6 (0/7) (<2/<5)	J (INDICATOR) NEARBY FARM J 0.97 MILES W OF SITE	0
	CS-137		18	3.5 (0/21) (<2/<7)	3.4 (0/7) (<3/<4)	3.6 (0/7) (<2/<7)	R (INDICATOR) NEARBY FARM R 0.76 MILES WSW OF SITE	0
	BA-140		60	17 (0/21) (<9/<30)	17 (0/7) (<11/<28)	19 (0/7) (<13/<26)	R (INDICATOR) NEARBY FARM R 0.76 MILES WSW OF SITE	0
	LA-140		15	3.4 (0/21) (<2/<6)	3.1 (0/7) (<2/<7)	3.5 (0/7) (<2/<4)	R (INDICATOR) NEARBY FARM R 0.76 MILES WSW OF SITE	0
DIRECT RADIATION (MILLI-ROENTGEN/STD. MO.)	TLD-QUARTERLY	184	N/A	3.0 (168/168) (2.9/9.0)	6.1 (16/16) (4.7/7.7)	7.6 (4/4) (6.9/9.0)	50 (INDICATOR) TRANSCO PUMPING STATION 4.99 MILES W OF SITE	0

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

APPENDIX B

SAMPLE DESIGNATION AND LOCATIONS

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TABLE B-1 Radiological Environmental Monitoring Program – Sampling Locations, Distance and Direction from Reactor Buildings, Peach Bottom Atomic Power Station, 2001

Location	Location Description	Distance & Direction from PBAPS Vents
A. Surface Water		
1LL	Peach Bottom Units 2 and 3 Intake - Composite (Control)	0.24 miles NE
1MM	Peach Bottom Canal Discharge -Composite	1.04 miles SE
B. Drinking (Potable) Water		
4L	Conowingo Dam EL 33' MSL - Composite	8.66 miles SE
6I	Holtwood Dam Hydroelectric Station - Composite (Control)	5.75 miles NW
C. Fish		
4	Conowingo Pond	Located in Conowingo Pond below the discharge
6	Holtwood Pond (Control)	Located in Holtwood Pond
D. Sediment		
4J	Conowingo Pond near Berkin's Run	1.39 miles SE
4T	Conowingo Pond near Conowingo Dam	7.92 miles SE
6F	Holtwood Dam (Control)	5.96 miles NW
E. Air Particulate - Air Iodine		
1B	Weather Station #2	0.49 miles NW
1Z	Weather Station #1	0.26 miles SE
1A	Weather Station #1	0.26 miles SE
1C	Peach Bottom South Sub Station	0.85 miles SSE
3A	Delta, PA – Substation	3.62 miles SW
5H2	Manor Substation	30.79 miles NE
F. Milk – bi-weekly / monthly		
A	(Control)	5.78 miles WSW
J		0.97 miles W
O		2.32 miles SW
R		0.89 miles WSW
S		3.61 miles ESE
G. Milk – quarterly		
B	(Control)	10.58 miles S
C	(Control)	9.54 miles NW
D		3.51 miles NE
E	(Control)	8.74 miles N
L		2.12 miles NE
P		2.08 miles ENE
T		3.17 miles W

TABLE B-1 Radiological Environmental Monitoring Program – Sampling Locations, Distance and Direction from Reactor Buildings, Peach Bottom Atomic Power Station, 2001

Location	Location Description	Distance & Direction from PBAPS Vents
G. Environmental Dosimetry - TLD		
Site Boundary		
1L	Peach Bottom Unit 3 Intake	0.24 miles NE
1P	Tower B & C Fence	0.40 miles ESE
1A	Weather Station #1	0.26 miles SE
1Q	Tower D & E Fence	0.62 miles SE
1D	140° Sector	0.67 miles SE
2	Peach Bottom 130° Sector Hill	0.88 miles SE
1M	Discharge	1.03 miles SE
1R	Transmission Line Hill	0.53 miles SSE
1I	Peach Bottom South Substation	0.54 miles SSE
1C	Peach Bottom South Substation	0.85 miles SSE
1J	Peach Bottom 180° Sector Hill	0.71 miles S
1F	Peach Bottom 200° Sector Hill	0.51 miles SSW
40	Peach Bottom Site Area	1.46 miles SW
1NN	Peach Bottom Site	0.48 miles WSW
1H	Peach Bottom 270° Sector Hill	0.59 miles W
1G	Peach Bottom North Substation	0.60 miles WNW
1B	Weather Station #2	0.49 miles NW
1E	Peach Bottom 350° Sector Hill	0.59 miles NNW
Intermediate Distance		
15	Silver Spring Rd	3.68 miles N
22	Eagle Road	2.39 miles NNE
44	Goshen Mill Rd	5.07 miles NE
32	Slate Hill Rd	2.75 miles ENE
45	PB-Keeney Line	3.38 miles ENE
14	Peters Creek	1.97 miles E
17	Riverview Rd	4.07 miles ESE
31A	Eckman Rd	4.57 miles SE
4K	Conowingo Dam Power House Roof	8.61 miles SE
23	Peach Bottom 150° Sector Hill	1.01 miles SSE
27	N. Cooper Road	2.68 miles S
48	Macton Substation	4.99 miles SSW
3A	Delta, PA Substation	3.62 miles SW
49	PB-Conastone Line	4.05 miles WSW
50	TRANSCO Pumping Station	4.99 miles W
51	Fin Substation	3.98 miles WNW
26	Slab Road	4.23 miles NW
6B	Holtwood Dam Power House Roof	5.78 miles NW
42	Muddy Run Environ. Laboratory	4.13 miles NNW
Distant and Special Interest		
2B	Burk Property	0.71 miles SSE
43	Drumore Township School	5.00 miles NNE
5	Wakefield, PA	4.64 miles E
16	Nottingham, PA Substation (Control)	12.72 miles E
24	Harrisville, MD Substation (Control)	10.91 miles ESE
46	Broad Creek	4.48 miles SSE
47	Broad Creek Scout Camp	4.26 miles S
18	Fawn Grove, PA (Control)	9.86 miles W
19	Red Lion, PA (Control)	20.21 miles WNW

TABLE B-2 Radiological Environmental Monitoring Program – Summary of Sample Collection and Analytical Methodologies, Peach Bottom Atomic Power Station, 2001

Sample Medium	Analysis	Sampling Method	Collection Procedure Number	Sample Size	Analytical Procedure Number
Surface Water	Gamma Spectroscopy	Monthly composite from a continuous water compositor.	RMC-ER15 Collection of water samples for radiological analysis (Peach Bottom Atomic Power Station)	2 gallon	Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy TBE, PRO-042-5 Determination of gamma emitting radioisotopes
Surface Water	Tritium	Quarterly composite from a continuous water compositor.	RMC-ER15 Collection of water samples for radiological analysis (Peach Bottom Atomic Power Station)	500 ml	Env. Inc., T-02 Determination of tritium in water (direct method)
Drinking Water	Gross Beta	Monthly composite from a continuous water compositor.	RMC-ER15 Collection of water samples for radiological analysis (Peach Bottom Atomic Power Station)	2 gallon	Env. Inc., W(DS)-01 Determination of gross alpha and/or gross beta in water (dissolved solids or total residue) Env. Inc., W(SS)-02 Determination of gross alpha and/or gross beta in water (suspended solids) TBE, PRO-032-41 Gross Alpha and/or gross beta activity in water samples (suspended and dissolved fractions)
Drinking Water	Gamma Spectroscopy	Monthly composite from a continuous water compositor.	RMC-ER15 Collection of water samples for radiological analysis (Peach Bottom Atomic Power Station)	2 gallon	Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy TBE, PRO-042-5 Determination of gamma emitting radioisotopes
Drinking Water	Tritium	Quarterly composite from a continuous water compositor.	RMC-ER15 Collection of water samples for radiological analysis (Peach Bottom Atomic Power Station)	500 ml	Env. Inc., T-02 Determination of tritium in water (direct method)
Fish	Gamma Spectroscopy	Semi-annual samples collected via electroshocking or other techniques	RMC-ER3 Collection of fish samples for radiological analysis (Peach Bottom Atomic Power Station)	1000 grams (wet)	Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Sediment	Gamma Spectroscopy	Semi-annual grab samples	RMC-ER2 Collection of sediment samples for radiological analysis (Peach Bottom Atomic Power Station)	500 grams (dry)	Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Air Particulates	Gross Beta	One-week composite of continuous air sampling through glass fiber filter paper	RMC-ER16 Collection of air particulate and air iodine samples for radiological analysis (Peach Bottom Atomic Power Station)	1 filter (approximately 280 cubic meters weekly)	Env. Inc., AP-02 Determination of gross alpha and/or gross beta in air particulate filters TBE, PRO-032-10 Gross beta and/or alpha activity in air particulate filters (direct count method)

TABLE B-2 Radiological Environmental Monitoring Program – Summary of Sample Collection and Analytical Methodologies, Peach Bottom Atomic Power Station, 2001

Sample Medium	Analysis	Sampling Method	Collection Procedure Number	Sample Size	Analytical Procedure Number
Air Particulates	Gamma Spectroscopy	Quarterly composite of each station	Env. Inc., AP-03 Procedure for compositing air particulate filters for gamma spectroscopic analysis	13 filters (approximately 3600 cubic meters)	Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy TBE, PRO-042-5 Determination of gamma emitting radioisotopes
Air Iodine	Gamma Spectroscopy	One-week composite of continuous air sampling through charcoal filter	RMC-ER8 Collection of air particulate and air iodine samples for radiological analysis (Limerick Generating Station)	1 filter (approximately 280 cubic meters weekly)	Env. Inc., I-131-02 Determination of I-131 in charcoal canisters by gamma spectroscopy (batch method)
Milk	I-131	Bi-weekly grab sample when cows are on pasture. Monthly all other times	RMC-ER10 Collection of milk samples for radiological analysis (Limerick Generating Station)	2 galion	Env. Inc., I-131-01 Determination of I-131 in milk by anion exchange TBE, PRO-032-20 Radiometric determination of I-131 by the beta-gamma coincidence counting technique
Milk	Gamma Spectroscopy	Bi-weekly grab sample when cows are on pasture. Monthly all other times	RMC-ER10 Collection of milk samples for radiological analysis (Limerick Generating Station)	2 gallon	Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy TBE, PRO-042-5 Determination of gamma emitting radioisotopes
TLD	Thermoluminescence Dosimetry	Quarterly TLDs comprised of two Panasonic 814 (containing 3 each $CaSO_4$ elements)	RMC-ER9 Collection of TLD samples for radiological analysis (Limerick Generating Station)	2 dosimeters	ICN Pharmaceutical

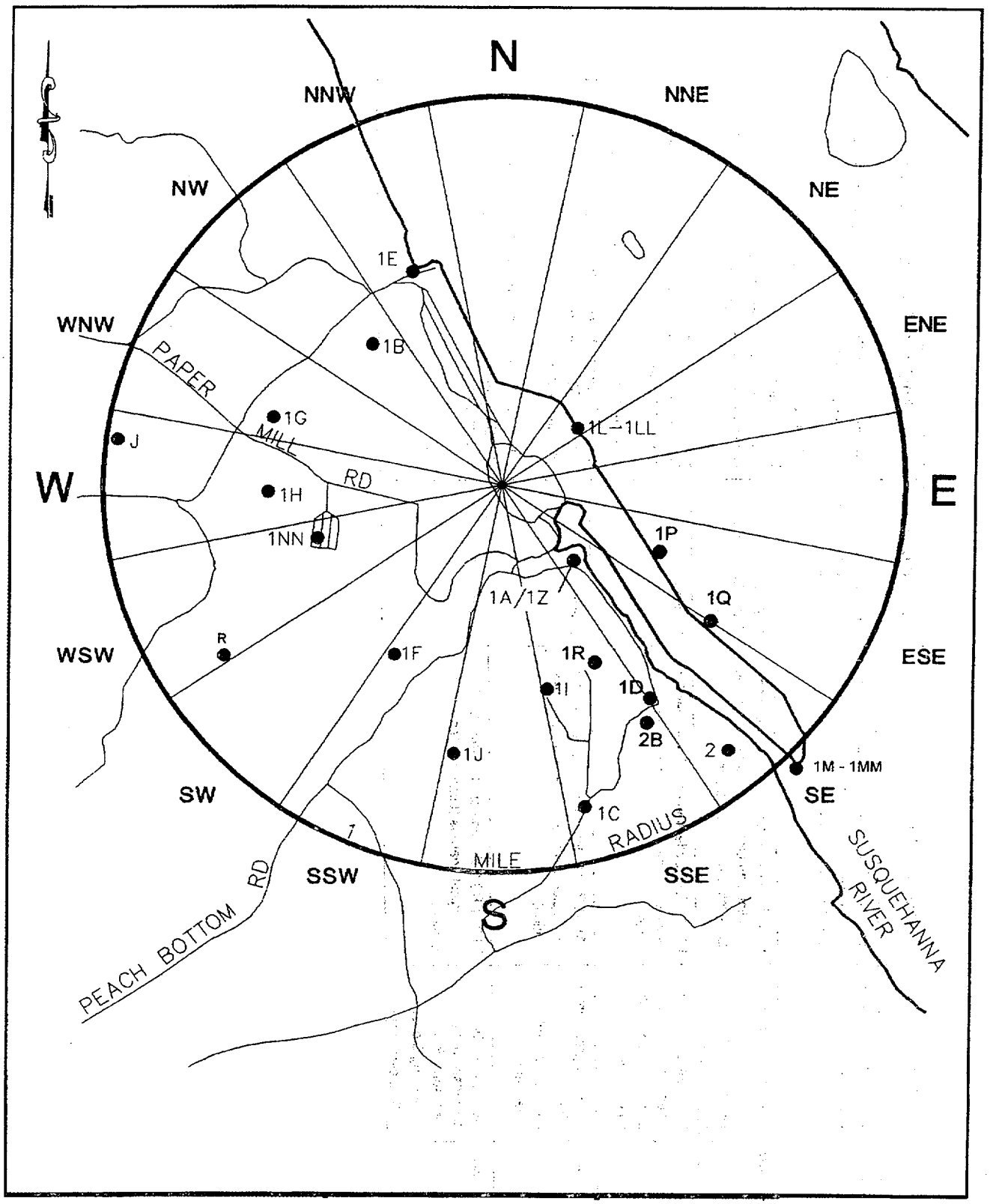

Figure B-1
Environmental Sampling Locations Within One
Mile of the Peach Bottom Atomic Power Station, 2001

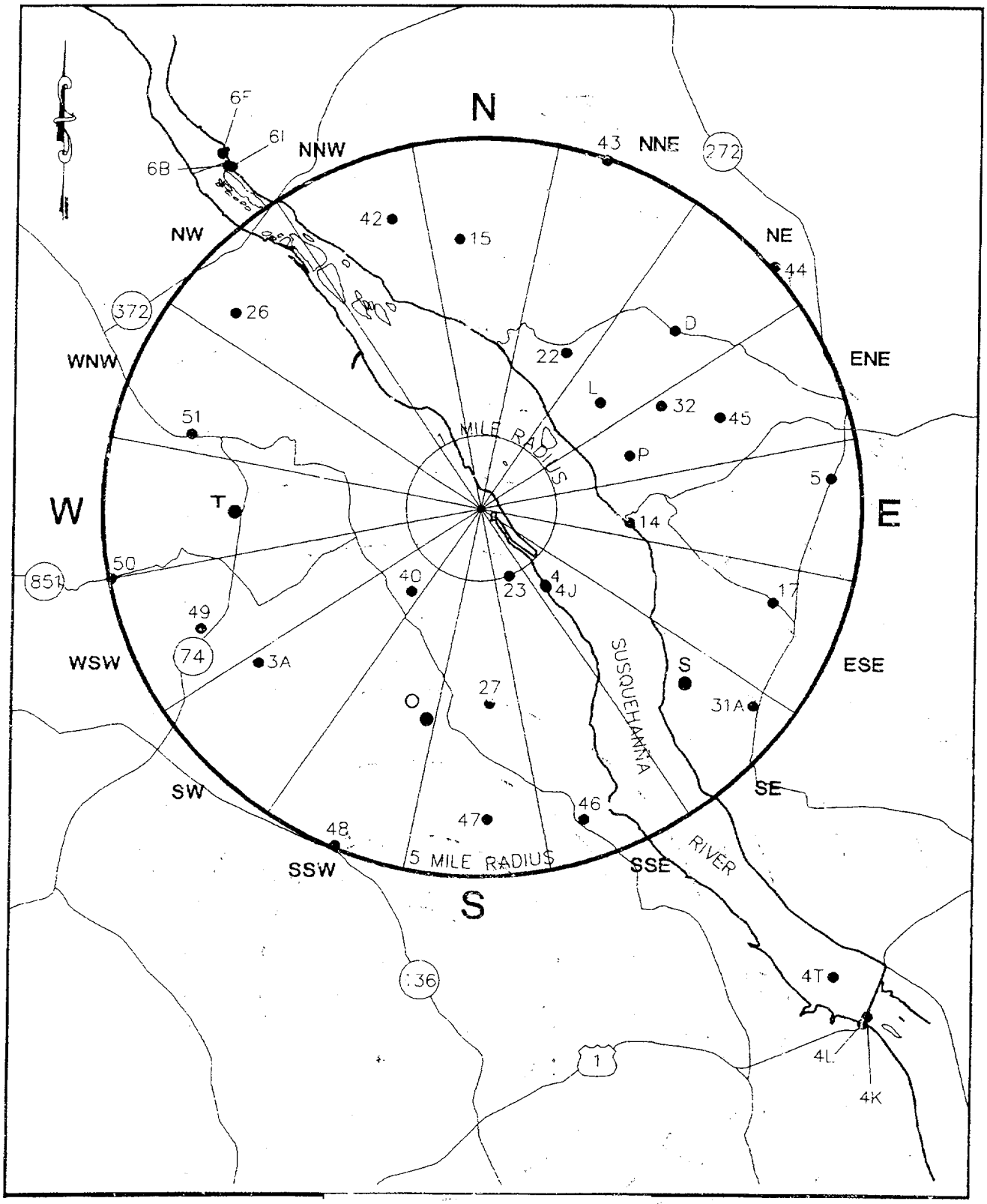

Figure B-2
Environmental Sampling Locations Between One and Approximately Five Miles of the Peach Bottom Atomic Power Station, 2001

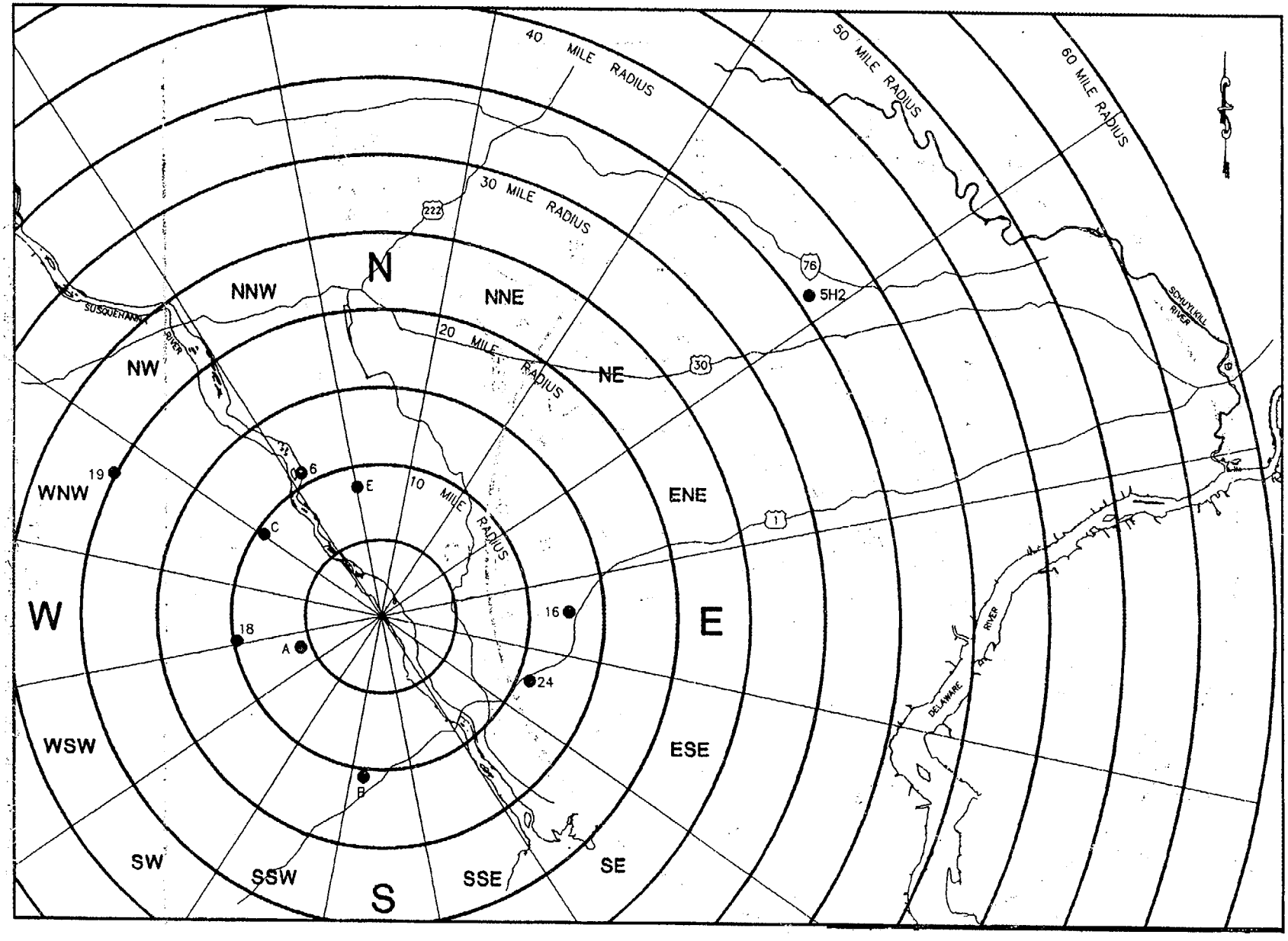

Figure B-3
Environmental Sampling Locations Greater Than
Five Miles from the Peach Bottom Atomic Power Station, 2001

