Exelon Generation Company, LLC
Dresden Nuclear Power Station
6500 North Dresden Road
Morris, IL 60450-9765

www.exeloncorp.com

Exelon Nuclear

May 15, 2008

SVPLTR # 08-0027

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

Dresden Nuclear Power Station, Units 1, 2, and 3
Facility Operating License No. DPR-2
Renewed Facility Operating License Nos. DPR-19 and DPR-25
NRC Docket Nos. 50-010, 50-237, and 50-249

Subject: 2007 Annual Radiological Environmental Operating Report

Enclosed is the Dresden Nuclear Power Station (DNPS) 2007 Annual Radiological Environmental Operating Report for Units 1, 2, and 3. Exelon Generation Company, LLC (EGC) is submitting this report in accordance with DNPS Unit 1 Technical Specification (TS), 6.9.A.3, "Annual Radiological Environmental Operating Report," and DNPS Units 2 and 3 TS 5.6.2, "Annual Radiological Environmental Operating Report." This report provides the results of the radiological environmental and meteorological monitoring programs for the 2007 calendar year.

In addition, Appendix F of the report contains the results of DNPS groundwater monitoring conducted in accordance with EGC Radiological Groundwater Protection Program, which is a voluntary program implemented in 2006. This information is being reported in accordance with a nuclear industry initiative.

Should you have any questions concerning this letter, please contact Bob Rybak, Acting Regulatory Assurance Manager, at (815) 416-2810.

Respectfully,

David B. Wozniak
Site Vice President
Dresden Nuclear Power Station

Attachment - Annual Radiological Environmental Operating Report

cc: Regional Administrator - NRC Region III
NRC Senior Resident - Dresden Nuclear Power Station

IE25
NRR

Docket No: 50-010
50-237
50-249

DRESDEN NUCLEAR POWER STATION
UNITS 1, 2 and 3

Annual Radiological
Environmental Operating Report

1 January Through 31 December 2007

Prepared By

Teledyne Brown Engineering
Environmental Services

Exelon SM

Nuclear

Dresden Nuclear Power Station
Morris, IL 60450

May 2008

Table Of Contents

I. Summary and Conclusions 1

II. Introduction 3
- A. Objectives of the REMP 3
- B. Implementation of the Objectives 3

III. Program Description 4
- A. Sample Collection 4
- B. Sample Analysis 5
- C. Data Interpretation 6
- D. Program Exceptions 7
- E. Program Changes 9

IV. Results and Discussion 9
- A. Aquatic Environment 9
  - 1. Surface Water 9
  - 2. Ground Water 10
  - 3. Fish 11
  - 4. Sediment 11
  - 5. Dredging Spoils 11
- B. Atmospheric Environment 12
  - 1. Airborne 12
    - a. Air Particulates 12
    - b. Airborne Iodine 13
  - 2. Terrestrial 13
    - a. Milk 13
    - b. Food Products 13
- C. Ambient Gamma Radiation 14
- D. Land Use Survey 14
- E. Errata Data 15
- F. Summary of Results – Inter-laboratory Comparison Program 15

Appendices

Appendix A Radiological Environmental Monitoring Report Summary

Tables

Table A-1 Radiological Environmental Monitoring Program Annual Summary for the Dresden Nuclear Power Station, 2007

Appendix B Location Designation, Distance & Direction, and Sample Collection & Analytical Methods

Tables

Table B-1: Radiological Environmental Monitoring Program - Sampling Locations, Distance and Direction, Dresden Nuclear Power Station, 2007

Table B-2: Radiological Environmental Monitoring Program - Summary of Sample Collection and Analytical Methods, Dresden Nuclear Power Station, 2007

Figures

Figure B-1: Dresden Station Inner Ring TLD Locations, Fish, Water, and Sediment Locations, 2007

Figure B-2: Dresden Station Fixed Air Sampling and TLD Sites, Outer Ring TLD Locations and Milk Location, 2007

Appendix C Data Tables and Figures - Primary Laboratory

Tables

Table C-I.1 Concentrations of Gross Beta in Surface Water Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2007.

Table C-I.2 Concentrations of Tritium in Surface Water Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2007.

Table C-I.3 Concentrations of Gamma Emitters in Surface Water Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2007.

Table C-II.1 Concentrations of Tritium in Ground Water Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2007.

Table C-II.2 Concentrations of Gamma Emitters in Ground Water Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2007.

Table C-III.1 Concentrations of Gamma Emitters in Fish Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2007.

Table C-IV.1 Concentrations of Gamma Emitters in Sediment Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2007.

Table C-IV.2 Concentrations of Gamma Emitters in Dredge Spoil Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2007.

Table C-V.1 Concentrations of Gross Beta in Air Particulate Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2007.

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 Dresden Nuclear Power Station, 2007.

Table C-V.3 Concentrations of Gamma Emitters in Air Particulate Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2007.

Table C-VI.1 Concentrations of I-131 in Air Iodine Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2007.

Table C-VII.1 Concentrations of I-131 in Milk Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2007.

Table C-VII.2 Concentrations of Gamma Emitters in Milk Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2007.

Table C-VIII.1 Concentrations of Gamma Emitters in Vegetation Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2007.

Table C-IX.1 Quarterly TLD Results for Dresden Nuclear Power Station, 2007.

Table C-IX.2 Mean Quarterly TLD Results for the Inner Ring, Outer Ring, Other and Control Locations for Dresden Nuclear Power Station, 2007.

Table C-IX.3 Summary of the Ambient Dosimetry Program for Dresden Nuclear Power Station, 2007.

Figures

Figure C-1 Surface Water - Gross Beta – Stations D-51 and D-52 (C) Collected in the Vicinity of DNPS, 2000 - 2007.

Figure C-2 Surface Water - Gross Beta – Stations D-54 (C) and D-57 (C) Collected in the Vicinity of DNPS, 2002 - 2007.