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APPENDIX C

DATA TABLES AND FIGURES
PRIMARY LABORATORY

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TABLE C-I.1 CONCENTRATIONS OF TRITIUM IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001

RESULTS IN UNITS OF PCI/LITER +/- 2 SIGMA

COLLECTION PERIOD	1LL	1MM
JAN-MAR	< 107	116 ± 59
APR-JUN	< 106	< 106
JUL-SEP	122 ± 67	177 ± 69
OCT-DEC	< 113	< 113
MEAN	112 ± 15	128 ± 66

TABLE C-I.2 **CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001**

RESULTS IN UNITS OF PCI/LITER +/- 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95	Nb-95	Cs-134	Cs-137	Ba-140	La-140
1LL	JAN	< 3	< 2	< 9	< 3	< 4	< 6	< 4	< 3	< 5	< 19	< 7
	FEB	< 1	< 1	< 2	< 1	< 3	< 3	< 2	< 2	< 1	< 8	< 2
	MAR	< 2	< 3	< 3	< 2	< 4	< 6	< 3	< 3	< 2	< 19	< 4
	APR	< 2	< 3	< 2	< 2	< 3	< 6	< 4	< 2	< 3	< 29	< 4
	MAY	< 3	< 2	< 2	< 2	< 2	< 5	< 3	< 3	< 2	< 17	< 3
	JUN	< 3	< 3	< 5	< 3	< 5	< 7	< 3	< 4	< 2	< 23	< 4
	JUL	< 3	< 3	< 4	< 2	< 3	< 4	< 4	< 2	< 3	< 25	< 4
	AUG	< 3	< 3	< 5	< 2	< 4	< 5	< 4	< 3	< 2	< 16	< 3
	SEP	< 1	< 1	< 3	< 1	< 3	< 3	< 2	< 2	< 1	< 12	< 5
	OCT	< 3	< 3	< 4	< 4	< 5	< 7	< 2	< 3	< 2	< 22	< 3
	NOV	< 3	< 2	< 5	< 2	< 4	< 4	< 2	< 2	< 3	< 15	< 6
	DEC	< 2	< 2	< 3	< 2	< 3	< 3	< 2	< 2	< 2	< 8	< 3
MEAN		2 ± 1	2 ± 1	4 ± 4	2 ± 1	4 ± 2	5 ± 3	3 ± 2	3 ± 1	2 ± 2	18 ± 13	4 ± 3
1MM												
	JAN	< 3	< 4	< 3	< 2	< 3	< 7	< 2	< 4	< 3	< 15	< 4
	FEB	< 3	< 3	< 6	< 2	< 6	< 7	< 2	< 3	< 3	< 15	< 4
	MAR	< 2	< 2	< 4	< 2	< 3	< 6	< 2	< 2	< 2	< 13	< 3
	APR	< 3	< 3	< 4	< 2	< 4	< 7	< 3	< 4	< 2	< 13	< 4
	MAY	< 3	< 2	< 6	< 2	< 4	< 4	< 3	< 2	< 3	< 11	< 3
	JUN	< 3	< 3	< 3	< 2	< 2	< 7	< 3	< 3	< 3	< 20	< 2
	JUL	< 2	< 2	< 3	< 2	< 4	< 6	< 4	< 3	< 2	< 12	< 5
	AUG	< 1	< 3	< 4	< 2	< 5	< 4	< 3	< 3	< 3	< 15	< 2
	SEP	< 1	< 1	< 2	< 2	< 2	< 4	< 2	< 1	< 2	< 24	< 6
	OCT	< 3	< 3	< 7	< 2	< 3	< 5	< 3	< 2	< 4	< 29	< 5
	NOV	< 2	< 2	< 4	< 1	< 3	< 5	< 2	< 3	< 4	< 15	< 5
	DEC	< 2	< 1	< 2	< 2	< 2	< 5	< 2	< 2	< 2	< 15	< 2
MEAN		2 ± 1	3 ± 2	4 ± 3	2 ± 1	3 ± 2	5 ± 2	3 ± 1	3 ± 1	3 ± 1	16 ± 10	4 ± 3

TABLE C-II.1 CONCENTRATIONS OF GROSS BETA INSOLUBLE IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001

RESULTS IN UNITS OF PCI/LITER +/- 2 SIGMA

COLLECTION PERIOD	4L	6I
JAN	< 1.3	< 1.6
FEB	< 1.7	< 1.8
MAR	< 1.6	< 1.7
APR	< 1.7	< 1.7
MAY	< 1.7	< 1.4
JUN	< 1.9	< 1.8
JUL	< 1.8	< 1.8
AUG	< 1.5	< 1.5
SEP	< 1.2	< 1.2
OCT	< 1.8	< 1.8
NOV	< 1.0	< 1.0
DEC	< 1.7	< 1.5
MEAN	1.6 ± 0.5	1.6 ± 0.5

TABLE II.2 CONCENTRATIONS OF GROSS BETA SOLUBLE IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001

RESULTS IN UNITS OF PCI/LITER +/- 2 SIGMA

COLLECTION PERIOD	4L	6I
JAN	2.2 ± 0.9	2.6 ± 1.0
FEB	1.9 ± 0.5	1.7 ± 0.5
MAR	2.0 ± 0.9	1.7 ± 0.6
APR	< 1.7	< 1.9
MAY	< 1.9	2.6 ± 1.0
JUN	1.9 ± 1.0	1.6 ± 0.9
JUL	< 1.7	< 1.9
AUG	2.7 ± 0.9	3.0 ± 0.9
SEP	3.8 ± 0.6	4.4 ± 0.8
OCT	2.5 ± 1.0	< 1.8
NOV	3.1 ± 0.7	2.9 ± 0.7
DEC	2.4 ± 0.9	< 1.7
MEAN	2.3 ± 1.3	2.3 ± 1.7

TABLE II-3 CONCENTRATIONS OF TRITIUM IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001

RESULTS IN UNITS OF PCI/LITER +/- 2 SIGMA

COLLECTION PERIOD	4L	6I
JAN-MAR	< 106	< 106
APR-JUN	< 107	< 107
JUL-SEP	177 ± 69	144 ± 68
OCT-DEC	< 113	< 113
MEAN	126 ± 69	118 ± 36

TABLE C-II.4 **CONCENTRATIONS OF GAMMA EMITTERS IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001**

RESULTS IN UNITS OF PCI/LITER +/- 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Zr-95	Nb-95	Cs-134	Cs-137	Ba-140	La-140
4L	JAN	< 2	< 2	< 2	< 1	< 2	< 5	< 3	< 2	< 3	< 11	< 4
	FEB	< 3	< 2	< 2	< 3	< 2	< 5	< 3	< 3	< 3	< 14	< 3
	MAR	< 2	< 1	< 6	< 3	< 3	< 3	< 2	< 2	< 1	< 10	< 3
	APR	< 3	< 3	< 2	< 2	< 2	< 7	< 3	< 4	< 2	< 13	< 4
	MAY	< 2	< 2	< 2	< 1	< 4	< 4	< 3	< 2	< 2	< 7	< 2
	JUN	< 2	< 3	< 5	< 2	< 5	< 3	< 2	< 3	< 2	< 20	< 3
	JUL	< 3	< 3	< 4	< 2	< 5	< 6	< 4	< 3	< 2	< 15	< 5
	AUG	< 2	< 2	< 3	< 1	< 4	< 7	< 4	< 2	< 4	< 14	< 3
	SEP	< 2	< 2	< 3	< 1	< 1	< 4	< 2	< 2	< 2	< 24	< 4
	OCT	< 3	< 2	< 5	< 2	< 3	< 5	< 2	< 2	< 2	< 20	< 4
	NOV	< 3	< 3	< 3	< 1	< 3	< 5	< 2	< 2	< 3	< 20	< 3
	DEC	< 4	< 1	< 4	< 3	< 5	< 5	< 2	< 3	< 3	< 17	< 4
MEAN		3 ± 1	2 ± 1	3 ± 3	2 ± 1	3 ± 3	5 ± 2	3 ± 1	3 ± 1	2 ± 1	15 ± 10	3 ± 2
6I	JAN	< 3	< 4	< 8	< 4	< 5	< 8	< 5	< 4	< 4	< 24	< 3
	FEB	< 4	< 2	< 5	< 5	< 4	< 6	< 3	< 4	< 5	< 26	< 5
	MAR	< 2	< 2	< 3	< 1	< 5	< 4	< 3	< 4	< 3	< 15	< 3
	APR	< 4	< 2	< 3	< 2	< 4	< 6	< 3	< 4	< 3	< 19	< 3
	MAY	< 3	< 2	< 6	< 1	< 3	< 8	< 4	< 3	< 3	< 18	< 3
	JUN	< 3	< 2	< 4	< 3	< 8	< 5	< 4	< 3	< 2	< 25	< 3
	JUL	< 3	< 2	< 4	< 2	< 2	< 6	< 4	< 2	< 3	< 23	< 3
	AUG	< 3	< 2	< 4	< 3	< 6	< 6	< 4	< 3	< 3	< 16	< 5
	SEP	< 2	< 2	< 4	< 1	< 3	< 6	< 3	< 2	< 2	< 12	< 5
	OCT	< 3	< 4	< 3	< 3	< 6	< 5	< 3	< 3	< 4	< 21	< 3
	NOV	< 2	< 2	< 5	< 2	< 3	< 6	< 3	< 2	< 2	< 13	< 2
	DEC	< 2	< 3	< 5	< 2	< 3	< 3	< 2	< 2	< 2	< 9	< 3
MEAN		3 ± 2	2 ± 1	4 ± 3	2 ± 2	4 ± 3	6 ± 3	3 ± 2	3 ± 1	3 ± 2	18 ± 11	3 ± 2

TABLE C-III.1 **CONCENTRATIONS OF GAMMA EMITTERS IN PREDATOR AND BOTTOM FEEDER FISH SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001**

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
4	PREDATOR (FISH)								
	06/19 - 06/19/01	3161 ± 188	< 6	< 8	< 12	< 7	< 14	< 7	< 7
	10/24 - 10/24/01	3232 ± 213	< 10	< 9	< 15	< 7	< 10	< 9	< 8
	MEAN	3197 ± 100	8 ± 5	9 ± 2	13 ± 3	7	12 ± 6	8 ± 2	7± 1
	BOTTOM FEEDER (FISH)								
	06/18 - 06/18/01	2568 ± 177	< 8	< 7	< 15	< 4	< 13	< 6	< 6
	10/24 - 10/24/01	2911 ± 216	< 7	< 7	< 16	< 7	< 12	< 9	< 8
	MEAN	2740 ± 485	8 ± 2	7	15 ± 1	6 ± 5	13 ± 2	8 ± 5	7± 2
6	PREDATOR (FISH)								
	06/21 - 06/21/01	2772 ± 237	< 5	< 10	< 19	< 8	< 14	< 5	< 8
	10/24 - 10/24/01	2942 ± 256	< 9	< 10	< 18	< 6	< 15	< 10	< 9
	MEAN	2857 ± 240	7 ± 5	10	19 ± 2	7 ± 2	14 ± 2	8 ± 7	9± 1
	BOTTOM FEEDER (FISH)								
	06/18 - 06/18/01	2328 ± 234	< 8	< 7	< 19	< 7	< 11	< 11	< 7
	10/26 - 10/26/01	2714 ± 154	< 7	< 6	< 11	< 6	< 14	< 8	< 6
	Mean	2521 ± 546	7 ± 1	6 ± 3	15 ± 11	7 ± 1	13 ± 4	9 ± 5	6± 1

TABLE C-IV.1 CONCENTRATIONS OF GAMMA EMITTERS IN SILT SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001

RESULTS IN UNITS OF PCI/KG DRY +/- 2 SIGMA

STC	COLLECTION PERIOD	K-40	Co-58	Co-60	Cs-134	Cs-137
4J	06/20/2001	10,591 ± 905	< 33	< 33	< 38	83 ± 37
	10/22/2001	10,583 ± 782	< 36	< 38	< 37	56 ± 25
	MEAN	10,587 ± 11	34 ± 5	35 ± 7	38 ± 1	70 ± 39
4T	06/20/2001	22,474 ± 1,662	< 30	< 53	< 81	227 ± 59
	10/22/2001	23,482 ± 1,399	< 43	< 29	< 43	192 ± 47
	MEAN	22,978 ± 1426	37 ± 19	41 ± 35	62 ± 54	209 ± 49
6F	06/20/2001	8,711 ± 874	< 36	< 16	< 53	60 ± 35
	10/22/2001	9,686 ± 643	< 18	< 14	< 18	81 ± 25
	MEAN	9,199 ± 1,379	27 ± 25	15 ± 3	35 ± 50	70 ± 30

TABLE C-V.1 CONCENTRATIONS OF GROSS BETA IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001

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

	GROUP I			GROUP II	GROUP III
WEEK NO	1B	1Z	2	3A	5H2
1	18 ± 3	16 ± 3	15 ± 3	15 ± 3	19 ± 4
2	25 ± 4	24 ± 4	28 ± 4	23 ± 3	18 ± 3
3	25 ± 4	25 ± 4	24 ± 4	22 ± 4	13 ± 4
4	32 ± 4	31 ± 4	31 ± 4	31 ± 4	27 ± 4
5	23 ± 4	19 ± 4	18 ± 4	16 ± 4	19 ± 4
6	17 ± 4	20 ± 4	21 ± 4	21 ± 4	16 ± 4
7	15 ± 4	15 ± 4	16 ± 4	16 ± 4	19 ± 4
8	30 ± 4	23 ± 4	27 ± 4	27 ± 4	22 ± 4
9	25 ± 4	21 ± 4	22 ± 4	21 ± 4	19 ± 4
10	15 ± 3	16 ± 3	15 ± 3	15 ± 3	8 ± 3
11	15 ± 4	14 ± 4	15 ± 3	15 ± 4	8 ± 3
12	11 ± 3	13 ± 3	11 ± 3	15 ± 3	14 ± 3
13	14 ± 3	17 ± 3	16 ± 3	22 ± 4	10 ± 3
14	12 ± 3	13 ± 3	14 ± 3	12 ± 3	15 ± 3
15	11 ± 3	11 ± 3	13 ± 3	13 ± 3	16 ± 3
16	17 ± 3	18 ± 3	18 ± 3	18 ± 3	22 ± 4
17	30 ± 4	23 ± 4	26 ± 4	23 ± 4	21 ± 4
18	36 ± 5	30 ± 4	33 ± 4	29 ± 4	29 ± 4
19	21 ± 3	16 ± 3	18 ± 3	18 ± 3	14 ± 3
20	17 ± 4	11 ± 3	12 ± 3	16 ± 4	10 ± 4
21	11 ± 3	10 ± 3	12 ± 3	9 ± 3	4 ± 0
22	12 ± 3	13 ± 3	15 ± 3	15 ± 3	14 ± 5
23	13 ± 3	13 ± 3	12 ± 3	13 ± 3	23 ± 5
24	24 ± 3	25 ± 3	30 ± 5	24 ± 3	25 ± 4
25	18 ± 4	21 ± 4	19 ± 5	22 ± 4	18 ± 4
26	17 ± 3	17 ± 3	19 ± 3	20 ± 3	25 ± 4
27	16 ± 3	16 ± 3	18 ± 3	17 ± 3	15 ± 3
28	21 ± 3	19 ± 3	18 ± 3	17 ± 3	14 ± 3
29	19 ± 4	17 ± 4	16 ± 4	17 ± 3	17 ± 4
30	18 ± 3	17 ± 3	17 ± 3	18 ± 3	11 ± 3
31	15 ± 3	13 ± 3	14 ± 3	13 ± 3	18 ± 3
32	35 ± 4	32 ± 4	31 ± 4	24 ± 4	34 ± 4
33	24 ± 4	18 ± 3	(1)	22 ± 3	27 ± 4
34	28 ± 4	29 ± 4	27 ± 4	27 ± 4	21 ± 4
35	29 ± 4	27 ± 3	29 ± 4	28 ± 3	48 ± 6
36	24 ± 3	19 ± 3	23 ± 3	18 ± 3	20 ± 3
37	23 ± 3	19 ± 3	20 ± 3	24 ± 3	25 ± 4
38	29 ± 5	28 ± 5	27 ± 5	26 ± 4	29 ± 4
39	24 ± 4	21 ± 3	19 ± 3	21 ± 3	12 ± 3
40	28 ± 3	30 ± 3	29 ± 3	26 ± 3	38 ± 4
41	20 ± 4	22 ± 4	16 ± 4	19 ± 4	13 ± 4
42	13 ± 3	14 ± 3	15 ± 3	13 ± 3	20 ± 3
43	29 ± 4	28 ± 4	24 ± 4	28 ± 4	20 ± 4
44	14 ± 3	18 ± 3	17 ± 3	16 ± 3	28 ± 4
45	29 ± 4	26 ± 4	23 ± 4	25 ± 4	20 ± 4
46	23 ± 4	22 ± 4	19 ± 4	19 ± 3	35 ± 4
47	36 ± 4	35 ± 4	27 ± 4	34 ± 4	19 ± 3
48	24 ± 3	22 ± 3	21 ± 3	21 ± 3	27 ± 4
49	49 ± 6	40 ± 5	40 ± 5	44 ± 5	34 ± 4
50	21 ± 3	18 ± 3	19 ± 3	20 ± 3	25 ± 4
51	23 ± 4	23 ± 3	24 ± 3	22 ± 3	19 ± 3
52	29 ± 4	28 ± 4	28 ± 4	25 ± 4	33 ± 4
MEAN	22 ± 16	21 ± 13	21 ± 13	21 ± 13	20 ± 15

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

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 PEACH BOTTOM ATOMIC POWER STATION, 2001

GROUP I - ON-SITE LOCATIONS COLLECTION PERIOD	MIN.	MAX.	MEAN +/- 2 SD
12/29/2000 - 02/02/2001	16	32	24 ± 10
02/02/2001 - 03/02/2001	15	30	21 ± 10
03/02/2001 - 03/30/2001	14	17	15 ± 2
03/30/2001 - 04/28/2001	11	30	17 ± 12
04/28/2001 - 06/01/2001	10	36	17 ± 16
06/01/2001 - 06/29/2001	12	30	19 ± 11
06/29/2001 - 08/02/2001	13	21	17 ± 4
02/29/2000 - 08/30/2001	15	35	27 ± 11
08/30/2001 - 09/27/2001	19	29	23 ± 7
09/27/2001 - 11/01/2001	13	30	21 ± 13
11/01/2001 - 12/02/2001	19	36	26 ± 11
12/02/2001 - 12/28/2001	18	49	29 ± 19
02/29/2000 - 12/28/2001	10	49	21 ± 14

GROUP II - INTERMEDIATE DISTANCE LOCATION COLLECTION PERIOD	MIN.	MAX.	MEAN +/- 2 SD
12/29/2000 - 02/02/2001	15	31	21 ± 13
02/02/2001 - 03/02/2001	16	27	21 ± 9
03/02/2001 - 03/30/2001	15	22	17 ± 8
03/30/2001 - 04/28/2001	12	23	17 ± 10
04/28/2001 - 06/01/2001	9	29	17 ± 13
06/01/2001 - 06/29/2001	13	24	20 ± 10
06/29/2001 - 08/02/2001	13	18	16 ± 4
08/02/2001 - 08/30/2001	22	28	25 ± 6
08/30/2001 - 09/27/2001	18	26	22 ± 7
09/27/2001 - 11/01/2001	13	28	20 ± 13
11/01/2001 - 12/02/2001	19	34	25 ± 13
12/02/2001 - 12/28/2001	20	44	28 ± 22
12/29/2000 - 12/28/2001	9	44	21 ± 13

GROUP III - CONTROL LOCATION COLLECTION PERIOD	MIN.	MAX.	MEAN +/- 2 SD
12/29/2000 - 01/29/2001	13	27	19 ± 12
01/29/2001 - 02/26/2001	16	22	19 ± 5
02/26/2001 - 04/02/2001	8	19	11 ± 11
04/02/2001 - 04/30/2001	15	22	19 ± 7
04/30/2001 - 06/03/2001	4	29	14 ± 17
06/03/2001 - 07/02/2001	18	25	23 ± 7
07/02/2001 - 07/30/2001	11	17	14 ± 5
07/30/2001 - 09/04/2001	18	34	25 ± 11
09/04/2001 - 10/01/2001	12	29	22 ± 15
10/01/2001 - 10/29/2001	13	38	23 ± 21
10/29/2001 - 12/03/2001	19	35	26 ± 13
12/03/2001 - 12/31/2001	19	34	25 ± 14
12/29/2000 - 12/31/2001	4	38	20 ± 15

NOTE;
GROUP I CONSISTS OF LOCATIONS 1B, 1Z, AND 1C
GROUP II CONSISTS OF LOCATION 3A
GROUP III CONSISTS OF LOCATION 5H2

TABLE C-V.3 CONCENTRATION OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001

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
1B	12/29 - 03/30/01	49 ± 13	< 0.9	< 0.5	< 0.7	< 0.4	< 0.8
	03/30 - 06/29/01	86 ± 22	< 0.7	< 0.7	< 0.8	< 0.7	< 0.4
	06/29 - 09/27/01	91 ± 19	< 0.6	< 0.6	< 0.7	< 0.5	< 0.5
	09/27 - 12/28/01	60 ± 12	< 0.6	< 0.5	< 0.6	< 0.6	< 0.4
	MEAN	72 ± 40	0.7 ± 0.3	0.6 ± 0.2	0.7 ± 0.2	0.6 ± 0.3	0.5 ± 0.4
1C	12/29 - 03/30/01	56 ± 15	< 0.6	< 0.5	< 0.6	< 0.9	< 0.8
	03/30 - 06/29/01	80 ± 27	< 0.9	< 0.5	< 0.8	< 0.8	< 0.3
	06/29 - 09/27/01	89 ± 17	< 0.6	< 0.9	< 0.6	< 0.8	< 0.9
	09/27 - 12/28/01	58 ± 19	< 1.1	< 0.6	< 1.1	< 1.0	< 0.9
	MEAN	71 ± 33	0.8 ± 0.5	0.6 ± 0.4	0.8 ± 0.5	0.9 ± 0.2	0.7 ± 0.6
1Z	12/29 - 03/30/01	52 ± 15	< 1.0	< 1.2	< 0.9	< 1.0	< 0.4
	03/30 - 06/29/01	69 ± 20	< 0.7	< 0.7	< 0.9	< 0.6	< 0.3
	06/29 - 09/27/01	93 ± 27	< 0.5	< 0.8	< 1.0	< 0.9	< 0.9
	09/27 - 12/28/01	62 ± 22	< 0.8	< 1.1	< 0.8	< 1.1	< 1.1
	MEAN	69 ± 35	0.8 ± 0.4	0.9 ± 0.5	0.9 ± 0.2	0.9 ± 0.4	0.7 ± 0.8
3A							
	12/29 - 03/30/01	49 ± 15	< 0.7	< 0.8	< 0.7	< 0.6	< 1.0
	03/30 - 06/29/01	63 ± 19	< 0.7	< 0.8	< 0.8	< 0.9	< 0.4
	06/29 - 09/27/01	83 ± 18	< 0.8	< 0.5	< 0.6	< 1.1	< 0.5
	09/27 - 12/28/01	52 ± 13	< 0.7	< 0.4	< 0.7	< 0.8	< 0.8
	MEAN	62 ± 31	0.7 ± 0.1	0.6 ± 0.4	0.7 ± 0.2	0.8 ± 0.4	0.7 ± 0.6
5H2	01/02 - 04/02/01	43 ± 16	< 0.7	< 0.8	< 1.0	< 0.4	< 0.5
	04/02 - 07/02/01	72 ± 18	< 0.7	< 0.5	< 1.0	< 0.4	< 0.9
	07/02 - 10/01/01	68 ± 23	< 0.8	< 0.9	< 0.9	< 1.5	< 0.8
	10/01 - 12/31/01	62 ± 19	< 0.7	< 1.5	< 1.3	< 0.8	< 1.3
	MEAN	61 ± 26	0.7 ± 0.1	0.9 ± 0.8	1.1 ± 0.3	0.8 ± 1.0	0.9 ± 0.7

TABLE C-VI.1 CONCENTRATIONS OF I-131 IN AIR IODINE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001

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

	GROUP I			GROUP II	GROUP III
WEEK NO	1B	1Z	1C	3A	5H2
1	< 12	< 11	< 11	< 12	< 7
2	< 8	< 9	< 8	< 9	< 4
3	< 15	< 15	< 14	< 15	< 12
4	< 12	< 12	< 12	< 12	< 6
5	< 10	< 10	< 10	< 10	< 7
6	< 15	< 15	< 14	< 15	< 12
7	< 16	< 16	< 15	< 16	< 13
8	< 10	< 10	< 9	< 10	< 8
9	< 17	< 17	< 16	< 17	< 13
10	< 19	< 19	< 18	< 18	< 15
11	< 16	< 16	< 16	< 16	< 13
12	< 13	< 13	< 12	< 13	< 11
13	< 10	< 10	< 9	< 10	< 8
14	< 13	< 13	< 12	< 13	< 10
15	< 8	< 8	< 8	< 8	< 6
16	< 18	< 17	< 17	< 18	< 14
17	< 15	< 14	< 14	< 14	< 14
18	< 9	< 9	< 8	< 9	< 6
19	< 13	< 13	< 12	< 13	< 10
20	< 10	< 10	< 10	< 10	< 8
21	< 15	< 14	< 14	< 15	< 10
22	< 14	< 14	< 14	< 14	< 18
23	< 9	< 9	< 8	< 9	< 10
24	< 8	< 8	< 13	< 8	< 6
25	< 18	< 18	< 25	< 18	< 14
26	< 14	< 14	< 13	< 14	< 11
27	< 9	< 9	< 9	< 8	< 7
28	< 16	< 15	< 15	< 14	< 13
29	< 19	< 19	< 19	< 18	< 16
30	< 12	< 12	< 12	< 11	< 10
31	< 18	< 18	< 18	< 17	< 12
32	< 16	< 16	< 15	< 18	< 11
33	< 19	< 18	(1)	< 17	< 13
34	< 17	< 17	< 17	< 16	< 13
35	< 14	< 14	< 14	< 13	< 16
36	< 20	< 20	< 20	< 19	< 17
37	< 15	< 14	< 14	< 14	< 15
38	< 19	< 19	< 19	< 18	< 12
39	< 9	< 9	< 8	< 8	< 6
40	< 12	< 12	< 12	< 11	< 11
41	< 16	< 17	< 17	< 15	< 11
42	< 11	< 11	< 11	< 10	< 9
43	< 24	< 24	< 24	< 22	< 18
44	< 18	< 17	< 17	< 16	< 13
45	< 15	< 15	< 15	< 14	< 14
46	< 16	< 16	< 16	< 15	< 11
47	< 24	< 24	< 24	< 22	< 17
48	< 13	< 13	< 13	< 12	< 19
49	< 26	< 26	< 26	< 24	< 15
50	< 17	< 17	< 16	< 15	< 14
51	< 10	< 9	< 9	< 9	< 8
52	< 17	< 17	< 17	< 15	< 13
MEAN	15 ± 8	14 ± 8	14 ± 9	14 ± 8	12 ± 7

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-VII.1 **CONCENTRATIONS OF I-131 IN MILK SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001**

RESULTS IN UNITS OF PCI/LITER +/- 2 SIGMA

COLLECTION DATE	NEARBY FARMS			INTERMEDIATE DISTANCE FARMS				DISTANT FARMS			
	J	O	R	S	D	L	P	A	B	C	E
01/07/2001								< 0.4			
01/08/2001	< 0.4	< 0.4	< 0.4	< 0.3							
02/12/2001	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3	< 0.4	< 0.2
03/12/2001	< 0.2	< 0.2	< 0.5	< 0.2				< 0.2			
04/09/2001	< 0.2	< 0.3	< 0.2	< 0.2				< 0.2			
04/23/2001	< 0.2	< 0.2	< 0.2	< 0.2				< 0.2			
05/06/2001	< 0.4	< 0.3						0.3			
05/072001			< 0.2	< 0.3	< 0.3	< 0.3	< 0.3		< 0.3	< 0.3	< 0.3
05/21/2001	< 0.2	< 0.2	< 0.2	< 0.2				< 0.2			
06/04/2001	< 0.3	< 0.3	< 0.3	< 0.3				< 0.4			
06/18/2001	< 0.2	< 0.2	< 0.2	< 0.2				< 0.2			
07/02/2001	< 0.3	< 0.3	< 0.3	< 0.3				< 0.3			
07/16/2001	< 0.3	< 0.4	< 0.4	< 0.3				< 0.4			
07/30/2001	< 0.2	< 0.2	< 0.2	< 0.2				< 0.2			
08/12/2001		< 0.2						0.2	< 0.4	< 0.2	< 0.2
08/132001	< 0.2		< 0.2	< 0.2	< 0.2	< 0.2	< 0.3				
08/27/2001	< 0.2	< 0.2	< 0.2	< 0.2				< 0.2			
09/10/2001	< 0.3	< 0.3	< 0.3	< 0.3				< 0.4			
09/24/2001	< 0.2	< 0.2	< 0.2	< 0.2				< 0.2			
10/08/2001	< 0.3	< 0.3	< 0.3	< 0.2				< 0.3			
10/22/2001	< 0.2	< 0.2	< 0.3	< 0.2				< 0.3			
11/04/2001		< 0.4						0.3	< 0.3		
11/05/2001	< 0.3		< 0.3	< 0.3	< 0.3	< 0.3	< 0.4	<	< 0.3	< 0.3	
11/19/2001	< 0.4	< 0.4	< 0.4	< 0.3				< 0.4			
12/17/2001	< 0.2	< 0.2	< 0.5	< 0.2				< 0.2			
MEAN	0.3 ± 0.1	0.3 ± 0.2	0.3 ± 0.2	0.2 ± 0.1	0.3 ± 0.1	0.3 ± 0.1	0.3 ± 0.1	0.3 ± 0.2	0.3 ± 0.1	0.3 ± 0.2	0.3 ± 0.1

TABLE C-VII.2 CONCENTRATIONS OF GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001

RESULTS IN UNITS OF PCI/LITER +/- 2 SIGMA

STC	COLLECTION PERIOD	K-40	Cs-134	Cs-137	Ba-140	La-140
A	01/07/2001	1483 ± 110	< 4	< 3	< 20	< 2
	02/12/2001	1356 ± 106	< 3	< 4	< 17	< 2
	03/12/2001	1400 ± 105	< 4	< 3	< 12	< 3
	04/09/2001	1472 ± 133	< 5	< 4	< 14	< 2
	05/06/2001	1453 ± 124	< 3	< 4	< 11	< 3
	08/12/2001	1398 ± 96	< 3	< 3	< 28	< 7
	11/04/2001	1410 ± 112	< 4	< 4	< 21	< 3
	MEAN	1425 ± 92	3 ± 2	3 ± 1	17 ± 12	3 ± 4
J	01/08/2001	1538 ± 117	< 2	< 3	< 9	< 5
	02/12/2001	1410 ± 130	< 3	< 2	< 15	< 2
	03/12/2001	1465 ± 117	< 4	< 3	< 15	< 3
	04/09/2001	1429 ± 144	< 5	< 3	< 11	< 3
	05/06/2001	1457 ± 88	< 3	< 4	< 15	< 2
	08/13/2001	1462 ± 119	< 3	< 5	< 30	< 6
	11/05/2001	1557 ± 108	< 4	< 4	< 29	< 2
	MEAN	1474 ± 108	4 ± 2	3 ± 2	18 ± 17	3 ± 3
O	01/08/2001	1360 ± 92	< 3	< 3	< 12	< 4
	02/12/2001	1425 ± 106	< 2	< 3	< 10	< 3
	03/12/2001	1351 ± 119	< 3	< 4	< 12	< 3
	04/09/2001	1419 ± 163	< 5	< 4	< 22	< 3
	05/06/2001	1347 ± 110	< 2	< 4	< 14	< 3
	08/12/2001	1309 ± 110	< 3	< 4	< 20	< 3
	11/04/2001	1336 ± 87	< 3	< 3	< 18	< 5
	MEAN	1364 ± 86	3 ± 2	3 ± 1	15 ± 9	3 ± 1
R	01/08/2001	1587 ± 189	< 5	< 6	< 26	< 4
	02/12/2001	1560 ± 170	< 6	< 7	< 18	< 3
	03/12/2001	1455 ± 117	< 3	< 4	< 18	< 3
	04/09/2001	1475 ± 125	< 3	< 3	< 13	< 2
	05/07/2001	1319 ± 123	< 4	< 3	< 20	< 4
	08/13/2001	1400 ± 43	< 2	< 2	< 15	< 3
	11/05/2001	1449 ± 47	< 2	< 2	< 24	< 4
	MEAN	1464 ± 182	3 ± 3	4 ± 4	19 ± 9	4 ± 2
S	01/08/2001	1454 ± 161	< 6	< 5	< 27	< 5
	02/12/2001	1369 ± 144	< 5	< 4	< 11	< 3
	03/12/2001	1409 ± 120	< 3	< 5	< 21	< 3
	04/09/2001	1427 ± 125	< 4	< 4	< 15	< 3
	05/07/2001	1260 ± 130	< 5	< 4	< 19	< 2
	08/13/2001	1404 ± 92	< 3	< 3	< 27	< 7
	11/05/2001	1334 ± 48	< 1	< 1	< 29	< 6
	MEAN	1380 ± 131	4 ± 3	4 ± 2	21 ± 14	4 ± 4

TABLE C-VII.1 QUARTERLY TLD RESULTS FOR PEACH BOTTOM ATOMIC POWER STATION, 2001

RESULTS IN UNITS OF MILLI-ROENTGEN/STD. +/- 2 SIGMA

STATION CODE	MEAN[1] +/- 2 S.D.	JAN-MAR	APR-JUN	JUL-SEP	OCT-DEC
1A	6.3 ± 2.1	6.3 ± 0.7	5.5 ± 0.6	5.6 ± 0.6	7.8 ± 0.6
1B	5.2 ± 1.5	5.0 ± 0.7	4.9 ± 0.5	4.8 ± 0.6	6.3 ± 0.8
1C	6.3 ± 1.7	6.0 ± 0.4	5.8 ± 0.6	5.9 ± 0.5	7.7 ± 0.7
1D	6.0 ± 1.7	5.9 ± 0.4	5.4 ± 0.4	5.3 ± 0.4	7.1 ± 0.6
1E	5.6 ± 1.6	5.4 ± 0.0	5.4 ± 0.4	4.9 ± 0.4	6.8 ± 0.7
1F	7.1 ± 1.8	6.7 ± 0.6	6.7 ± 0.5	6.6 ± 0.6	8.4 ± 0.8
1G	4.6 ± 1.6	4.5 ± 0.3	4.1 ± 0.3	4.0 ± 0.4	5.7 ± 0.0
1H	6.2 ± 2.0	5.8 ± 0.6	5.6 ± 0.9	5.6 ± 0.5	7.6 ± 0.6
1I	5.0 ± 1.5	4.7 ± 0.4	4.7 ± 0.4	4.3 ± 0.4	6.0 ± 0.6
1J	7.1 ± 2.2	6.6 ± 0.5	6.4 ± 0.6	6.6 ± 0.5	8.8 ± 0.6
1L	5.4 ± 2.0	5.3 ± 0.4	4.8 ± 0.6	4.7 ± 0.4	6.8 ± 0.7
1M	3.5 ± 1.2	3.8 ± 0.5	3.1 ± 0.4	2.9 ± 0.4	4.2 ± 0.3
1P	4.4 ± 2.1	4.4 ± 0.4	3.6 ± 0.4	3.6 ± 0.4	5.8 ± 0.8
1Q	4.9 ± 1.9	4.9 ± 0.6	4.2 ± 0.3	4.3 ± 0.4	6.3 ± 0.4
1R	6.6 ± 1.9	6.2 ± 0.7	6.1 ± 0.6	6.0 ± 0.6	8.0 ± 0.5
2	6.0 ± 1.6	5.9 ± 0.4	5.5 ± 0.6	5.5 ± 0.8	7.2 ± 0.5
2B	5.6 ± 1.7	5.1 ± 0.4	5.3 ± 0.6	5.0 ± 0.4	6.8 ± 0.7
3A	4.5 ± 1.3	4.4 ± 0.7	4.1 ± 0.5	4.0 ± 0.6	5.5 ± 0.6
4K	4.0 ± 1.4	3.8 ± 0.5	3.8 ± 0.0	3.5 ± 0.4	5.0 ± 0.6
5	5.8 ± 1.7	5.7 ± 0.4	5.4 ± 0.4	5.2 ± 0.3	7.1 ± 0.9
1NN	6.7 ± 1.7	6.2 ± 0.3	6.5 ± 0.4	6.2 ± 0.6	8.0 ± 0.6
6B	5.0 ± 1.4	5.4 ± 0.7	4.5 ± 0.3	4.4 ± 0.4	5.8 ± 0.4
14	6.1 ± 1.4	5.9 ± 0.3	5.5 ± 0.3	5.8 ± 0.4	7.2 ± 0.6
15	6.2 ± 1.9	5.9 ± 0.9	5.8 ± 0.4	5.5 ± 0.6	7.6 ± 0.7
16	6.2 ± 1.3	5.9 ± 0.4	5.7 ± 0.6	6.0 ± 0.7	7.2 ± 0.5
17	6.8 ± 2.3	6.5 ± 0.4	6.4 ± 0.9	6.0 ± 0.6	8.5 ± 0.6
18	6.6 ± 1.5	6.5 ± 0.4	6.0 ± 0.7	6.2 ± 0.9	7.7 ± 0.8
19	6.4 ± 1.6	6.0 ± 0.4	5.9 ± 0.3	6.2 ± 0.6	7.6 ± 0.6
22	6.4 ± 1.9	6.1 ± 0.4	5.8 ± 0.4	6.0 ± 0.6	7.8 ± 0.4
23	6.5 ± 1.6	5.9 ± 0.6	6.2 ± 0.8	6.2 ± 0.3	7.6 ± 0.7
24	5.2 ± 1.1	5.2 ± 0.4	4.7 ± 0.4	4.9 ± 0.5	5.9 ± 1.1
26	7.2 ± 1.7	6.6 ± 0.7	6.6 ± 0.4	7.1 ± 0.8	8.4 ± 0.6
27	6.6 ± 1.5	6.1 ± 0.7	6.1 ± 0.8	6.4 ± 1.0	7.6 ± 0.6
31A	4.9 ± 1.5	4.6 ± 0.5	4.5 ± 0.6	4.5 ± 0.5	6.1 ± 0.7
32	6.7 ± 1.8	6.3 ± 0.3	6.3 ± 0.5	6.2 ± 0.6	8.1 ± 0.6
40	7.3 ± 2.3	6.7 ± 0.7	6.6 ± 0.9	6.8 ± 0.6	9.0 ± 0.7
42	5.5 ± 1.4	5.5 ± 0.7	5.0 ± 0.4	5.0 ± 0.6	6.5 ± 0.5
43	7.0 ± 1.7	6.7 ± 0.4	6.2 ± 0.6	6.9 ± 0.6	8.3 ± 0.6
44	6.0 ± 1.8	5.4 ± 0.5	5.4 ± 0.6	5.8 ± 0.5	7.3 ± 0.9
45	6.6 ± 2.3	5.9 ± 0.8	6.1 ± 0.6	6.0 ± 0.7	8.3 ± 0.3
46	6.0 ± 1.6	6.1 ± 0.9	5.3 ± 0.7	5.6 ± 0.6	7.1 ± 0.4
47	6.8 ± 1.5	6.3 ± 0.4	6.6 ± 0.4	6.5 ± 0.5	8.0 ± 0.7
48	6.4 ± 1.8	6.1 ± 0.7	5.8 ± 0.4	6.0 ± 0.7	7.7 ± 0.6
49	6.4 ± 1.4	6.3 ± 0.5	5.8 ± 0.4	6.0 ± 1.0	7.4 ± 0.4
50	7.6 ± 2.0	7.4 ± 0.8	6.9 ± 0.4	7.0 ± 1.0	9.0 ± 0.6
51	6.6 ± 1.5	6.6 ± 0.5	5.8 ± 0.8	6.2 ± 0.6	7.6 ± 0.6

(1) MEAN AND TWO TIMES THE STANDARD DEVIATION OF THE QUARTERLY RESULTS

TABLE C-VIII.2 MEAN TLD RESULTS FROM PEACH BOTTOM ATOMIC POWER STATION FOR THE SITE BOUNDARY, MIDDLE, AND OUTER RINGS, 2001

RESULTS IN UNITS OF MILLI-ROENTGEN/STD. MO. +/- 2 STANDARD DEVIATIONS OF THE STATION DATA

EXPOSURE PERIOD	SITE RING	MIDDLE RING	OUTER RING
JAN-MAR	5.6 ± 1.7	5.9 ± 1.6	5.9 ± 1.1
APR-JUN	5.3 ± 2.0	5.7 ± 1.6	5.6 ± 1.2
JUL-SEP	5.2 ± 2.1	5.7 ± 1.9	5.8 ± 1.3
OCT-DEC	7.1 ± 2.4	7.4 ± 2.0	7.1 ± 1.6

TABLE C-VIII.3 SUMMARY OF THE 1999 AMBIENT DOSIMETRY PROGRAM FOR PEACH BOTTOM ATOMIC POWER STATION, 2001

RESULTS IN UNITS OF MILLI-ROENTGEN/STD. MO.