Figure C-3 Surface Water - Gross Beta – Station D-21 Collected in the Vicinity of DNPS, 2007.

Figure C-4 Surface Water - Tritium – Stations D-51 and D-52 (C) Collected in the Vicinity of DNPS, 2000 - 2007.

Figure C-5 Surface Water - Tritium – Station D-54 (C) and D-57 (C) Collected in the Vicinity of DNPS, 2002 - 2007.

Figure C-6 Surface Water - Tritium – Station D-21 Collected in the Vicinity of DNPS, 2007.

Figure C-7 Ground Water - Tritium – Stations D-23 and D-35 Collected in the Vicinity of DNPS, 2000 - 2007.

Figure C-8 Air Particulate - Gross Beta – Stations D-01 and D-02 Collected in the Vicinity of DNPS, 2000 - 2007.

Figure C-9 Air Particulate - Gross Beta – Stations D-03 and D-04 Collected in the Vicinity of DNPS, 2000 - 2007.

Figure C-10 Air Particulate - Gross Beta – Stations D-07 and D-12 (C) Collected in the Vicinity of DNPS, 2000 - 2007.

Figure C-11 Air Particulate - Gross Beta – Stations D-45 and D-53 Collected in the Vicinity of DNPS, 2000 - 2007.

Figure C-12 Air Particulate - Gross Beta – Stations D-08 and D-10 Collected in the Vicinity of DNPS, 2005 - 2007.

Figure C-13 Air Particulate - Gross Beta – Stations D-13 and D-14 Collected in the Vicinity of DNPS, 2005 - 2007.

Figure C-14 Air Particulate - Gross Beta – Stations D-55 and D-56 Collected in the Vicinity of DNPS, 2006 - 2007.

Appendix D Inter-Laboratory Comparison Program

Tables

Table D-1 Analytics Environmental Radioactivity Cross Check Program Teledyne Brown Engineering, 2007

Table D-2 ERA Environmental Radioactivity Cross Check Program Teledyne Brown Engineering, 2007

Table D-3 DOE's Mixed Analyte Performance Evaluation Program (MAPEP) Teledyne Brown Engineering, 2007

Table D-4 ERA Statistical Summary Proficiency Testing Program Environmental, Inc., 2007

Table D-5 DOE's Mixed Analyte Performance Evaluation Program (MAPEP) Environmental, Inc., 2007

Appendix E Errata Data

Appendix F Annual Radiological Groundwater Protection Program Report (ARGPPR)

I. Summary and Conclusions

This report on the Radiological Environmental Monitoring Program conducted for the Dresden Nuclear Power Station (DNPS) by Exelon covers the period 1 January 2007 through 31 December 2007. During that time period, 2,026 analyses were performed on 1,877 samples. In assessing all the data gathered for this report it was concluded that the operation of DNPS had no adverse radiological impact on the environment.

Surface water samples were analyzed for concentrations of gross beta, tritium and gamma emitting nuclides. Ground water samples were analyzed for concentrations of tritium and gamma emitting nuclides. No anthropogenic gamma emitting nuclides were detected. Gross beta and tritium activities detected were consistent with those detected in previous years.

Fish (commercially and recreationally important species), sediment and dredge spoil samples were analyzed for concentrations of gamma emitting nuclides. No fission or activation products were detected in fish. Sediment and dredge spoil samples had Cesium-137 concentrations consistent with levels observed in previous years. No plant-produced fission or activation products were found in sediment.

Air particulate samples were analyzed for concentrations of gross beta and gamma emitting nuclides. Gross beta results at the indicator locations were consistent with those at the control location. No fission or activation products were detected.

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

Cow milk samples were analyzed for concentrations of I-131 and gamma emitting nuclides. All I-131 results were below the minimum detectable activity. Concentrations of naturally occurring K-40 were found. No fission or activation products were found.

Food product samples were analyzed for concentrations of gamma emitting nuclides. No fission or activation products were detected.

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

Intentionally left blank

II. Introduction

The Dresden Nuclear Power Station (DNPS), consisting of one retired reactor and two operating 912 MWe boiling water reactors owned and operated by Exelon Corporation, is located in Grundy County, Illinois. Unit No. 1 went critical in 1960 and was retired in 1978. Unit No. 2 went critical on 16 June 1970. Unit No. 3 went critical on 02 November 1971. The site is located in northern Illinois, approximately 12 miles southwest of Joliet, Illinois at the confluence of the Des Plaines and Kankakee Rivers where they form the Illinois River.

This report covers those analyses performed by Teledyne Brown Engineering (TBE) Global Dosimetry, and Environmental Inc. Midwest Laboratory (EIML) on samples collected during the period 1 January 2007 through 31 December 2007.

An assessment of the station's radioactive effluent monitoring results and radiation dose via the principle pathways of exposure resulting from plant emissions of radioactivity including the maximum noble gas gamma and beta air doses in the unrestricted area, an annual summary of meteorological conditions including wind speed, wind direction, and atmospheric stability, and the result of the 40CFR190 uranium fuel cycle dose analysis for the calendar year are published in the station's Annual Radioactive Effluent Release Report.

A. Objective of the Radiological Environmental Monitoring Program (REMP)

The objectives of the REMP are to:

1. Provide data on measurable levels of radiation and radioactive materials in the site environs.

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

B. Implementation of the Objectives

The implementation of the objectives is accomplished by:

1. Identifying significant exposure pathways.

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

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

III. Program Description

A. Sample Collection

Samples for the DNPS REMP were collected for Exelon Nuclear by EIML. This section describes the general collection methods used by EIML to obtain environmental samples for the DNPS REMP in 2007. Sample locations and descriptions can be found in Table B–1 and Figures B–1 and B-2, Appendix B. The collection methods used by EIML are listed in Table B-2.

Aquatic Environment

The aquatic environment was evaluated by performing radiological analyses on samples of surface water, ground water, fish, sediment, and dredge spoils. Samples were collected from five surface water locations (D-21, D-51, D-52, D-54 and D-57) and composited for analysis. Control locations were D-52, D-54, and D-57. Samples were collected quarterly or more frequently from two well water locations (D-23 and D-35). All samples were collected in new unused plastic bottles, which were rinsed with source water prior to collection. Fish samples comprising the flesh of channel catfish, largemouth bass, common carp and freshwater drum were collected semiannually at two locations, D-28 and D-46 (Control). Sediment samples composed of recently deposited substrate were collected at one location semiannually, D-27. Samples were also collected from the spoils of dredging of the Illinois River downstream of Dresden Nuclear Power Station in 2007.

Atmospheric Environment

The atmospheric environment was evaluated by performing radiological analyses on samples of air particulate, airborne iodine, milk, and food products. Airborne iodine and particulate samples were collected at fourteen locations (D-01, D-02, D-03, D-04, D-07, D-08, D-10, D-12, D-13, D-14, D-45, D-53, D-55 and D-56). The control location was D-12. Airborne iodine and particulate samples were obtained at each location, using a vacuum pump with charcoal and glass fiber filters attached. The pumps were run continuously and sampled air at the rate of approximately one cubic foot per minute. The air filters and air iodine samples were replaced weekly and sent to the laboratory for analysis.

Milk samples were collected biweekly at one control location (D-25) from May through October, and monthly from November through April. There are no milking animals within 10 km of the site. All samples were collected in new unused two gallon plastic bottles from the bulk tank at

each location, preserved with sodium bisulfite, and shipped promptly to the laboratory.

Food products were collected annually in September at five locations (D-Control, D-Quad 1, D-Quad 2, D-Quad 3, and D-Quad 4). The control location was D-Control. Various types of samples were collected and placed in new unused plastic bags, and sent to the laboratory for analysis.

Ambient Gamma Radiation

Direct radiation measurements were made using CaF_2 and LiF thermoluminescent dosimeters (TLD). Each location consisted of 2 TLD sets. The TLD locations were placed on and around the DNPS site as follows:

An inner ring consisting of 16 locations (D-101, D-102, D-103, D-104, D-105, D-106, D-107, D-108, D-109, D-110, D-111, D-112A, D-113, D-114, D-115 and D-116) at or near the site boundary.

An outer ring consisting of 16 locations (D-201, D-202, D-203, D-204, D-205, D-206, D-207, D-208, D-209, D-210, D-211, D-212, D-213, D-214, D-215 and D-216) approximately 5 to 10 km from the site.

An other set consisting of TLDs at the 13 air sampler locations (D-01, D-02, D-03, D-04, D-07, D-08, D-10, D-13, D-14, D-45, D-53, D-55, and D-56).

The balance of one location (D-12) representing the control area.

Two TLDs – each comprised of two CaF_2 and two LiF thermoluminescent phosphors enclosed in plastic – were placed at each location. The TLDs were exchanged quarterly and sent to Global Dosimetry for analysis.

B. Sample Analysis

This section describes the general analytical methodologies used by TBE and EIML to analyze the environmental samples for radioactivity for the DNPS REMP in 2007. The analytical procedures used by the laboratories are listed in Table B-2.

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

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

2. Concentrations of gamma emitters in ground and surface water, air particulates, milk, fish, sediment, dredge spoil and vegetation.

3. Concentrations of tritium in ground and surface water.

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

5. Ambient gamma radiation levels at various site environs.

C. Data Interpretation

For the purpose of this report, Dresden Nuclear Power Station was considered operational at initial criticality. In addition, data were compared to previous years' operational data for consistency and trending. Several factors were important in the interpretation of the data:

1. Lower Limit of Detection and Minimum Detectable Concentration

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

The minimum detectable concentration (MDC) is calculated the same as the LLD with the exception that the measurement is an after the fact estimate of the presence of activity.

2. Net Activity Calculation and Reporting of Results

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

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

For ground and surface water and vegetation 12 nuclides, Mn-54, Co-58, Fe-59, Co-60, Zn-65, Zr-95, Nb-95, I-131, Cs-134, Cs-137, Ba-140, and La-140 were reported.

For fish, sediment, dredge spoil, air particulate and milk 11 nuclides, Mn-54, Co-58, Fe-59, Co-60, Zn-65, Nb-95, Zr-95, Cs-134, Cs-137, Ba-140 and La-140 were reported.

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

D. Program Exceptions

For 2007 the DNPS REMP had a sample recovery rate in excess of 99%. Sample anomalies and missed samples are listed in the tables below:

Table D-1 LISTING OF SAMPLE ANOMALIES

Sample Type	Location Code	Collection Date	Reason
AP	D-56	03/30/07 – 06/29/07	Ba-140 and La-140 MDCs were large due to delay in compositing sample; there are no LLD requirements for these isotopes for this type of sample.
AP/I	D-08	06/15/07 – 06/22/07 06/22/07 – 06/29/07	Low timer reading of 78.3 hours on 06/22/07 due to loss of power to the sampler. Low reading of 77.7 hours on 06/29/07 due to recent repair and power restoration.
AP/I	D-08	11/09/07 – 11/16/07	Sample pump reversed itself due to electrical problem.
AP/I	D-10	08/17/07 – 08/24/07	Low timer reading of 146.1 hours due to storms in area.
AP/I	D-12	06/15/07 – 06/22/07	Low timer reading of 162.9 hours due to storms in area.
AP/I	D-13	02/09/07 – 02/16/07	Low timer reading of 165.6 hours; cause is unknown.