LOCATION	SAMPLES ANALYZED	PERIOD MINIMUM	PERIOD MAXIMUM	PERIOD MEAN +/- 2 S.D.	PRE-OP MEAN +/- 2 S.D.
SITE RING	76	2.9	9.0	5.8 ± 2.5	5.4 ± 1.7
MIDDLE RING	92	3.5	9.0	6.2 ± 2.2	5.3 ± 1.3
OUTER RING	16	4.7	7.7	6.1 ± 1.7	5.7 ± 1.8

THE PRE-OPERATIONAL MEAN WAS CALCULATED FROM TLD READINGS 01/07/73 TO 08/05/73.
SITE BOUNDARY RING STATIONS - 1A, 1B, 1C, 1D, 1E, 1F, 1G, 1H, 1I, 1J, 1L, 1M, 1NN, 1P, 1Q, 1R, 2, 2B, 40
MIDDLE RING STATIONS - 3A, 4K, 5, 6B, 14, 15, 17, 22, 23, 26, 27, 31A, 32, 42, 43, 44, 45, 46, 47, 48, 49,
OUTER RING STATIONS - 16, 18, 19, 24

TABLE C-IX.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001

SURFACE WATER (TRITIUM)

COLLECTION PERIOD	1LL	1MM
JAN-MAR	01/03/2001 - 03/28/2001	01/03/2001 - 03/28/2001
APR-JUN	03/28/2001 - 06/27/2001	03/28/2001 - 06/27/2001
JUL-SEP	06/27/2001 - 10/03/2001	06/27/2001 - 10/03/2001
OCT-DEC	10/03/2001 - 01/02/2002	10/03/2001 - 01/02/2002

SURFACE WATER (GAMMA SPECTROSCOPY)

COLLECTION PERIOD	1LL	1MM
JAN	01/03/2001 - 01/31/2001	01/03/2001 - 01/31/2001
FEB	01/31/2001 - 02/28/2001	01/31/2001 - 02/28/2001
MAR	02/28/2001 - 03/28/2001	02/28/2001 - 03/28/2001
APR	03/28/2001 - 05/02/2001	03/28/2001 - 05/02/2001
MAY	05/02/2001 - 05/30/2001	05/02/2001 - 05/30/2001
JUN	05/30/2001 - 06/27/2001	05/30/2001 - 06/27/2001
JUL	06/27/2001 - 08/01/2001	06/27/2001 - 08/01/2001
AUG	08/01/2001 - 08/29/2001	08/01/2001 - 08/29/2001
SEP	08/29/2001 - 10/03/2001	08/29/2001 - 10/03/2001
OCT	10/03/2001 - 10/31/2001	10/03/2001 - 10/31/2001
NOV	10/31/2001 - 11/28/2001	10/31/2001 - 11/28/2001
DEC	11/28/2001 - 01/02/2002	11/28/2001 - 01/02/2002

DRINKING WATER (TRITIUM)

COLLECTION PERIOD	4L	6I
JAN-MAR	01/05/2001 - 03/30/2001	01/05/2001 - 03/30/2001
APR-JUN	03/30/2001 - 06/29/2001	03/30/2001 - 06/29/2001
JUL-SEP	06/29/2001 - 10/05/2001	06/29/2001 - 10/05/2001
OCT-DEC	10/05/2001 - 01/04/2002	10/05/2001 - 01/04/2002

DRINKING WATER (GROSS BETA & GAMMA)

COLLECTION PERIOD	4L	6I
JAN	01/05/2001 - 02/02/2001	01/05/2001 - 02/02/2001
FEB	02/02/2001 - 03/02/2001	02/02/2001 - 03/02/2001
MAR	03/02/2001 - 03/30/2001	03/02/2001 - 03/30/2001
APR	03/30/2001 - 05/04/2001	03/30/2001 - 05/04/2001
MAY	05/04/2001 - 06/01/2001	05/04/2001 - 06/01/2001
JUN	06/01/2001 - 06/29/2001	06/01/2001 - 06/29/2001
JUL	06/29/2001 - 08/02/2001	06/29/2001 - 08/02/2001
AUG	08/01/2001 - 08/30/2001	08/01/2001 - 08/30/2001
SEP	08/30/2001 - 10/05/2001	08/30/2001 - 10/05/2001
OCT	10/05/2001 - 11/01/2001	10/05/2001 - 11/01/2001
NOV	11/01/2001 - 12/02/2001	11/01/2001 - 12/02/2001
DEC	12/02/2001 - 01/04/2002	12/02/2001 - 01/04/2002

TABLE C-IX.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001

AIR PARTICULATE & AIR IODINE (G. BETA & I-131)

SAMPLING PERIOD	1B	1Z	1C	3A	5H2
1	12/29 - 01/05/2001	12/29 - 01/05/2001	02/01 - 01/05/2001	12/29 - 01/05/2001	12/29 - 01/08/2001
2	01/05 - 01/12/2001	01/05 - 01/12/2001	01/05 - 01/12/2001	01/05 - 01/12/2001	01/08 - 01/15/2001
3	01/12 - 01/19/2001	01/12 - 01/19/2001	01/12 - 01/19/2001	01/12 - 01/19/2001	01/15 - 01/22/2001
4	01/19 - 01/26/2001	01/19 - 01/26/2001	01/19 - 01/26/2001	01/19 - 01/26/2001	01/22 - 01/29/2001
5	01/26 - 02/02/2001	01/26 - 02/02/2001	01/26 - 02/02/2001	01/26 - 02/02/2001	01/29 - 02/05/2001
6	02/02 - 02/09/2001	02/02 - 02/09/2001	02/02 - 02/09/2001	02/02 - 02/09/2001	02/05 - 02/12/2001
7	02/09 - 02/16/2001	02/09 - 02/16/2001	02/09 - 02/16/2001	02/09 - 02/16/2001	02/12 - 02/19/2001
8	02/16 - 02/23/2001	02/16 - 02/23/2001	02/16 - 02/23/2001	02/16 - 02/23/2001	02/19 - 02/26/2001
9	02/23 - 03/02/2001	02/23 - 03/02/2001	02/23 - 03/02/2001	02/23 - 03/02/2001	02/26 - 03/05/2001
10	03/02 - 03/09/2001	03/02 - 03/09/2001	03/02 - 03/09/2001	03/02 - 03/09/2001	03/05 - 03/12/2001
11	03/09 - 03/16/2001	03/09 - 03/16/2001	03/09 - 03/16/2001	03/09 - 03/16/2001	03/12 - 03/19/2001
12	06/16 - 03/23/2001	06/16 - 03/23/2001	06/16 - 03/23/2001	06/16 - 03/23/2001	06/19 - 03/26/2001
13	03/23 - 03/30/2001	03/23 - 03/30/2001	03/23 - 03/30/2001	03/23 - 03/30/2001	03/26 - 04/02/2001
14	03/30 - 04/06/2001	03/30 - 04/06/2001	03/30 - 04/06/2001	03/30 - 04/06/2001	04/02 - 04/09/2001
15	04/06 - 04/13/2001	04/06 - 04/13/2001	04/06 - 04/13/2001	04/06 - 04/13/2001	04/09 - 04/16/2001
16	04/13 - 04/20/2001	04/13 - 04/20/2001	04/13 - 04/20/2001	04/13 - 04/20/2001	04/16 - 04/23/2001
17	04/20 - 04/28/2001	04/20 - 04/28/2001	04/20 - 04/28/2001	04/20 - 04/28/2001	04/23 - 04/30/2001
18	04/28 - 05/04/2001	04/28 - 05/04/2001	04/28 - 05/04/2001	04/28 - 05/04/2001	04/30 - 05/07/2001
19	05/04 - 05/11/2001	05/04 - 05/11/2001	05/04 - 05/11/2001	05/04 - 05/11/2001	05/07 - 05/14/2001
20	05/11 - 05/18/2001	05/11 - 05/18/2001	05/11 - 05/18/2001	05/11 - 05/18/2001	05/14 - 05/21/2001
21	05/18 - 05/25/2001	05/18 - 05/25/2001	05/18 - 05/25/2001	05/18 - 05/25/2001	05/21 - 05/29/2001
22	05/25 - 06/01/2001	05/25 - 06/01/2001	05/25 - 06/01/2001	05/25 - 06/01/2001	05/29 - 06/03/2001
23	06/01 - 06/08/2001	06/01 - 06/08/2001	06/01 - 06/08/2001	06/01 - 06/08/2001	06/03 - 06/11/2001
24	06/08 - 06/15/2001	06/08 - 06/15/2001	06/08 - 06/15/2001	06/08 - 06/15/2001	06/11 - 06/19/2001
25	06/15 - 06/22/2001	06/15 - 06/22/2001	06/15 - 06/22/2001	06/15 - 06/22/2001	06/19 - 06/25/2001
26	06/22 - 06/29/2001	06/22 - 06/29/2001	06/22 - 06/29/2001	06/22 - 06/29/2001	06/25 - 07/02/2001
27	06/29 - 07/06/2001	06/29 - 07/06/2001	06/29 - 07/06/2001	06/29 - 07/06/2001	07/02 - 07/09/2001
28	07/06 - 07/13/2001	07/06 - 07/13/2001	07/06 - 07/13/2001	07/06 - 07/13/2001	07/09 - 07/16/2001
29	07/13 - 07/20/2001	07/13 - 07/20/2001	07/13 - 07/20/2001	07/13 - 07/20/2001	07/16 - 07/23/2001
30	07/20 - 07/27/2001	07/20 - 07/27/2001	07/20 - 07/27/2001	07/20 - 07/27/2001	07/23 - 07/30/2001
31	07/27 - 08/02/2001	07/27 - 08/02/2001	07/27 - 08/02/2001	07/27 - 08/02/2001	07/30 - 08/06/2001
32	08/02 - 08/09/2001	08/02 - 08/09/2001	08/02 - 08/09/2001	08/02 - 08/09/2001	08/06 - 08/13/2001
33	08/09 - 08/16/2001	08/09 - 08/16/2001		08/09 - 08/16/2001	08/13 - 08/20/2001
34	08/16 - 08/23/2001	08/16 - 08/23/2001	08/16 - 08/23/2001	08/16 - 08/23/2001	08/20 - 08/27/2001
35	08/23 - 08/30/2001	08/23 - 08/30/2001	08/23 - 08/30/2001	08/23 - 08/30/2001	08/27 - 09/04/2001
36	08/30 - 09/06/2001	08/30 - 09/06/2001	08/30 - 09/06/2001	08/30 - 09/06/2001	09/04 - 09/11/2001
37	09/06 - 09/14/2001	09/06 - 09/14/2001	09/06 - 09/14/2001	09/06 - 09/14/2001	09/11 - 09/17/2001
38	09/14 - 09/20/2001	09/14 - 09/20/2001	09/14 - 09/20/2001	09/14 - 09/20/2001	09/17 - 09/24/2001
39	09/20 - 09/27/2001	09/20 - 09/27/2001	09/20 - 09/27/2001	09/20 - 09/27/2001	09/24 - 10/01/2001
40	09/27 - 10/05/2001	09/27 - 10/05/2001	09/27 - 10/05/2001	09/27 - 10/05/2001	10/01 - 10/08/2001
41	10/05 - 10/11/2001	10/05 - 10/11/2001	10/05 - 10/11/2001	10/05 - 10/11/2001	10/08 - 10/15/2001
42	10/11 - 10/18/2001	10/11 - 10/18/2001	10/11 - 10/18/2001	10/11 - 10/18/2001	10/15 - 10/22/2001
43	10/18 - 10/25/2001	10/18 - 10/25/2001	10/18 - 10/25/2001	10/18 - 10/25/2001	10/22 - 10/29/2001
44	10/25 - 11/01/2001	10/25 - 11/01/2001	10/25 - 11/01/2001	10/25 - 11/01/2001	10/29 - 11/05/2001
45	11/01 - 11/09/2001	11/01 - 11/09/2001	11/01 - 11/09/2001	11/01 - 11/09/2001	11/05 - 11/12/2001
46	11/09 - 11/15/2001	11/09 - 11/15/2001	11/09 - 11/15/2001	11/09 - 11/15/2001	11/12 - 11/19/2001
47	11/15 - 11/22/2001	11/15 - 11/22/2001	11/15 - 11/22/2001	11/15 - 11/22/2001	11/19 - 11/26/2001
48	11/22 - 12/02/2001	11/22 - 12/02/2001	11/22 - 12/02/2001	11/22 - 12/02/2001	11/26 - 12/03/2001
49	12/02 - 12/07/2001	12/02 - 12/07/2001	12/02 - 12/07/2001	12/02 - 12/07/2001	12/03 - 12/10/2001
50	12/07 - 12/14/2001	12/07 - 12/14/2001	12/07 - 12/14/2001	12/07 - 12/14/2001	12/10 - 12/21/2001
51	12/14 - 12/21/2001	12/14 - 12/21/2001	12/14 - 12/21/2001	12/14 - 12/21/2001	12/17 - 12/24/2001
52	12/21 - 12/28/2001	12/21 - 12/28/2001	12/21 - 12/28/2001	12/21 - 12/28/2001	12/24 - 12/31/2001

TABLE C-IX.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001

STATION CODE	JAN-MAR	APR-JUN	JUL-SEP	OCT-DEC
1A	01/05/2001 - 03/30/2001	03/30/2001 - 06/29/2001	06/29/2001 - 10/05/2001	10/05/2001 - 01/04/2002
1B	01/05/2001 - 03/30/2001	03/30/2001 - 06/29/2001	06/29/2001 - 10/05/2001	10/05/2001 - 01/04/2002
1C	01/05/2001 - 03/30/2001	03/30/2001 - 06/29/2001	06/29/2001 - 10/05/2001	10/05/2001 - 01/04/2002
1D	01/05/2001 - 03/30/2001	03/30/2001 - 06/29/2001	06/29/2001 - 10/05/2001	10/05/2001 - 01/04/2002
1E	01/04/2001 - 03/29/2001	03/29/2001 - 06/28/2001	06/28/2001 - 10/05/2001	10/04/2001 - 01/03/2002
1F	01/04/2001 - 03/29/2001	03/29/2001 - 06/28/2001	06/28/2001 - 10/05/2001	10/04/2001 - 01/04/2002
1G	01/04/2001 - 03/29/2001	03/29/2001 - 06/28/2001	06/28/2001 - 10/05/2001	10/04/2001 - 01/03/2002
1H	01/04/2001 - 03/30/2001	03/30/2001 - 06/29/2001	06/29/2001 - 10/05/2001	10/05/2001 - 01/04/2002
1I	01/05/2001 - 03/30/2001	03/30/2001 - 06/29/2001	06/29/2001 - 10/05/2001	10/05/2001 - 01/04/2002
1J	01/04/2001 - 03/29/2001	03/29/2001 - 06/28/2001	06/28/2001 - 10/05/2001	10/04/2001 - 01/03/2002
1L	01/04/2001 - 03/29/2001	03/29/2001 - 06/28/2001	06/28/2001 - 10/05/2001	10/05/2001 - 01/04/2002
1M	01/05/2001 - 03/30/2001	03/30/2001 - 06/29/2001	06/29/2001 - 10/05/2001	10/05/2001 - 01/04/2002
1P	01/05/2001 - 03/30/2001	03/30/2001 - 06/29/2001	06/29/2001 - 10/05/2001	10/05/2001 - 01/04/2002
1Q	01/05/2001 - 03/30/2001	03/30/2001 - 06/29/2001	06/29/2001 - 10/05/2001	10/05/2001 - 01/04/2002
1R	01/05/2001 - 03/30/2001	03/30/2001 - 06/29/2001	06/29/2001 - 10/05/2001	10/05/2001 - 01/04/2002
2	01/04/2001 - 03/29/2001	03/29/2001 - 06/28/2001	06/28/2001 - 10/05/2001	10/04/2001 - 01/03/2002
2B	01/05/2001 - 03/30/2001	03/30/2001 - 06/29/2001	06/29/2001 - 10/05/2001	10/05/2001 - 01/04/2002
3A	01/05/2001 - 03/30/2001	03/30/2001 - 06/29/2001	06/29/2001 - 10/05/2001	10/05/2001 - 01/04/2002
4K	01/05/2001 - 03/30/2001	03/30/2001 - 06/29/2001	06/29/2001 - 10/05/2001	10/05/2001 - 01/04/2002
5	01/03/2001 - 03/28/2001	03/28/2001 - 06/27/2001	06/27/2001 - 10/03/2001	10/03/2001 - 01/02/2002
1NN	01/04/2001 - 03/30/2001	03/30/2001 - 06/29/2001	06/29/2001 - 10/05/2001	10/05/2001 - 01/04/2002
6B	01/05/2001 - 03/28/2001	03/30/2001 - 06/29/2001	06/29/2001 - 10/05/2001	10/05/2001 - 01/04/2002
14	01/03/2001 - 03/28/2001	03/28/2001 - 06/27/2001	06/27/2001 - 10/03/2001	10/03/2001 - 01/02/2002
15	01/03/2001 - 03/28/2001	03/28/2001 - 06/27/2001	06/27/2001 - 10/03/2001	10/03/2001 - 01/02/2002
16	01/03/2001 - 03/28/2001	03/28/2001 - 06/27/2001	06/27/2001 - 10/03/2001	10/03/2001 - 01/02/2002
17	01/03/2001 - 03/28/2001	03/28/2001 - 06/27/2001	06/27/2001 - 10/03/2001	10/03/2001 - 01/02/2002
18	01/03/2001 - 03/28/2001	03/28/2001 - 06/27/2001	06/27/2001 - 10/03/2001	10/03/2001 - 01/02/2002
19	01/03/2001 - 03/28/2001	03/28/2001 - 06/27/2001	06/27/2001 - 10/03/2001	10/03/2001 - 01/02/2002
22	01/03/2001 - 03/28/2001	03/28/2001 - 06/27/2001	06/27/2001 - 10/03/2001	10/03/2001 - 01/02/2002
23	01/04/2001 - 03/29/2001	03/29/2001 - 06/28/2001	06/28/2001 - 10/05/2001	10/04/2001 - 01/03/2002
24	01/03/2001 - 03/28/2001	03/28/2001 - 06/27/2001	06/27/2001 - 10/03/2001	10/03/2001 - 01/02/2002
26	01/03/2001 - 03/28/2001	03/28/2001 - 06/27/2001	06/27/2001 - 10/03/2001	10/03/2001 - 01/02/2002
27	01/04/2001 - 03/29/2001	03/29/2001 - 06/28/2001	06/28/2001 - 10/05/2001	10/04/2001 - 01/03/2002
31A	01/03/2001 - 03/28/2001	03/28/2001 - 06/27/2001	06/27/2001 - 10/03/2001	10/03/2001 - 01/02/2002
32	01/03/2001 - 03/28/2001	03/28/2001 - 06/27/2001	06/27/2001 - 10/03/2001	10/03/2001 - 01/02/2002
40	01/04/2001 - 03/29/2001	03/29/2001 - 06/28/2001	06/28/2001 - 10/05/2001	10/04/2001 - 01/03/2002
42	01/03/2001 - 03/28/2001	03/28/2001 - 06/27/2001	06/27/2001 - 10/03/2001	10/03/2001 - 01/02/2002
43	01/03/2001 - 03/28/2001	03/28/2001 - 06/27/2001	06/27/2001 - 10/03/2001	10/03/2001 - 01/02/2002
44	01/03/2001 - 03/28/2001	03/28/2001 - 06/27/2001	06/27/2001 - 10/03/2001	10/03/2001 - 01/02/2002
45	01/03/2001 - 03/28/2001	03/28/2001 - 06/27/2001	06/27/2001 - 10/03/2001	10/03/2001 - 01/02/2002
46	01/04/2001 - 03/29/2001	03/29/2001 - 06/28/2001	06/28/2001 - 10/05/2001	10/04/2001 - 01/03/2002
47	01/04/2001 - 03/29/2001	03/29/2001 - 06/28/2001	06/28/2001 - 10/05/2001	10/04/2001 - 01/03/2002
48	01/04/2001 - 03/29/2001	03/29/2001 - 06/28/2001	06/28/2001 - 10/05/2001	10/04/2001 - 01/03/2002
49	01/04/2001 - 03/28/2001	03/28/2001 - 06/27/2001	06/27/2001 - 10/03/2001	10/03/2001 - 01/02/2002
50	01/04/2001 - 03/28/2001	03/28/2001 - 06/27/2001	06/27/2001 - 10/03/2001	10/03/2001 - 01/02/2002
51	01/03/2001 - 03/28/2001	03/28/2001 - 06/27/2001	06/27/2001 - 10/03/2001	10/03/2001 - 01/02/2002