Table D-1 LISTING OF SAMPLE ANOMALIES (continued)

Sample Type	Location Code	Collection Date	Reason
AP/I	D-14	02/16/07 – 02/24/07 02/23/07 – 03/02/07	Low timer reading of 84.7 hours on 02/24/07 due to break in power supply line. Low timer reading of 94.1 hours on 03/02/07 due to recent repair and power restoration.
AP/I	D-14	08/17/07 – 08/24/07	Low timer reading of 146.1 hours due to storms in area.
AP/I	D-14	08/24/07 – 08/31/07	Low timer reading of 62.1 likely due to faulty run time meter. Gross beta on this sample was unusually high.
AP/I	D-14	09/14/07 – 09/21/07	Low timer reading of 163.2 hours; cause is unknown.
AP/I	D-55	04/06/07 - 04/13/07	Low timer reading of 157.6 hours due to construction in the area interrupting power.
SW	D-21	09/07/07 – 09/28/07	Compositor out of service due to river flooding sample pump pit, monthly composite consisted of weekly grab samples.
SW	D-21	11/02/07 – 11/30/07	Compositor out of service due to mechanical problems, monthly composite consisted of weekly grab samples.
TLD	D-116-1	06/29/07 – 09/28/07	TLD was attached to utility pole that fell during storm, TLD relocated to pole with D-116-2 until repaired.

Table D-2 LISTING OF MISSED SAMPLES

Sample Type	Location Code	Collection Date	Reason
TLD	D-103-2	06-29/07 - 09/28/07	TLD missing during quarterly exchange due to suspected vandalism.

Each program exception was reviewed to understand the causes of the program exception. Sampling and maintenance errors were reviewed with the personnel involved to prevent recurrence. 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

Surface water station D-54 was taken out of service on 06/28/07 and replaced with surface water station D-57, which was placed in service on 07/24/06.

Surface water station D-51 was taken out of service on 06/29/07 and replaced with surface water station D-21, which was placed in service on 03/30/07.

Air particulate, air iodine and TLD station D-13 was taken out of service on 06/29/07 and replaced with D-55, which was placed in service on 12/30/05.

Starting in 2007, the mean and two standard deviation values are calculated using the positive values only.

IV. Results and Discussion

A. Aquatic Environment

1. Surface Water

Samples were taken weekly and composited for analysis at five locations (D-21, D-51, D-52, D-54 and D-57). Of these locations only D-51 and D-21 located downstream, could be affected by Dresden's effluent releases. The following analyses were performed:

<u>Gross Beta</u>

Monthly composites from all locations were analyzed for concentrations of gross beta (Table C–I.1, Appendix C). The values ranged from 3.0 to 30.9 pCi/l. Concentrations detected were consistent with those detected in previous years (Figures C–1, C–2,

and C–3, Appendix C).

Tritium

Quarterly composites from all locations were analyzed for tritium activity (Table C–I.2, Appendix C). The indicator value was 388 pCi/L. Control values ranged from 281 to 1130 pCi/L. Concentrations detected were consistent with those detected in previous years (Figures C–4, C–5, and C-6, Appendix C).

Gamma Spectrometry

Monthly composites from all locations were analyzed for gamma emitting nuclides (Table C–I.3, Appendix C). No nuclides were detected, and all required LLDs were met.

2. Ground Water

Quarterly or more frequent grab samples were collected at two locations (D-23 and D-35). These locations could be affected by Dresden's effluent releases and by sources upstream on the Kankakee River. The following analyses were performed:

Tritium

All samples were analyzed for tritium activity (Table C–II.1, Appendix C). D-35 values ranged from <160 to <190 pCi/L. D-23 values ranged from 321 to 622 pCi/L. Concentrations detected were consistent with those detected in previous years (Figure C–7, Appendix C).

Gamma Spectrometry

All samples were analyzed for gamma emitting nuclides (Table C–II.2, Appendix C). No nuclides were detected, and all required LLDs were met.

3. Fish

Fish samples comprised of channel catfish, largemouth bass, common carp and freshwater drum were collected at two locations (D-28 and D-46) semiannually. Location D-28 could be affected by Dresden's effluent releases. The following analysis was performed:

Gamma Spectrometry

The edible portion of fish samples from both locations was analyzed for gamma emitting nuclides (Table C–III.1, Appendix C). Naturally occurring K-40 was found at all stations and ranged from 2,260 to 4,780 pCi/kg wet. No fission or activation products were detected.

4. Sediment

Aquatic sediment samples were collected at one location (D-27) semiannually. This downstream location could be affected by Dresden's effluent releases. The following analysis was performed:

Gamma Spectrometry

Sediment samples from the location were analyzed for gamma emitting nuclides (Table C–IV.1, Appendix C). Cesium-137 was detected in one sample.

Concentrations of the fission product Cs-137 was found in one sample at a concentration of 143 pCi/kg dry. The activity detected was consistent with those detected in previous years and is likely due to fallout from above-ground nuclear weapons testing. No other fission or activation products were detected.

5. Dredging Spoils

Dredge Spoil samples were collected when the river was dredged in 2007. The following analysis was performed:

Gamma Spectrometry

Dredge Spoil samples were analyzed for gamma emitting nuclides (Table C–IV.2, Appendix C). Cesium-137 was detected in two of the 10 samples analyzed at concentrations of 60 and 61 pCi/kg dry. The activity detected was consistent with those detected in

previous years and is likely due to fallout from above-ground nuclear weapons testing. No other fission or activation products were detected.

B. Atmospheric Environment

1. Airborne

a. Air Particulates

Continuous air particulate samples were collected from 14 locations on a weekly basis. The 14 locations were separated into four groups: On-site samplers (D-01, D-02, D-03), Near-field samplers within 4 km of the site (D-04, D-07, D-45, D-53 and D-56), Far-field samplers between 4 and 10 km from the site (D-08, D-10, D-13, D-14 and D-55) and the Control sampler between 10 and 30 km from the site (D-12). The following analyses were performed:

Gross Beta

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

Detectable gross beta activity was observed at all locations. Comparison of results among the four groups aid in determining the effects, if any, resulting from the operation of DNPS. The results from the On-Site locations ranged from 6 to 45 E–3 pCi/m^3 with a mean of 20 E–3 pCi/m^3. The results from the Near-Field locations ranged from 7 to 51 E–3 pCi/m^3 with a mean of 21 E–3 pCi/m^3. The results from the Far-Field locations ranged from 5 to 73 E–3 pCi/m^3 with a mean of 21 E–3 pCi/m^3. The results from the Control location ranged from 9 to 49 E–3 pCi/m^3 with a mean of 20 E–3 pCi/m^3. Comparison of the 2007 air particulate data with previous years data indicate no effects from the operation of DNPS. In addition a comparison of the weekly mean values for 2007 indicate no notable differences among the four groups (Figures C–8 through C-14, Appendix C).

Gamma Spectrometry

Samples were composited quarterly and analyzed for gamma emitting nuclides (Table C–V.3, Appendix C). Naturally occurring Be-7 due to cosmic ray activity was

detected in 46 of 54 samples and ranged from 48.3 to 160 E–3 pCi/m^3. No other nuclides were detected, and all required LLDs were met.

b. Airborne Iodine

Continuous air samples were collected from 14 locations (D-01, D-02, D-03, D-04, D-07, D-08, D-10, D-12, D-13, D-14, D-45, D-53, D-55 and D-56) and analyzed weekly for I-131 (Table C–VI.1, Appendix C). No nuclides were detected, and all required LLDs were met.

2. Terrestrial

a. Milk

Samples were collected from one location (D-25) biweekly May through October and monthly November through April. The following analyses were performed:

Iodine-131

Milk samples from the location were analyzed for concentrations of I-131 (Table C–VII.1, Appendix C). No nuclides were detected, and all required LLDs were met.

Gamma Spectrometry

Each milk sample was analyzed for concentrations of gamma emitting nuclides (Table C–VII.2, Appendix C).

Naturally occurring K-40 activity was found in all nineteen samples. The activities ranged from 1,150 to 1,360 pCi/l. No other nuclides were detected, and all required LLDs were met.

b. Food Products

Food product samples were collected at five locations (D-Control, D-Quad 1, D-Quad 2, D-Quad 3 and D-Quad 4) when available. Four locations, (D-Quad 1, D-Quad 2, D-Quad 3 and D-Quad 4) could be affected by Dresden's effluent releases. The following analysis was performed:

Gamma Spectrometry

Samples from all locations were analyzed for gamma emitting nuclides (Table C–VIII.1, Appendix C). No nuclides were detected, and all required LLDs were met.

C. Ambient Gamma Radiation

Ambient gamma radiation levels were measured utilizing Global Dosimetry 110 Environmental (CaF_2 and LiF) thermoluminescent dosimeters. Forty-six TLD locations were established around the site. Results of TLD measurements are listed in Tables C–IX.1 to C–IX.3, Appendix C.

Most TLD measurements were below 30 mR/quarter, with a range of 16 to 31 mR/quarter. A comparison of the Inner Ring, Outer Ring, and Other locations' data to the Control Location data, indicate that the ambient gamma radiation levels from the Control location (D-12-01, D-12-02) were comparable.

D. Land Use Survey

A Land Use Survey conducted on 27 August 2007 around the Dresden Nuclear Power Station (DNPS) was performed by EIML for Exelon Nuclear to comply with Section 12.6.2 of the Dresden Offsite Dose Calculation Manual (ODCM). The purpose of the survey was to document the nearest resident or industrial facility, milk producing animal, and livestock in each of the sixteen 22 ½ degree sectors within 10 km around the site. There were no changes required to the DNPS REMP as a result of this survey. The results of this survey are summarized below.

Distance in Miles from the DNPS Reactor Buildings			
Sector	Residence Miles	Livestock Miles	Milk Farm Miles
A N	1.5	1.4	-
B NNE	0.8	6.0	-
C NE	0.8	5.8	-
D ENE	0.7	1.7	-
E E	1.1	-	-
F ESE	1.0	-	-
G SE	0.6	-	-
H SSE	0.5	-	-
J S	0.5	-	16.0
K SSW	3.3	-	-
L SW	3.6	-	11.4
M WSW	5.8	-	-
N W	3.5	0.5	-
P WNW	3.7	0.5	-
Q NW	2.6	0.5	-
R NNW	0.8	1.0	-

E. Errata Data

There was no errata data discovered in 2007.

F. Summary of Results – Inter-Laboratory Comparison Program

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

1. Analytics Evaluation Criteria

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

2. ERA Evaluation Criteria

   ERA's evaluation report provides an acceptance range for control and warning limits with associated flag values. ERA's acceptance limits are established per the USEPA, NELAC, state specific PT program requirements or ERA's SOP for the Generation of

Performance Acceptance Limits, as applicable. The acceptance limits are either determined by a regression equation specific to each analyte or a fixed percentage limit promulgated under the appropriate regulatory document.

3. DOE Evaluation Criteria

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

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

For the primary laboratory, 17 out of 19 analytes met the specified acceptance criteria. Two samples did not meet the specified acceptance criteria for the following reasons:

1. Teledyne Brown Engineering's Analytics March 2007 I-131 in charcoal result of 34.7 pCi was lower than the known value of 71.3, resulting in a found to known ratio of 0.49. A new technician counted the charcoal cartridge on the back rather than the face side. Due to decay of the I-131, recounting could not be performed. Counting the 2nd quarter Analytics charcoal cartridge on the face and the back resulted in approximately 220% more activity on the face of the cartridge. This indicates that we would have had acceptable results (ratio approximately 1.07) if the cartridge had been counted on the face side.