FIGURE C-1
MONTHLY INSOLUBLE GROSS BETA CONCENTRATIONS IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 2001

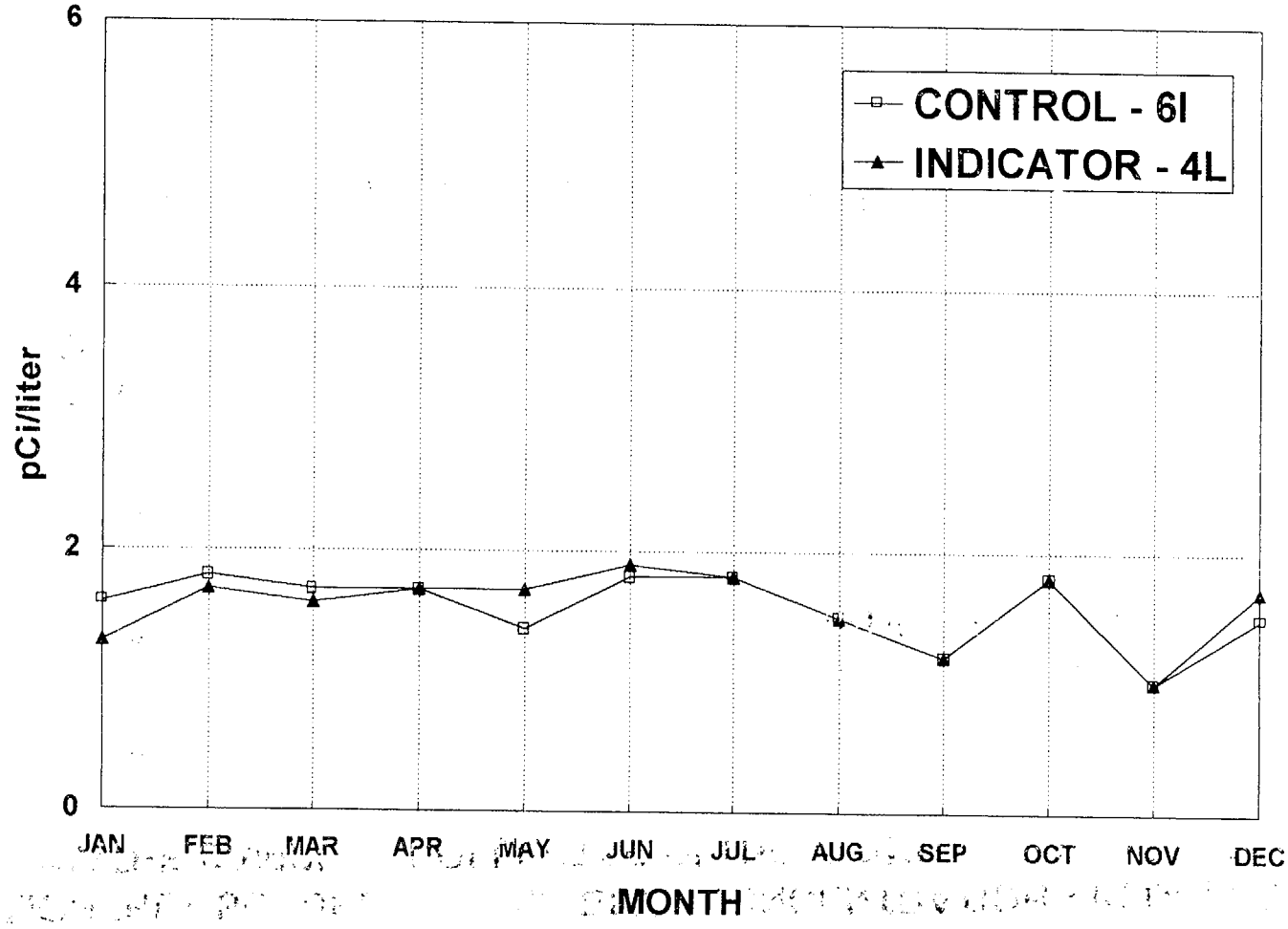


FIGURE C-2
MONTHLY SOLUBLE GROSS BETA CONCENTRATIONS IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 2001

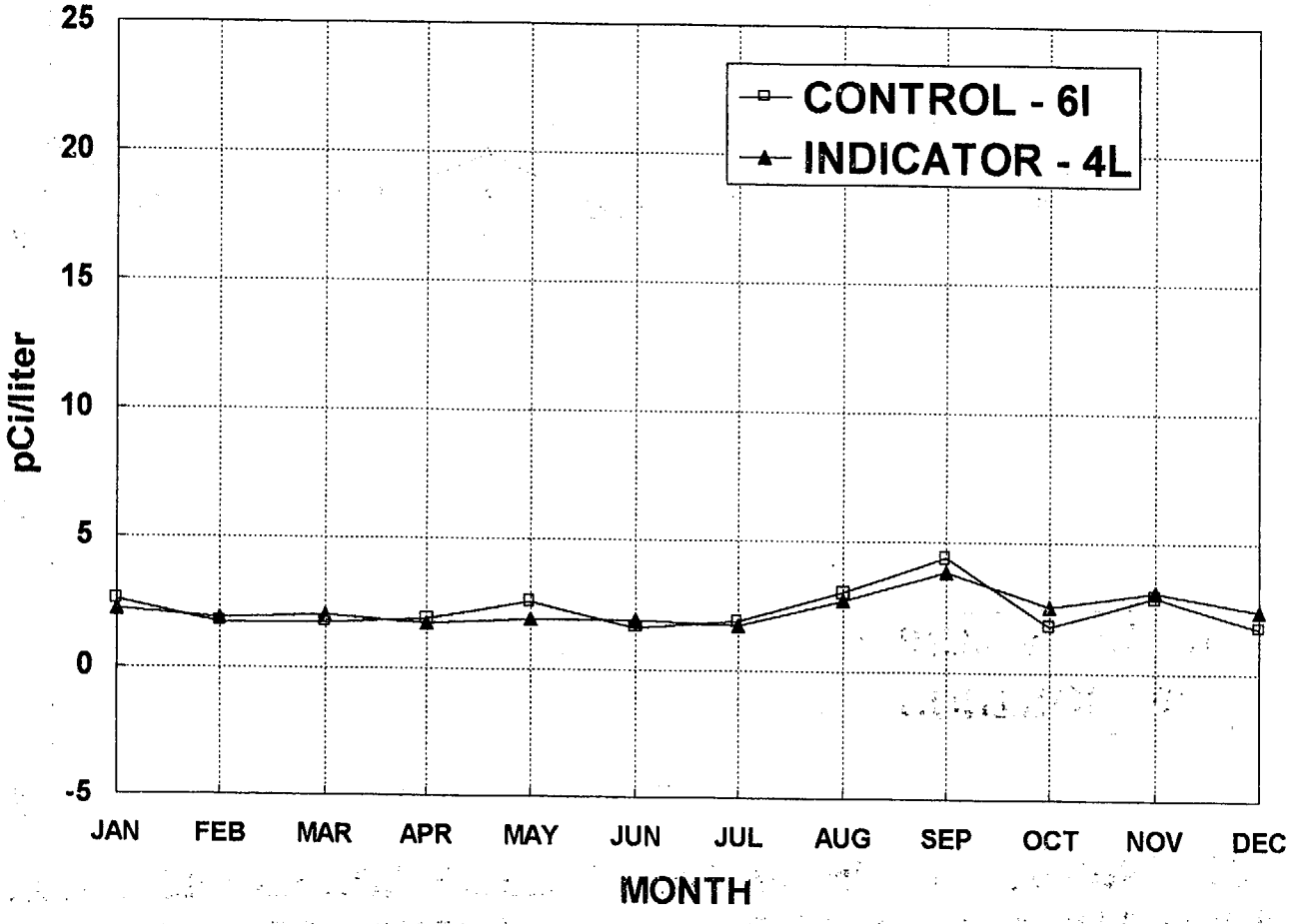


FIGURE C-3
MEAN ANNUAL CS-137 CONCENTRATIONS IN FISH SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 1971 - 2001

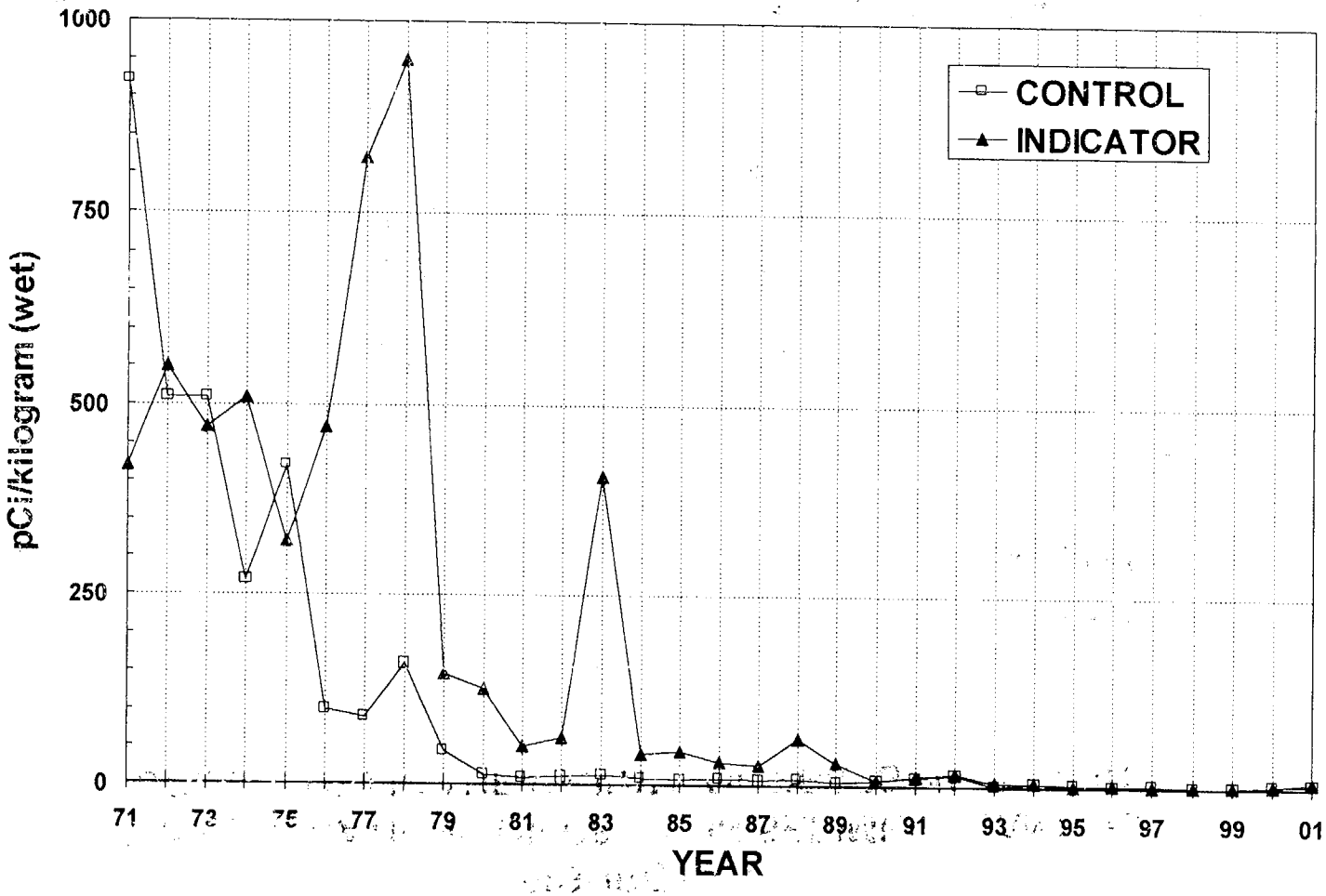
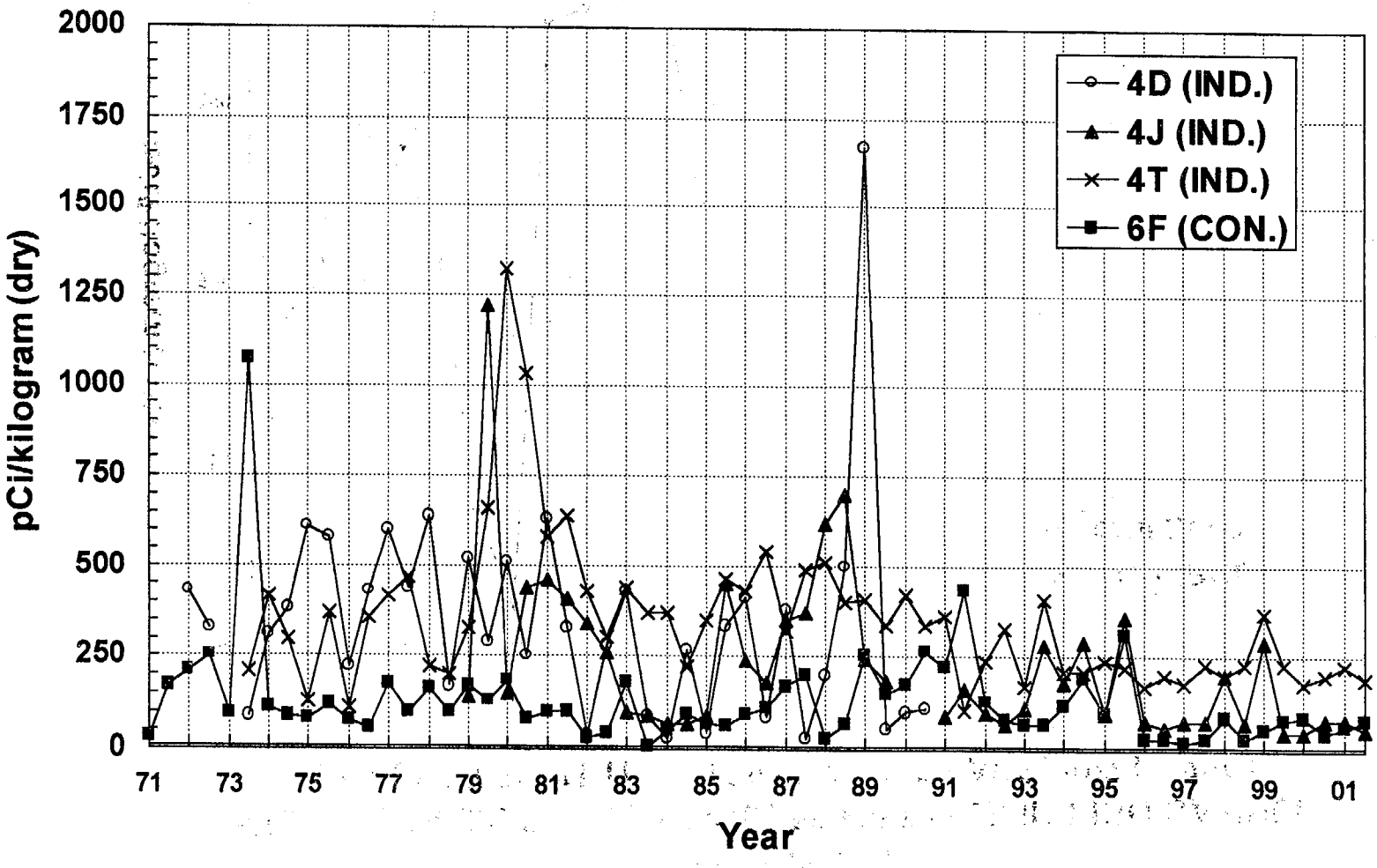


FIGURE C- 4
CONCENTRATIONS OF CS-137 IN SEDIMENT SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 1971 - 2001



No sample collected from Station 4J in 1990 and
Station 4D discontinued beginning 1991