2. Teledyne Brown Engineering's ERA July 2007 Cs-134 result of 57.6 pCi/L exceeded the lower acceptance limit of 60.2 pCi/L. The high activity of the sample resulted in the lower acceptance limit of 8.66, although the ratio of found to known was 83.6%, which is considered acceptable by TBE.

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

1. Environmental Inc.'s ERA March 2007 air particulate Cs-137 result

of 345.3 pCi/L exceeded the upper control limit of 336 pCi/L. The reported result was calculated using composite filter geometry rather than the single filter geometry. The recalculated result of 305.8 pCi/filter fell within the acceptance limits.

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

APPENDIX A

RADIOLOGICAL ENVIRONMENTAL MONITORING REPORT SUMMARY

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR DRESDEN NUCLEAR POWER STATION, 2007

NAME OF FACILITY: DRESDEN **DOCKET NUMBER: 50-010 50-237 & 50-249**

LOCATION OF FACILITY: MORRIS IL **REPORTING PERIOD: ANNUAL 2007**

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN(M) (F) RANGE	CONTROL LOCATION MEAN(M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN(M) MEAN(M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
SURFACE WATER (PCI/LITER)	GR-B	45	4	9.3 (15/15) (5/20.7)	7.4 (30/30) (3/30.9)	11.4 (9/9) (6.6/20.7)	D-21 INDICATOR IL RIVER AT EJ&E BRIDGE 1.4 MILES WNW OF SITE	0
	H-3	15	2000	388 (1/5)	661 (3/10) (281/1130)	661 (3/4) (281/1130)	D-57 CONTROL KANKAKEE RIVER AT WILL ROAD (CONTROL) 2.0 MILES SE OF SITE	0
	GAMMA	45						
	MN-54		15	<LLD	<LLD	-		0
	CO-58		15	<LLD	<LLD	-		0
	FE-59		30	<LLD	<LLD	-		0
	CO-60		15	<LLD	<LLD	-		0
	ZN-65		30	<LLD	<LLD	-		0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR DRESDEN NUCLEAR POWER STATION, 2007

NAME OF FACILITY: DRESDEN **DOCKET NUMBER: 50-010 50-237 & 50-249**

LOCATION OF FACILITY: MORRIS IL **REPORTING PERIOD: ANNUAL 2007**

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN(M) (F) RANGE	CONTROL LOCATION MEAN(M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN(M) MEAN(M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
SURFACE WATER (PCI/LITER)	NB-95		15	<LLD	<LLD	-		0
	ZR-95		30	<LLD	<LLD	-		0
	I-131		15	<LLD	<LLD	-		0
	CS-134		15	<LLD	<LLD	-		0
	CS-137		18	<LLD	<LLD	-		0
	BA-140		60	<LLD	<LLD	-		0
	LA-140		15	<LLD	<LLD	-		0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR DRESDEN NUCLEAR POWER STATION, 2007

NAME OF FACILITY: DRESDEN **DOCKET NUMBER: 50-010 50-237 & 50-249**

LOCATION OF FACILITY: MORRIS IL **REPORTING PERIOD: ANNUAL 2007**

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN(M) (F) RANGE	CONTROL LOCATION MEAN(M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN(M) MEAN(M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
GROUND WATER (PCI/LITER)	H-3	16	2000	532 (12/16) (321/622)	NA	532 (12/12) (321/622)	D-23 INDICATOR THORSEN WELL 0.7 MILES S OF SITE	0
	GAMMA	16						
	MN-54		15	<LLD	NA	-		0
	CO-58		15	<LLD	NA	-		0
	FE-59		30	<LLD	NA	-		0
	CO-60		15	<LLD	NA	-		0
	ZN-65		30	<LLD	NA	-		0
	NB-95		15	<LLD	NA	-		0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR DRESDEN NUCLEAR POWER STATION, 2007

NAME OF FACILITY: DRESDEN **DOCKET NUMBER: 50-010 50-237 & 50-249**
LOCATION OF FACILITY: MORRIS IL **REPORTING PERIOD: ANNUAL 2007**

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN(M) (F) RANGE	CONTROL LOCATION MEAN(M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN(M) MEAN(M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
GROUND WATER (PCI/LITER)	ZR-95		30	<LLD	NA	-		0
	I-131		15	<LLD	NA	-		0
	CS-134		15	<LLD	NA	-		0
	CS-137		18	<LLD	NA	-		0
	BA-140		60	<LLD	NA	-		0
	LA-140		15	<LLD	NA	-		0
FISH (PCI/KG WET)	GAMMA	8						
	MN-54		130	<LLD	<LLD	-		0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR DRESDEN NUCLEAR POWER STATION, 2007

NAME OF FACILITY: DRESDEN **DOCKET NUMBER: 50-010 50-237 & 50-249**
LOCATION OF FACILITY: MORRIS IL **REPORTING PERIOD: ANNUAL 2007**

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN(M) (F) RANGE	CONTROL LOCATION MEAN(M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN(M) MEAN(M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
FISH (PCI/KG WET)	CO-58		130	<LLD	<LLD	-		0
	FE-59		260	<LLD	<LLD	-		0
	CO-60		130	<LLD	<LLD	-		0
	ZN-65		260	<LLD	<LLD	-		0
	NB-95		NA	<LLD	<LLD	-		0
	ZR-95		NA	<LLD	<LLD	-		0
	CS-134		130	<LLD	<LLD	-		0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR DRESDEN NUCLEAR POWER STATION, 2007

NAME OF FACILITY: DRESDEN **DOCKET NUMBER: 50-010 50-237 & 50-249**
LOCATION OF FACILITY: MORRIS IL **REPORTING PERIOD: ANNUAL 2007**