FIGURE C- 5
MEAN WEEKLY GROSS BETA CONCENTRATIONS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 2001

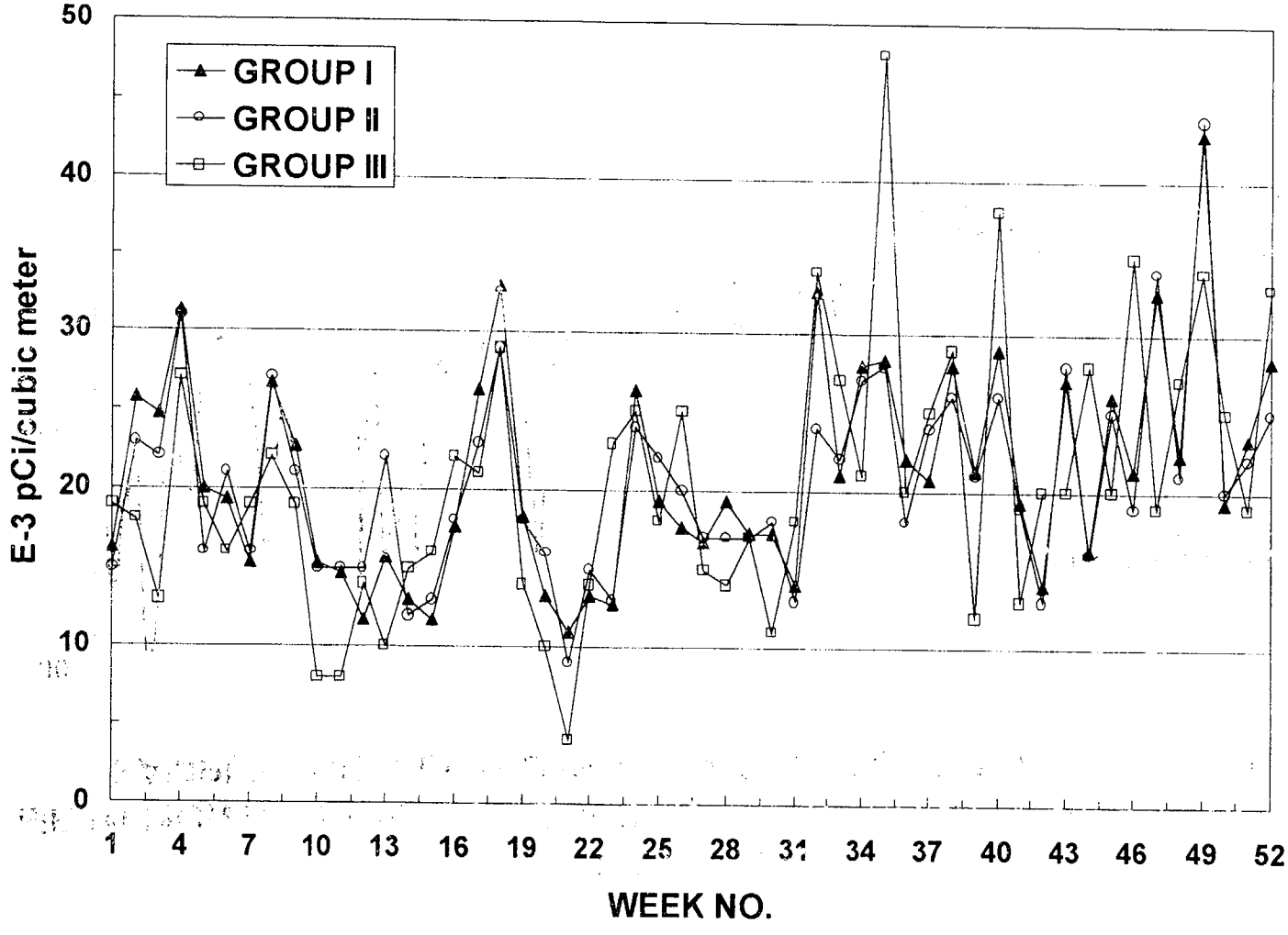


FIGURE C-6
MEAN MONTHLY GROSS BETA CONCENTRATIONS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 1970 - 2001

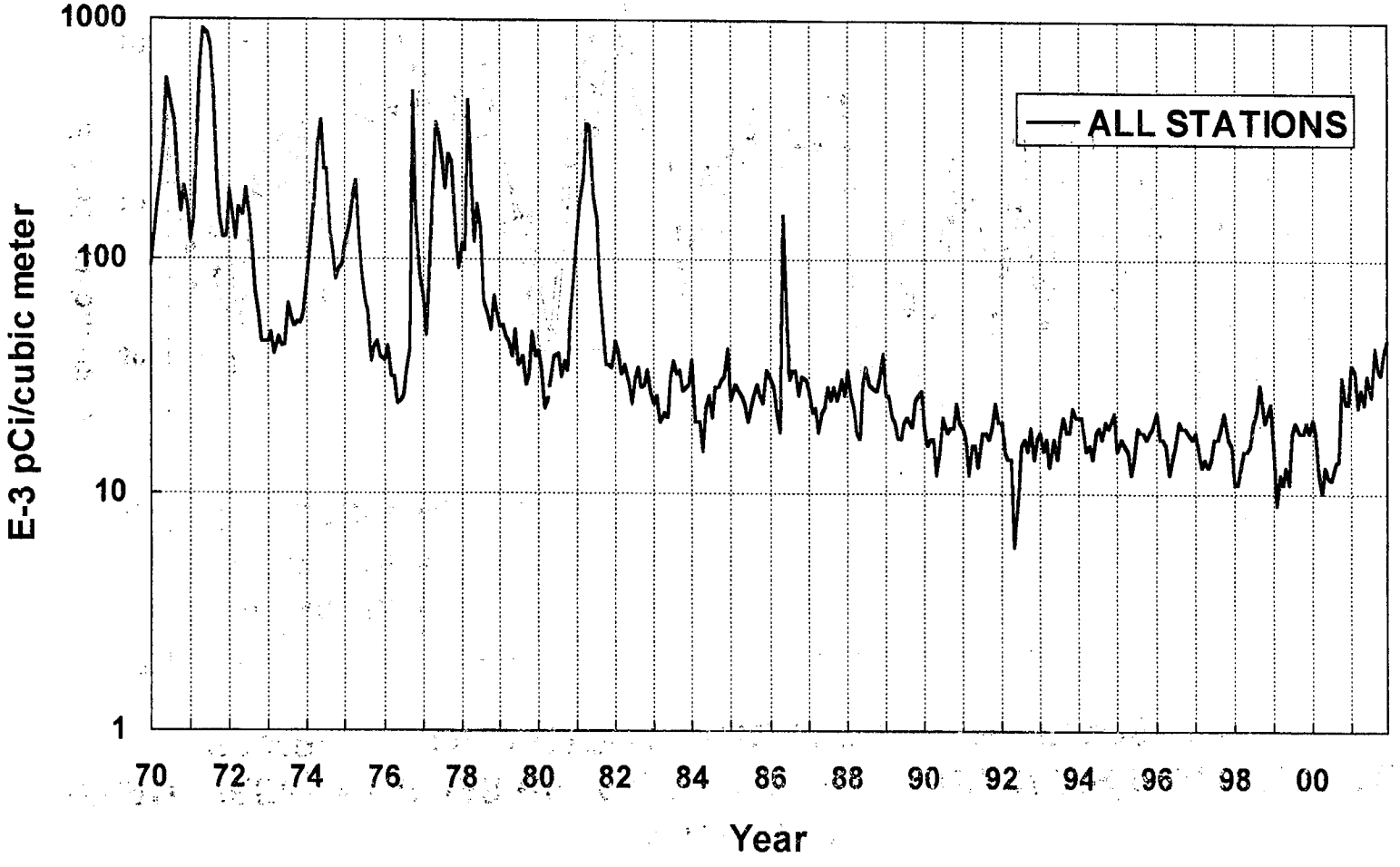
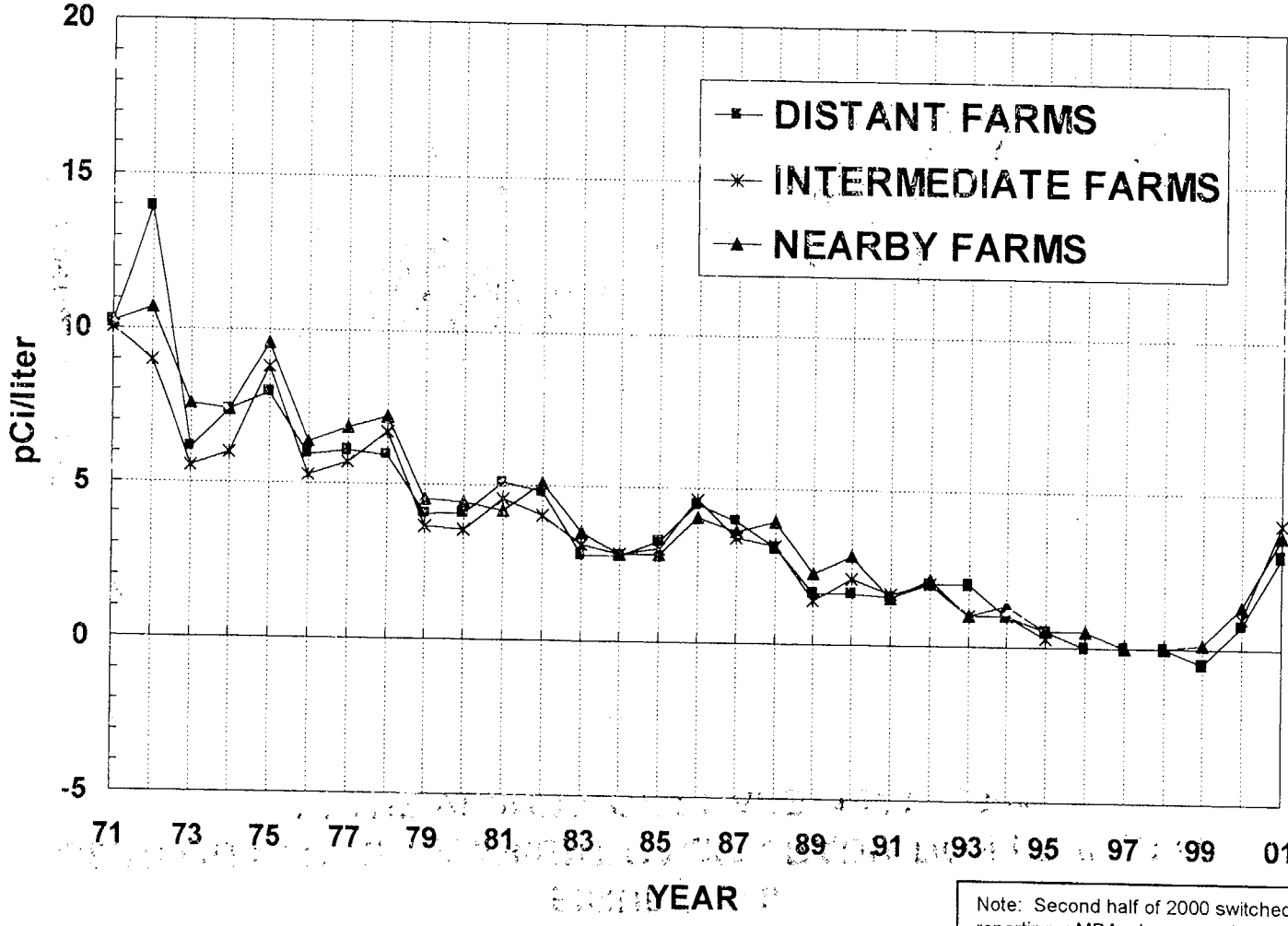


FIGURE C-7
MEAN ANNUAL CS-137 CONCENTRATIONS IN MILK SAMPLES COLLECTED IN THE VICINITY OF PBAPS, 1971 - 2001



Intermediate Farms Discontinued from 1995 - 1999

Note: Second half of 2000 switched to reporting < MDA when no activity was detected. Using MDA values result in a larger number.

FIGURE C- 8
MEAN QUARTERLY AMBIENT GAMMA RADIATION LEVELS (TLD) IN THE VICINITY OF PBAPS, 1973 - 2001

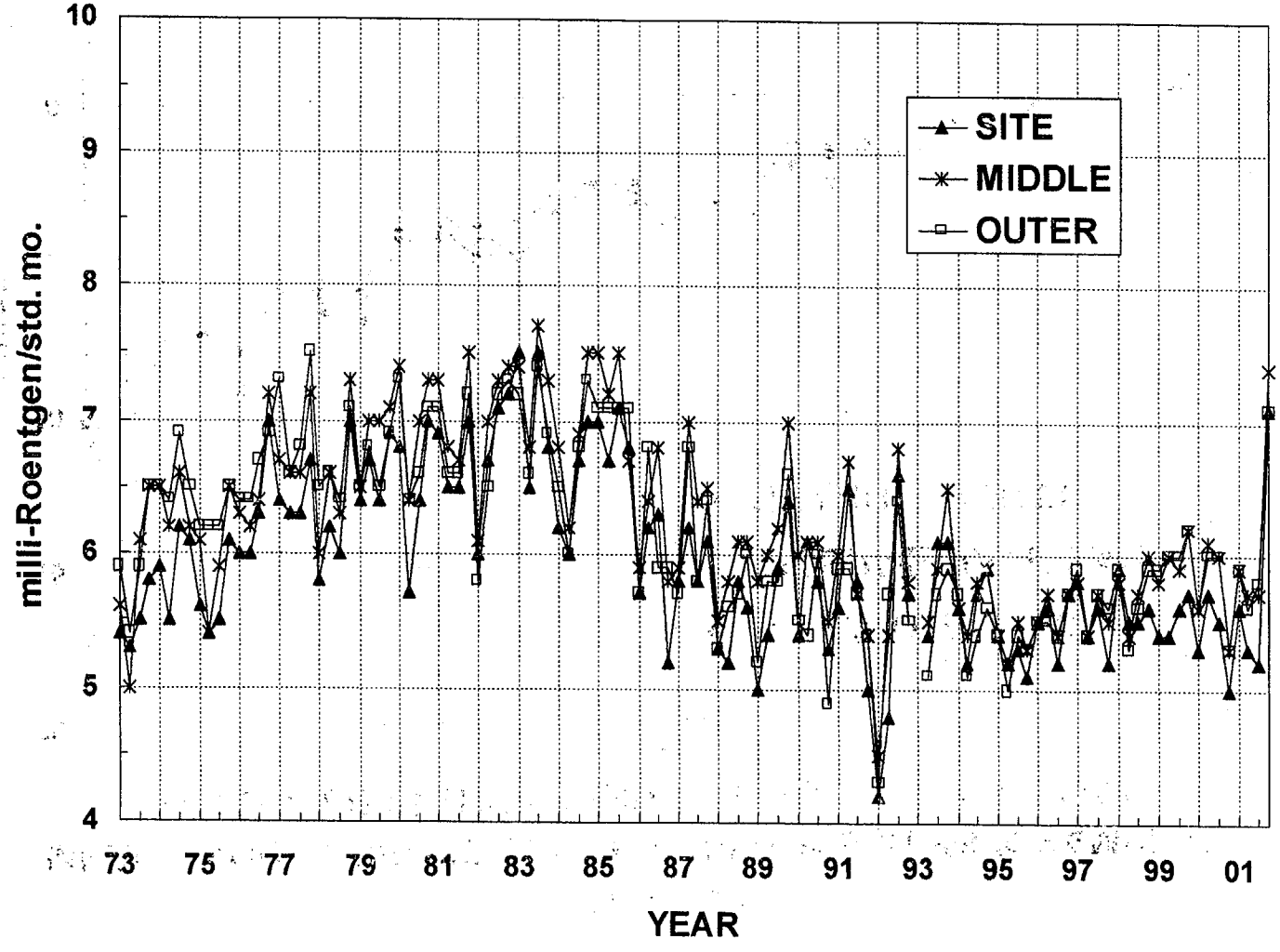
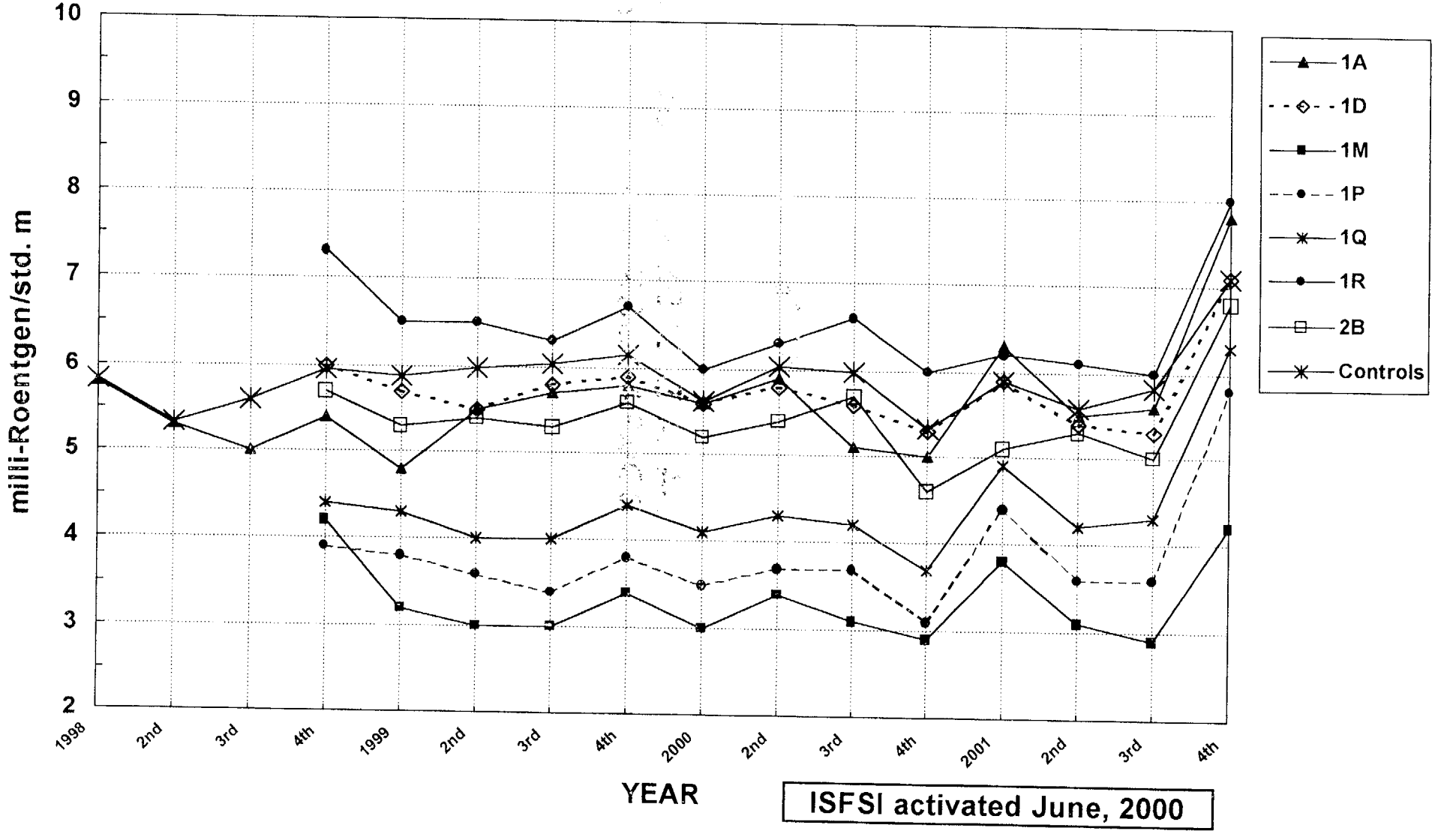


FIGURE C-9
QUARTERLY AMBIENT GAMMA RADIATION LEVELS (TLD) NEAR THE INDEPENDENT SPENT FUEL STORAGE INSTALLATION LOCATED AT PBAPS, 1998 - 2001



APPENDIX D

DATA TABLES AND FIGURES COMPARISON LABORATORY

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

The QC laboratory results for gross beta insoluble and soluble in drinking water samples were very similar to those reported by the Primary laboratory. All results between the laboratories were within 4 pCi/l of each other. The data reported were well within the historical range.

The gross beta results for air particulate samples collected at the collocated stations 1Z (Primary) and 1A (QC) compared very well (Figure D-3). Week No 1 showed the only significant difference between the two collocated samplers. Both results were analyzed by the same laboratory.

TABLE D-I.1 CONCENTRATIONS OF GROSS BETA INSOLUBLE IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001

RESULTS IN UNITS OF PCI/LITER +/- 2 SIGMA

COLLECTION PERIOD	4L
JAN	< 0.8
FEB	< 0.5
MAR	1.5 ± 0.6
APR	1.1 ± 0.5
MAY	< 0.5
JUN	5.2 ± 0.9
JUL	3.2 ± 0.5
AUG	3.3 ± 0.4
SEP	0.6 ± 0.5
OCT	< 1.0
NOV	0.6 ± 0.5
DEC	< 0.7
MEAN	1.6 ± 3.0

TABLE D-I.2 CONCENTRATIONS OF GROSS BETA SOLUBLE IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001

RESULTS IN UNITS OF PCI/LITER +/- 2 SIGMA

COLLECTION PERIOD	4L
JAN	2.3 ± 0.9
FEB	< 0.9
MAR	2.0 ± 0.9
APR	1.6 ± 0.7
MAY	2.6 ± 0.9
JUN	2.0 ± 1.0
JUL	3.0 ± 1.0
AUG	3.0 ± 0.8
SEP	4.0 ± 1.0
OCT	3.8 ± 1.0
NOV	4.0 ± 1.0
DEC	1.7 ± 0.7
MEAN	2.6 ± 2.0

TABLE D-I.3 **CONCENTRATIONS OF GAMMA EMITTERS IN DRINKING WATER SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001**

RESULTS IN UNITS OF PCI/LITER +/- 2 SIGMA

STC	COLLECTION PERIOD	MN-54	CO-58	FE-59	CO-60	ZN-65	ZR-95	NB-95	CS-134	CS-137	BA-140	LA-140
4L	JAN	< 7	< 8	< 18	< 6	< 15	< 14	< 8	< 8	< 7	< 87[1]	< 27[1]
	FEB	< 5	< 6	< 14	< 4	< 12	< 11	< 6	< 5	< 5	< 112[1]	< 37[1]
	MAR	< 7	< 7	< 14	< 6	< 15	< 12	< 7	< 7	< 7	< 43	< 14
	APR	< 5	< 6	< 2	< 5	< 12	< 9	< 5	< 6	< 5	< 25	< 8
	MAY	< 3	< 3	< 6	< 3	< 6	< 5	< 3	< 3	< 5	< 14	< 5
	JUN	< 3	< 3	< 5	< 3	< 6	< 5	< 4	< 2	< 4	< 14	< 5
	JUL	< 5	< 6	< 12	< 5	< 13	< 10	< 6	< 6	< 5	< 45	< 15
	AUG	< 6	< 6	< 13	< 6	< 14	< 10	< 6	< 6	< 6	< 37	< 12
	SEP	< 3	< 3	< 6	< 3	< 6	< 6	< 3	< 3	< 3	< 19	< 6
	OCT	< 4	< 3	< 9	< 5	< 11	< 8	< 5	< 5	< 5	< 26	< 8
	NOV	< 3	< 3	< 6	< 6	< 7	< 5	< 3	< 3	< 4	< 13	< 4
	DEC	< 5	< 5	< 10	< 5	< 12	< 9	< 5	< 6	< 5	< 24	< 8
	MEAN	5 ± 3	5 ± 4	10 ± 10	5 ± 2	11 ± 7	9 ± 6	5 ± 3	5 ± 4	5 ± 2	38 ± 62	12 ± 20

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE D-II.1 CONCENTRATIONS OF GROSS BETA INSOLUBLE IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001

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

WEEK NO.	1A
1	46 ±4
2	29 ±4
3	30 ±4
4	35 ±4
5	24 ±4
6	22 ±4
7	14 ±3
8	24 ±3
9	18 ±3
10	12 ±3
11	14 ±3
12	9 ±3
13	12 ±3
14	11 ±3
15	12 ±3
16	15 ±3
17	19 ±3
18	26 ±4
19	13 ±3
20	14 ±3
21	9 ±3
22	9 ±3
23	11 ±3
24	20 ±3
25	16 ±3
26	15 ±3
27	15 ±3
28	17 ±3
29	16 ±3
30	15 ±3
31	13 ±3
32	25 ±3
33	22 ±3
34	22 ±3
35	25 ±3
36	17 ±3
37	17 ±3
38	22 ±4
39	22 ±3
40	26 ±3
41	16 ±3
42	12 ±3
43	22 ±3
44	11 ±3
45	21 ±3
46	21 ±4
47	36 ±4
48	20 ±2
49	41 ±5
50	19 ±3
51	19 ±3
52	22 ±3
MEAN	19 ±16

TABLE D-II.2 **CONCENTRATION OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001**

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
1A	12/29 - 03/30/01	47 ± 4	< 0.5	< 0.8	< 0.5	< 0.5	< 0.4
	03/30 - 06/29/01	136 ± 12	< 0.8	< 1.4	< 0.8	< 0.8	< 0.7
	06/29 - 09/27/01	73 ± 7	< 0.5	< 0.7	< 0.5	< 0.5	< 0.5
	09/27 - 12/28/01	44 ± 9	< 2.1	< 1.1	< 0.8	< 1.1	< 0.9
	MEAN	75 ± 85	1.0 ± 1.5	1.0 ± 0.6	0.7 ± 0.3	0.7 ± 0.6	0.6 ± 0.4

TABLE D-III.1 CONCENTRATION OF I-131 BY CHEMICAL SEPARATION AND GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001

RESULTS IN UNITS OF PCI/LITER +/- 2 SIGMA

STC	SAMPLING PERIOD	I-131	K-40	Cs-134	Cs-137	Ba-140	La-140
A	02/12/2001	< 0.3	1330 ± 77	< 7	< 6	< 28	< 9
	05/06/2001	< 0.1	1160 ± 73	< 3	< 4	< 11	< 5
	08/12/2001	< 0.2	1350 ± 73	< 3	< 5	< 21	< 7
	11/04/2001	< 0.1	1250 ± 76	< 7	< 6	< 30	< 9
	MEAN	0.2 ± 0.2	1273 ± 173	5 ± 4	5 ± 2	23 ± 17	7 ± 4
J	02/12/2001	< 0.3	1330 ± 82	< 6	< 6	< 29	< 9
	05/06/2001	< 0.1	1280 ± 79	< 4	< 4	< 16	< 5
	08/12/2001	< 0.2	1330 ± 77	< 6	< 6	< 31	< 10
	11/04/2001	< 0.1	1230 ± 78	< 7	< 6	< 28	< 9
	MEAN	0.2 ± 0.2	1293 ± 96	6 ± 3	5 ± 2	26 ± 14	8 ± 4
O	02/12/2001	< 0.3	1260 ± 92	< 8	< 7	< 34	< 11
	05/06/2001	< 0.1	1510 ± 107	< 5	< 6	< 21	< 7
	08/12/2001	< 0.2	1210 ± 72	< 6	< 7	< 30	< 9
	11/04/2001	< 0.2	1190 ± 86	< 8	< 7	< 34	< 11
	MEAN	0.2 ± 0.2	1293 ± 296	7 ± 3	7 ± 1	30 ± 12	9 ± 4

TABLE D-IV.1 SUMMARY OF COLLECTION DATES FOR SAMPLES COLLECTED IN THE VICINITY OF PEACH BOTTOM ATOMIC POWER STATION, 2001

DRINKING WATER (GROSS BETA & GAMMA SPECTROSCOPY)

COLLECTION PERIOD	4L
JAN	01/05/2001 - 02/02/2001
FEB	02/02/2001 - 03/02/2001
MAR	03/02/2001 - 03/30/2001
APR	03/30/2001 - 05/04/2001
MAY	05/04/2001 - 06/01/2001
JUN	06/01/2001 - 06/29/2001
JUL	06/29/2001 - 08/02/2001
AUG	08/01/2001 - 08/30/2001
SEP	08/30/2001 - 10/05/2001
OCT	10/05/2001 - 11/01/2001
NOV	11/01/2001 - 12/02/2001
DEC	12/02/2001 - 01/04/2002

AIR PARTICULATE (Gross Beta)

WEEK NO	1A	WEEK NO	1A
1	12/29/2000 - 01/05/2001	27	06/29/2001 - 07/06/2001
2	01/05/2001 - 01/12/2001	28	07/06/2001 - 07/13/2001
3	01/12/2001 - 01/19/2001	29	07/13/2001 - 07/20/2001
4	01/19/2001 - 01/26/2001	30	07/20/2001 - 07/27/2001
5	01/26/2001 - 02/02/2001	31	07/27/2001 - 08/02/2001
6	02/02/2001 - 02/09/2001	32	08/02/2001 - 08/09/2001
7	02/09/2001 - 02/16/2001	33	08/09/2001 - 08/16/2001
8	02/16/2001 - 02/23/2001	34	08/16/2001 - 08/23/2001
9	02/23/2001 - 03/02/2001	35	08/23/2001 - 08/30/2001
10	03/02/2001 - 03/09/2001	36	08/30/2001 - 09/06/2001
11	03/09/2001 - 03/16/2001	37	09/06/2001 - 09/14/2001
12	03/16/2001 - 03/23/2001	38	09/14/2001 - 09/20/2001
13	03/23/2001 - 03/30/2001	39	09/20/2001 - 09/27/2001
14	03/30/2001 - 04/06/2001	40	09/27/2001 - 10/05/2001
15	04/06/2001 - 04/13/2001	41	10/05/2001 - 10/11/2001
16	04/13/2001 - 04/20/2001	42	10/11/2001 - 10/18/2001
17	04/20/2001 - 04/28/2001	43	10/18/2001 - 10/25/2001
18	04/28/2001 - 05/04/2001	44	10/25/2001 - 11/01/2001
19	05/04/2001 - 05/11/2001	45	11/01/2001 - 11/09/2001
20	05/11/2001 - 05/18/2001	46	11/09/2001 - 11/15/2001
21	05/18/2001 - 05/25/2001	47	11/15/2001 - 11/22/2001
22	05/25/2001 - 06/01/2001	48	11/22/2001 - 12/02/2001
23	06/01/2001 - 06/08/2001	49	12/02/2001 - 12/07/2001
24	06/08/2001 - 06/15/2001	50	12/07/2001 - 12/14/2001
25	06/15/2001 - 06/22/2001	51	12/14/2001 - 12/21/2001
26	06/22/2001 - 06/29/2001	52	12/21/2001 - 12/28/2001

AIR PARTICULATE (GAMMA SPECTROSCOPY)

COLLECTION PERIOD	1A
JAN-MAR	12/29/2000 - 03/30/2001
APR-JUN	03/30/2001 - 06/29/2001
JUL-SEP	06/29/2001 - 09/27/2001
OCT-DEC	09/27/2001 - 12/28/2001

FIGURE D-1
COMPARISON OF MONTHLY INSOLUBLE GROSS BETA CONCENTRATIONS IN DRINKING WATER SAMPLES SPLIT BETWEEN THE PRIMARY AND QC LABORATORIES, 2001

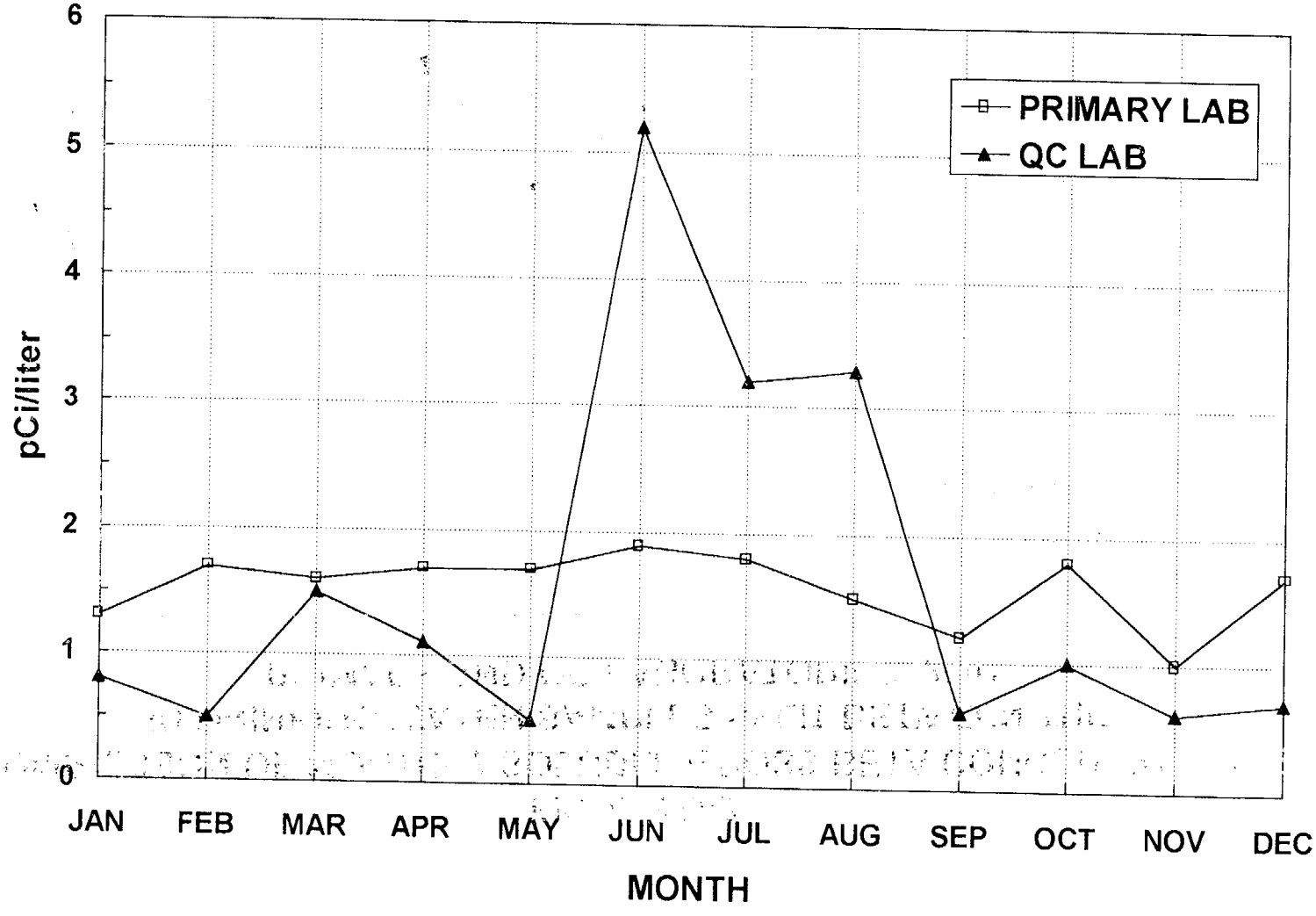


FIGURE D-2
COMPARISON OF MONTHLY SOLUBLE GROSS BETA CONCENTRATIONS IN DRINKING WATER SAMPLES SPLIT BETWEEN THE PRIMARY AND QC LABORATORIES, 2001

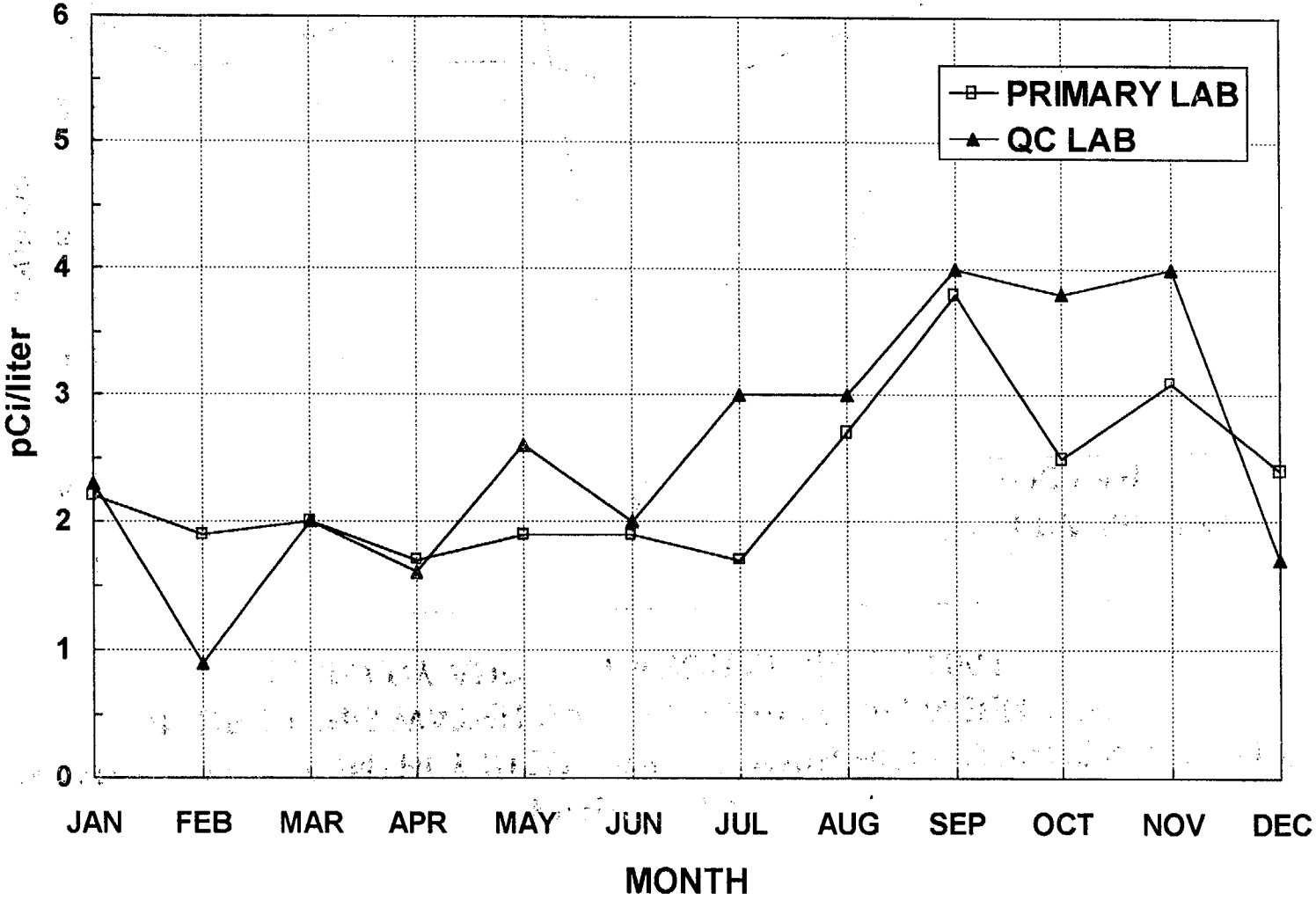
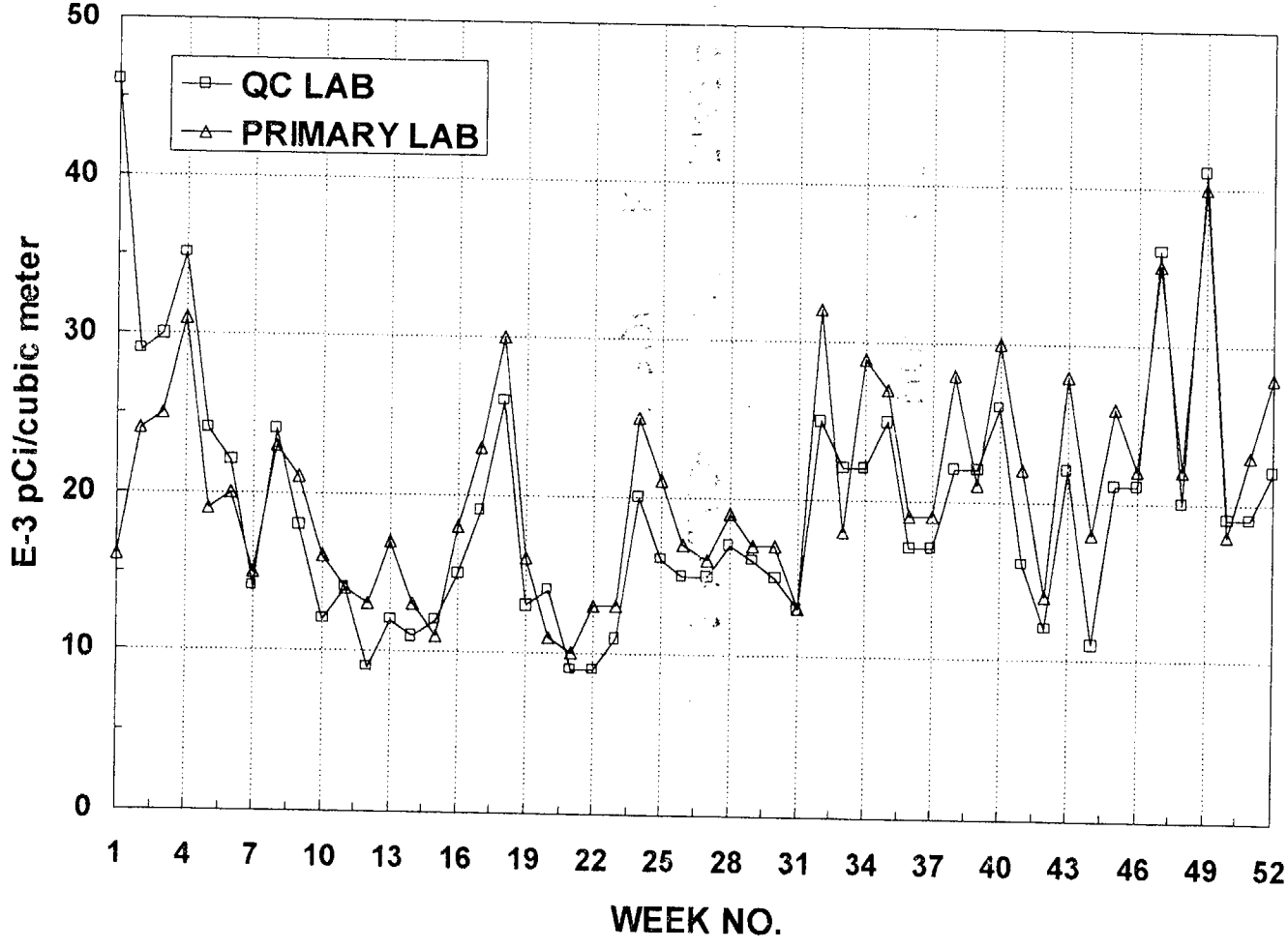


FIGURE D-3
COMPARISON OF WEEKLY GROSS BETA CONCENTRATIONS FROM COLLOCATED AIR PARTICULATE LOCATIONS SPLIT BETWEEN THE PRIMARY AND QC LABORATORIES, 2001