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN(M) (F) RANGE	CONTROL LOCATION MEAN(M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN(M) MEAN(M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
FISH (PCI/KG WET)	CS-137		150	<LLD	<LLD	-		0
	BA-140		NA	<LLD	<LLD	-		0
	LA-140		NA	<LLD	<LLD	-		0
SEDIMENT (PCI/KG DRY)	GAMMA	2						
	MN-54		NA	<LLD	NA	-		0
	CO-58		NA	<LLD	NA	-		0
	FE-59		NA	<LLD	NA	-		0
	CO-60		NA	<LLD	NA	-		0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR DRESDEN NUCLEAR POWER STATION, 2007

NAME OF FACILITY: DRESDEN **DOCKET NUMBER: 50-010 50-237 & 50-249**
LOCATION OF FACILITY: MORRIS IL **REPORTING PERIOD: ANNUAL 2007**

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN(M) (F) RANGE	CONTROL LOCATION MEAN(M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN(M) MEAN(M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
SEDIMENT (PCI/KG DRY)	ZN-65		NA	<LLD	NA	-		0
	NB-95		NA	<LLD	NA	-		0
	ZR-95		NA	<LLD	NA	-		0
	CS-134		150	<LLD	NA	-		0
	CS-137		180	143 (1/2)	NA	143 (1/2)	D-27 INDICATOR DRESDEN LOCK AND DAM - DOWNSTREAM 0.8 MILES NW OF SITE	0
	BA-140		NA	<LLD	NA	-		0
	LA-140		NA	<LLD	NA	-		0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR DRESDEN NUCLEAR POWER STATION, 2007

NAME OF FACILITY: DRESDEN **DOCKET NUMBER: 50-010 50-237 & 50-249**

LOCATION OF FACILITY: MORRIS IL **REPORTING PERIOD: ANNUAL 2007**

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN(M) (F) RANGE	CONTROL LOCATION MEAN(M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN(M) MEAN(M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
DREDGE SPOILS (PCI/KG DRY)	GAMMA	10						
	MN-54		NA	<LLD	NA	-		0
	CO-58		NA	<LLD	NA	-		0
	FE-59		NA	<LLD	NA	-		0
	CO-60		NA	<LLD	NA	-		0
	ZN-65		NA	<LLD	NA	-		0
	NB-95		NA	<LLD	NA	-		0
	ZR-95		NA	<LLD	NA	-		0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR DRESDEN NUCLEAR POWER STATION, 2007

NAME OF FACILITY: DRESDEN **DOCKET NUMBER: 50-010 50-237 & 50-249**
LOCATION OF FACILITY: MORRIS IL **REPORTING PERIOD: ANNUAL 2007**

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN(M) (F) RANGE	CONTROL LOCATION MEAN(M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN(M) MEAN(M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN(M) STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
DREDGE SPOILS (PCI/KG DRY)	CS-134		150	<LLD	NA	-		0
	CS-137		180	60.9 (2/10) (60.4/61.4)	NA	61.4 (1/1)	S-05 (DEEP) INDICATOR RAILROAD BRIDGE (RR) 1.5 MILES WNW OF SITE	0
	BA-140		NA	<LLD	NA	-		0
	LA-140		NA	<LLD	NA	-		0
AIR PARTICULATE (E-3 PCI/CU.METER)	GR-B	702	10	21 (650/650) (5/73)	20 (52/52) (9/49)	22 (52/52) (5/73)	D-14 INDICATOR CHANNAHON 3.7 MILES NE OF SITE	0
	GAMMA MN-54	54	NA	<LLD	<LLD	-		0
	CO-58		NA	<LLD	<LLD	-		0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR DRESDEN NUCLEAR POWER STATION, 2007

NAME OF FACILITY: DRESDEN **DOCKET NUMBER: 50-010 50-237 & 50-249**
LOCATION OF FACILITY: MORRIS IL **REPORTING PERIOD: ANNUAL 2007**

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN(M) (F) RANGE	CONTROL LOCATION MEAN(M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN(M) MEAN(M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
AIR PARTICULATE (E-3 PCI/CU.METER)	FE-59		NA	<LLD	<LLD	-		0
	CO-60		NA	<LLD	<LLD	-		0
	ZN-65		NA	<LLD	<LLD	-		0
	NB-95		NA	<LLD	<LLD	-		0
	ZR-95		NA	<LLD	<LLD	-		0
	CS-134		50	<LLD	<LLD	-		0
	CS-137		60	<LLD	<LLD	-		0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR DRESDEN NUCLEAR POWER STATION, 2007

NAME OF FACILITY: DRESDEN **DOCKET NUMBER: 50-010 50-237 & 50-249**
LOCATION OF FACILITY: MORRIS IL **REPORTING PERIOD: ANNUAL 2007**

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN(M) (F) RANGE	CONTROL LOCATION MEAN(M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN(M) MEAN(M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
AIR PARTICULATE (E-3 PCI/CU.METER)	BA-140		NA	<LLD	<LLD	-		0
	LA-140		NA	<LLD	<LLD	-		0
AIR IODINE (E-3 PCI/CU.METER)	GAMMA I-131	702	70	<LLD	<LLD	-		0
MILK (PCI/LITER)	I-131 (LOW LVL)	19	1	NA	<LLD	-		0
	GAMMA MN-54	19	NA	NA	<LLD	-		0
	CO-58		NA	NA	<LLD	-		0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR DRESDEN NUCLEAR POWER STATION, 2007