APPENDIX E

INTER-LABORATORY COMPARISON PROGRAM

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Table E-1 DOE EML Cross Check Program Results for Environmental, Inc., 2001

Collection Date	Media	Nuclide (A)	Environmental, Inc.		DOE EML			
			Value (B & E)	Uncertainty (C & E)	Value (D & E)	Min Ratio	Max Ratio	Agreement (F)
3/2001	Air Filter	Co-60	20.110	0.160	19.440	0.79	1.30	YES
		Cs-134	2.710	0.150	2.830	0.74	1.21	YES
		Cs-137	9.860	0.230	8.760	0.78	1.35	YES
		Mn-54	7.250	0.220	6.520	0.80	1.36	YES
		Sr-90	7.410	0.150	7.100	0.55	2.05	YES
		Gr Beta	2.300	0.020	2.580	0.76	1.52	YES
3/2001	Soil	Ac-228	45.600	4.000	42.700	0.80	1.50	YES
		Bi-212	53.200	3.100	42.000	0.45	1.23	NO (G)
		Bi-214	42.100	7.700	32.600	0.78	1.50	YES
		Cs-137	1772.600	79.800	1740.000	0.80	1.29	YES
		K-40	583.800	52.600	468.000	0.80	1.37	YES
		Pb-212	46.600	8.500	41.500	0.74	1.36	YES
		Pb-214	45.300	8.600	34.300	0.76	1.53	YES
		Sr-90	55.600	2.200	69.000	0.61	3.91	YES
3/2001	Vegetation	Co-60	28.500	2.100	30.400	0.75	1.51	YES
		Cs-137	795.500	76.400	842.000	0.80	1.37	YES
		K-40	592.600	42.500	603.000	0.78	1.43	YES
		Sr-90	1239.600	130.000	1330.000	0.52	1.23	YES
3/2001	Water	Co-60	97.000	0.800	98.200	0.80	1.20	YES
		Cs-137	70.100	4.000	73.000	0.80	1.24	YES
		H-3	76.500	5.500	79.300	0.74	2.29	YES
		Sr-90	3.850	0.130	4.400	0.64	1.50	YES
		Gr Beta	1246.400	31.100	1297.000	0.56	1.50	YES
9/2001	Soil	Ac-228	68.100	1.400	59.570	0.80	1.50	YES
		Bi-212	65.100	1.600	62.067	0.45	1.23	YES
		Bi-214	47.300	4.700	36.900	0.78	1.50	YES
		Cs-137	659.200	10.800	612.330	0.80	1.29	YES
		K-40	737.700	16.600	623.330	0.80	1.37	YES
		Pb-212	64.700	3.800	58.330	0.74	1.36	YES
		Pb-214	53.700	7.700	39.670	0.76	1.53	YES
		Sr-90	27.400	6.300	30.596	0.61	3.91	YES

Table E-1 DOE EML Cross Check Program Results for Environmental, Inc., 2001

Collection Date	Media	Nuclide (A)	Environmental, Inc.		DOE EML			
			Value (B & E)	Uncertainty (C & E)	Value (D & E)	Min Ratio	Max Ratio	Agreement (F)
9/2001	Water	Co-60	206.700	4.700	209.000	0.80	1.20	YES
		Cs-137	46.600	0.800	45.133	0.80	1.24	YES
		H-3	254.100	3.600	207.000	0.74	2.29	YES
		Sr-90	4.100	0.300	3.729	0.64	1.50	YES
		Gr Beta	8461.000	206.000	7970.000	0.56	1.50	YES
9/2001	Air Filter	Co-60	16.900	0.300	17.500	0.79	1.30	YES
		Cs-134	11.800	0.200	12.950	0.74	1.21	YES
		Cs-137	18.300	0.300	17.100	0.78	1.35	YES
		Mn-54	85.400	1.300	81.150	0.80	1.36	YES
		Sr-90	3.110	0.060	3.481	0.55	2.05	YES
		Gr Beta	13.800	0.100	12.770	0.76	1.52	YES
9/2001	Vegetation	Co-60	40.200	0.900	35.300	0.75	1.51	YES
		Cs-137	1184.000	2.800	1030.000	0.80	1.37	YES
		K-40	1023.000	44.100	898.670	0.78	1.43	YES
		Sr-90	1364.000	18.400	1612.800	0.52	1.23	YES

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

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

Table E-2 ERA Statistical Summary Proficiency Testing Program for Environmental, Inc., 2001

Date	Media	Nuclide (A)	Environmental., Inc. Result (pCi/L) (B)	ERA Known Value (pCi/L) (C)	ERA Expected Deviation from Known (pCi/L) (D)	ERA Control Limits (pCi/L) (D)	Performance Evaluation (E)
1/2001	Water	Gr Beta	25.3	16.7	5.0	8.0-25.4	A
2/2001	Water	I-131	27.2	28.3	3.0	23.1-33.5	A
3/2001	Water	H-3	17,400	17,800	1780.0	14,700.0-20,900.0	A
4/2001	Water	Co-60	27.9	26.4	5.0	17.7-35.1	A
		Cs-134	16.0	16.9	5.0	8.2-25.6	A
		Cs-137	195.4	186.0	9.3	170.0-202.0	A
		Gr Beta	343.0	340.0	51.0	252.0-428.0	A
		Sr-89	62.8	64.1	5.0	55.5-72.8	A
		Sr-90	34.2	33.8	5.0	25.1-42.5	A
6/2001	Water	Ba-133	37.8	36.0	5.0	27.3-44.7	A
		Co-60	49.9	46.8	5.0	38.1-55.5	A
		Cs-134	16.0	15.9	5.0	7.2-24.6	A
		Cs-137	208.0	197.0	9.9	180.0-214.0	A
		Zn-65	37.8	36.2	5.0	27.5-44.9	A
7/2001	Water	Sr-89	19.8	31.2	5.0	22.5-39.9	NA(F)
		Sr-90	26.3	25.9	5.0	17.2-34.6	A
		Gr Beta	48.5	53.0	10.0	35.7-70.3	A
8/2001	Water	H-3	2,680.0	2,730.0	356.0	2,110.0-3,350.0	A

Table E-2 ERA Statistical Summary Proficiency Testing Program for Environmental, Inc., 2001

Date	Media	Nuclide (A)	Environmental., Inc. Result (pCi/L) (B)	ERA Known Value (pCi/L) (C)	ERA Expected Deviation from Known (pCi/L) (D)	ERA Control Limits (pCi/L) (D)	Performance Evaluation (E)
10/2001	Water	I-131	7.7	7.7	2.0	4.2-11.2	A
		Co-60	82.4	78.4	5.0	69.7-87.1	A
		Cs-134	52.2	54.1	5.0	45.4-62.8	A
		Cs-137	39.4	37.9	5.0	26.3-43.7	A
		Gr Beta	166.0	192.0	28.8	142.0-242.0	A
		Sr-89	12.8	16.7	5.0	8.0-25.4	A
		Sr-90	6.8	7.7	5.0	-1.0-16.4	A
		Gr Beta	26.0	21.5	5.0	12.8-30.2	A
11/2001	Water	Ba-133	66.7	69.3	6.9	57.5-81.1	A
		Co-60	59.3	59.7	5.0	51.0-68.4	A
		Cs-134	86.7	93.9	5.0	85.2-103.0	A
		Cs-137	45.0	42.0	5.0	33.3-50.7	A
		Zn-65	80.7	77.3	7.7	63.9-90.7	A

A. Only analyses performed routinely for the REMP are included on this table.
B. The Environmental, Inc. result is the mean for three measurements/determinations.
C. 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.
D. Established per the guidelines contained in the EPA's National Standards for Water Proficiency Testing Criteria Document, December 1998, as applicable.
E. A= Acceptable - Reported Result falls within the Control Limits.
NA = Not Acceptable - Reported Result falls outside of the Control Limits.
F. A reanalysis was performed; the result was 35.3 ± 4.4 pCi/L which was within the established control limits.

TABLE E-3 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM TELEDYNE BROWN ENGINEERING (TBE) ENVIRONMENTAL SERVICES, 2001

Month/Year	Identification		Nuclide	Units	Reported Value	Known Value	Ratio TBE/Analytics	Evaluation
	Number	Matrix						
March, 2001	E2584-93	Milk	I-131	pCi/L	75	77	0.97	A
			Ce-141		166	162	1.03	A
			Cr-51		433	418	1.04	A
			Cs-134		212	223	0.95	A
			Cs-137		165	176	0.94	A
			Co-58		81	82	0.99	A
			Mn-54		172	175	0.98	A
			Fe-59		151	146	1.03	A
			Zn-65		314	322	0.98	A
			Co-60		254	254	1	A
June, 2001	2707	Charcoal	I-131	pCi	104.5	81	1.29	W
	2708	Charcoal	I-131	pCi	84.8	72	1.18	A
	2709	Charcoal	I-131	pCi	99.6	92	1.08	A
August, 2001	E2757-369	AP Filters	Fe-55	Total pCi	71	83	0.86	A
			Cr-51	Total pCi	100	90	1.11	A
			Mn-54	Total pCi	161	134	1.20	A
			Co-58	Total pCi	72	66	1.09	A
			Fe-59	Total pCi	64	49	1.31	A
			Co-60	Total pCi	148	128	1.16	A
			Zn-65	Total pCi	200	158	1.27	W
			Cs-134	Total pCi	109	125	0.87	A
			Cs-137	Total pCi	140	116	1.21	A
			Ce-141	Total pCi	79	74	1.07	A

TABLE E-3 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM TELEDYNE BROWN ENGINEERING (TBE) ENVIRONMENTAL SERVICES, 2001

Month/Year	Identification		Nuclide	Units	Reported Value	Known Value	Ratio TBE/Analytics	Evaluation
	Number	Matrix						
August, 2001	E2755-396	Milk	Mn-54	pCi/L	131	124	1.06	A
			Co-58	pCi/L	68	68	1.00	A
			Fe-59	pCi/L	53	50	1.06	A
			Co-60	pCi/L	134	132	1.02	A
			Zn-65	pCi/L	172	162	1.06	A
			I-131	pCi/L	76	86	0.88	A
			Cs-134	pCi/L	141	128	1.10	A
			Cs-137	pCi/L	126	120	1.05	A
			Ce-141	pCi/L	72	76	0.95	A
September, 2001	A14734-148	Liquid	Sr-89	Total uCi	1.30E-03	1.55E-03	0.84	A
			Sr-90	Total uCi	1.00E-04	1.12E-04	0.89	A
September, 2001	A14735-148	Gas	Xe-133	Total uCi	0.606	0.585	1.04	A
			Kr-85	Total uCi	8.53	8.42	1.01	A
September, 2001	A14736-148	Charcoal	I-131	Total uCi	0.483	0.495	0.98	A
September, 2001	A14737-148	Air Filter	Ce-141	Total uCi	4.99E-02	5.25E-02	0.95	A
			Cr-51	Total uCi	1.68E-01	1.85E-01	0.91	A
			Cs-134	Total uCi	2.47E-02	2.97E-02	0.83	A
			Cs-137	Total uCi	5.18E-02	5.73E-02	0.90	A
			Co-58	Total uCi	4.60E-02	4.75E-02	0.97	A
			Mn-54	Total uCi	3.96E-02	4.02E-02	0.99	A
			Fe-59	Total uCi	2.99E-02	2.92E-02	1.02	A
			Zn-65	Total uCi	5.22E-02	5.12E-02	1.02	A
September, 2001	A14737-148	Air Filter	Co-60	Total uCi	4.71E-02	4.83E-02	0.98	A

TABLE E-3 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM TELEDYNE BROWN ENGINEERING (TBE) ENVIRONMENTAL SERVICES, 2001

Month/Year	Identification		Nuclide	Units	Reported Value	Known Value	Ratio TBE/Analytics	Evaluation
	Number	Matrix						
September, 2001	A14738-148	Liquid	Gr-Alpha	Total uCi	5.80E-04	4.67E-04	1.24	A
September, 2001	A14286-148	Liquid	Gr-Alpha	uCi/cc	1.70E-04	1.45E-04	1.17	A
			H-3	uCi/cc	2.92E-03	1.77E-03	1.65	A
September, 2001	E2772-396	Milk	I-131	pCi/L	100	91	1.10	A
			Ce-141	pCi/L	126	121	1.04	A
			Cr-51	pCi/L	349	366	0.95	A
			Cs-134	pCi/L	147	160	0.92	A
			Cs-137	pCi/L	321	319	1.01	A
			Co-58	pCi/L	190	177	1.07	A
			Mn-54	pCi/L	205	205	1.00	A
			Fe-59	pCi/L	85	86	0.99	A
			Zn-65	pCi/L	246	254	0.98	A
			Co-60	pCi/L	261	266	0.98	A

TABLE E–4 DOE/EML ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM TELEDYNE BROWN ENGINEERING (TBE) ENVIRONMENTAL SERVICES, 2001

Month/Year	Identification		Nuclide	Units	Reported Value	Known Value	Ratio TBE/EML	Evaluation
	Number	Media						
March, 2001	QAP 103	Air Filter	Mn-54	Bq/filter	6.96	6.52	1.07	A
			Co-60	Bq/filter	19.4	19.44	1.00	A
			Cs-134	Bq/filter	2.59	2.83	0.92	A
			Cs-137	Bq/filter	9.52	8.76	1.09	A
			Pu-238	Bq/filter	0.23	0.215	1.07	A
			Pu-239	Bq/filter	0.17	0.136	1.25	W
			Am-241	Bq/filter	0.93	0.486	1.91	W
			Total-U	ug/ filter	0.127	3.7	0.03	N (a)
			Gr-Alpha	Bq/filter	3.33	3.97	0.84	A
			Gr-Beta	Bq/filter	2.26	2.58	0.88	w
			Sr-90	Bq/filter	7.46	7.1	1.05	A
March, 2001	QAP 103	Soil	K-40	Bq/kg	464.8	468	0.99	A
			Cs-137	Bq/kg	1696	1740	0.97	A
			Pu-239/40	Bq/kg	24.32	25.6	0.95	A
			Sr-90	Bq/kg	80.8	69	1.17	A
March, 2001	QAP 103	Vegetation	K-40	Bq/kg	728	603	1.21	A
			Co-60	Bq/kg	34	30.4	1.12	A
			Cs-137	Bq/kg	1005	842	1.19	A
			Pu-239	Bq/kg	10.54	9.58	1.10	A
			Am-241	Bq/kg	7.03	6.17	1.14	A
			Cm-244	Bq/kg	2.26	3.69	0.61	W
			Sr-90	Bq/kg	1283	1330	0.96	A

TABLE E–4 DOE/EML ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM TELEDYNE BROWN ENGINEERING (TBE) ENVIRONMENTAL SERVICES, 2001

Month/Year	Identification		Nuclide	Units	Reported Value	Known Value	Ratio TBE/EML	Evaluation
	Number	Media						
March, 2001	QAP 103	Water	Co-60	Bq/l	100.3	98.2	1.02	A
			Cs-137	Bq/l	75.8	73	1.04	A
			Gr-Alpha	Bq/l	1600	1900	0.84	A
			Gr-Beta	Bq/l	1200	1297	0.93	A
			Pu-238	Bq/l	1.78	1.58	1.13	W
			Pu-239	Bq/l	1.99	1.64	1.21	W
			Am-241	Bq/l	2.2	1.67	1.32	W
March, 2001	QAP 103	Vegetation	K-40	Bq/kg	728	603	1.21	A
			Co-60	Bq/kg	34	30.4	1.12	A
			Cs-137	Bq/kg	1005	842	1.19	A
			Pu-239	Bq/kg	10.54	9.58	1.10	A
			Am-241	Bq/kg	7.03	6.17	1.14	A
			Cm-244	Bq/kg	2.26	3.69	0.61	W
			Sr-90	Bq/kg	1283	1330	0.96	A
May, 2001		Water	Sr-90	Bq/l	4.57	4.4	1.04	A
			Total U	ug/filter	1.46	0.08	18.25	N (b)
			H-3	Bq/l	61.0	79.3	0.77	W
June, 2001	QAP 2009	Air Filters	Mn-54	Bq/filter	49.5	43.2	1.15	A
			Co-57	Bq/filter	15.2	14.5	1.05	A
			Co-60	Bq/filter	8.79	8.43	1.04	A
			Cs-137	Bq/filter	8.26	7.41	1.11	A
			Gr-Alpha	Bq/filter	2.31	2.35	0.98	A
			Gr-Beta	Bq/filter	1.79	1.52	1.18	A

TABLE E–4 DOE/EML ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM TELEDYNE BROWN ENGINEERING (TBE) ENVIRONMENTAL SERVICES, 2001

Month/Year	Identification		Nuclide	Units	Reported Value	Known Value	Ratio TBE/EML	Evaluation
	Number	Media						
June, 2001	QAP 2009	Soil	K-40	Bq/kg	839.2	713	1.18	A
			Cs-137	Bq/kg	1164	1020	1.14	A
			Pb-212	Bq/kg	95.5	79.3	1.20	A
			Bi-214	Bq/kg	84.0	83.3	1.01	A
			Pb-214	Bq/kg	92.9	86.3	1.08	A
			Ac-228	Bq/kg	84.8	80.2	1.06	A
			U-234	Bq/kg	117	157	0.75	W
			U-238	Bq/kg	122	163	0.75	W
			Total U	ug/filter	4.41	13.2	0.33	N (b)
June, 2001	QAP 2009	Vegetation	K-40	Bq/kg	827.4	639	1.29	W
			Co-60	Bq/kg	34.4	32.8	1.05	A
			Cs-137	Bq/kg	949.4	867	1.10	A
June, 2001	QAP 2009	Water	Co-60	Bq/l	75.7	73.7	1.03	A
			Cs-137	Bq/l	69.3	67.0	1.03	A
			U-234	Bq/l	0.39	0.481	0.81	W
			U-238	Bq/l	0.32	0.368	0.87	W
			Total U	Bq/l	0.014	0.0304	0.46	N (b)
September, 2001	QAP 0109	Air Filters	Mn-54	Bq/filter	97.1	81.15	1.197	A
			Co-60	Bq/filter	18.8	17.5	1.074	A
			Sr-90	Bq/filter	2.56	3.481	0.735	W
			Cs-134	Bq/filter	12.7	12.95	0.981	A
			Cs-137	Bq/filter	20.8	17.1	1.216	W
			Pu-238	Bq/filter	0.0595	0.071	0.838	W
			Pu-239	Bq/filter	0.287	0.2291	1.253	W
			Am-241	Bq/filter	0.089	0.088	1.011	A
			Gr-Alpha	Bq/filter	5.42	5.362	1.011	A
			Gr-Beta	Bq/filter	12.0	12.77	0.94	A

TABLE E–4 DOE/EML ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM TELEDYNE BROWN ENGINEERING (TBE) ENVIRONMENTAL SERVICES, 2001

Month/Year	Identification		Nuclide	Units	Reported Value	Known Value	Ratio TBE/EML	Evaluation
	Number	Media						
September, 2001	QAP 0109	Soil	K-40	Bq/kg	673.0	623.33	1.080	A
			Sr-90	Bq/kg	29.6	30.596	0.967	A
			Cs-137	Bq/kg	680.5	612.33	1.111	A
			Pu-239	Bq/kg	7.42	8.948	0.829	W
September, 2001	QAP 0109	Vegetation	K-40	Bq/kg	1090.0	898.67	1.213	A
			Co-60	Bq/kg	39.8	35.3	1.127	A
			Sr-90	Bq/kg	1253.0	1612.8	0.777	A
			Cs-137	Bq/kg	1235.0	1030.0	1.199	A
			Pu-239	Bq/kg	11.6	11.022	1.052	A
September, 2001	QAP 0109	Water	H-3	Bq/l	212.3	207.0	1.026	A
			Co-60	Bq/l	207.3	209.0	0.992	A
			Ni-63	Bq/l	50.7	45.25	1.1	A
			Sr-90	Bq/l	4.76	3.729	1.276	W
			Cs-137	Bq/l	47.7	45.133	1.057	A
			Pu-238	Bq/l	1.21	1.0882	1.112	W
			Pu-139	Bq/l	1.86	1.628	1.143	W
			Am-241	Bq/l	0.763	0.7597	1.004	A
			Gr-Alpha	Bq/l	1333.0	1150.0	1.159	W
			Gr-Beta	Bq/l	8533.0	7970.0	1.071	A

(a) Reported in Bq/filter. Converted to ug/filter, the results of 3.4 would be acceptable.

(b) Reported in incorrect units. Converted to correct units, the results would be acceptable.

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