NAME OF FACILITY: DRESDEN **DOCKET NUMBER: 50-010 50-237 & 50-249**

LOCATION OF FACILITY: MORRIS IL **REPORTING PERIOD: ANNUAL 2007**

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN(M) (F) RANGE	CONTROL LOCATION MEAN(M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN(M) MEAN(M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
MILK (PCI/LITER)	FE-59		NA	NA	<LLD	-		0
	CO-60		NA	NA	<LLD	-		0
	ZN-65		NA	NA	<LLD	-		0
	NB-95		NA	NA	<LLD	-		0
	ZR-95		NA	NA	<LLD	-		0
	CS-134		15	NA	<LLD	-		0
	CS-137		18	NA	<LLD	-		0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR DRESDEN NUCLEAR POWER STATION, 2007

NAME OF FACILITY: DRESDEN **DOCKET NUMBER: 50-010 50-237 & 50-249**

LOCATION OF FACILITY: MORRIS IL **REPORTING PERIOD: ANNUAL 2007**

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN(M) (F) RANGE	CONTROL LOCATION MEAN(M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN(M) MEAN(M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
MILK (PCI/LITER)	BA-140		60	NA	<LLD	-		0
	LA-140		15	NA	<LLD	-		0
VEGETATION (PCI/KG WET)	GAMMA	10						
	MN-54		NA	<LLD	<LLD	-		0
	CO-58		NA	<LLD	<LLD	-		0
	FE-59		NA	<LLD	<LLD	-		0
	CO-60		NA	<LLD	<LLD	-		0
	ZN-65		NA	<LLD	<LLD	-		0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR DRESDEN NUCLEAR POWER STATION, 2007

NAME OF FACILITY: DRESDEN **DOCKET NUMBER: 50-010 50-237 & 50-249**

LOCATION OF FACILITY: MORRIS IL **REPORTING PERIOD: ANNUAL 2007**

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN(M) (F) RANGE	CONTROL LOCATION MEAN(M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN(M) MEAN(M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
VEGETATION (PCI/KG WET)	NB-95		NA	<LLD	<LLD	-		0
	ZR-95		NA	<LLD	<LLD	-		0
	I-131		60	<LLD	<LLD	-		0
	CS-134		60	<LLD	<LLD	-		0
	CS-137		80	<LLD	<LLD	-		0
	BA-140		NA	<LLD	<LLD	-		0
	LA-140		NA	<LLD	<LLD	-		0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR DRESDEN NUCLEAR POWER STATION, 2007

NAME OF FACILITY: DRESDEN **DOCKET NUMBER: 50-010 50-237 & 50-249**

LOCATION OF FACILITY: MORRIS IL ***REPORTING PERIOD: ANNUAL 2007***

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN(M) (F) RANGE	CONTROL LOCATION MEAN(M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN(M) MEAN(M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
DIRECT RADIATION (MILLI-ROENTGEN/QTR.)	TLD-QUARTERLY	363	NA	22.3 (355/355) (16/31)	20.4 (8/8) (18/25)	26.5 (4/4) (24/29)	D-110-3 INDICATOR 0.9 MILES SSW	0

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

APPENDIX B

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

TABLE B-1: Radiological Environmental Monitoring Program - Sampling Locations, Distance and Direction, Dresden Nuclear Power Station, 2007

Location	Location Description	Distance & Direction From Site
A. Surface Water		
D-21	Illinois River at EJ&E Bridge (indicator)	1.4 miles WNW
D-51	Dresden Lock and Dam, Downstream (indicator)	0.8 miles NW
D-52	DesPlaines River, Upstream (control)	1.1 miles ESE
D-54	Kankakee River, Upstream (control)	8.7 miles SE
D-57	Kankakee River at Will Road (control)	2.0 miles SE
B. Ground/Well Water		
D-23	Thorsen Well (indicator)	0.7 miles S
D-35	Dresden Lock and Dam (indicator)	0.8 miles NW
C. Milk - bi-weekly / monthly		
D-25	Biros Farm (control)	11.3 miles SW
D. Air Particulates / Air Iodine		
D-01	Onsite 1 (indicator)	0.8 miles NW
D-02	Onsite 2 (indicator)	0.3 miles NNE
D-03	Onsite 3 (indicator)	0.4 miles S
D-04	Collins Road (indicator)	0.8 miles W
D-07	Clay Products (indicator)	2.6 miles S
D-08	Prairie Park (indicator)	3.8 miles SW
D-10	Goose Lake Village (indicator)	3.5 miles SSW
D-12	Lisbon (control)	10.5 miles NW
D-13	Minooka (indicator)	4.4 miles N
D-14	Channahon (indicator)	3.7 miles NE
D-45	McKinley Woods Road (indicator)	1.7 miles ENE
D-53	Grundy County Road (indicator)	2.1 miles SSE
D-55	Ridge Road (indicator)	4.3 miles N
D-56	Wildfeather (indicator)	1.7 miles SE
E. Fish		
D-28	Dresden Pool of Illinois River, Downstream (indicator)	0.9 miles NNW
D-46	DesPlaines River, Upstream (control)	1.2 miles ESE
F.Sediment		
D-27	Dresden Lock and Dam, Downstream (indicator)	0.8 miles NW
F.Dredge Spoils		
S-02		1.5 miles WNW
S-03		1.5 miles WNW
S-04		1.5 miles WNW
S-05		1.5 miles WNW
T-01		1.5 miles WNW
G. Vegetation		
Quadrant 1	Chris Locknar	2.8 miles NE
Quadrant 2	Robert Pagliano	3.2 miles SSE
Quadrant 3	Jim Bloom	3.9 miles SSW
Quadrant 4	J.D. Carmichael	1.6 miles NNW
Control	Glasscock Farm	12.8 miles ENE

TABLE B-1: Radiological Environmental Monitoring Program - Sampling Locations, Distance and Direction, Dresden Nuclear Power Station, 2007

Location	Location Description	Distance & Direction From Site
H. Environmental Dosimetry - TLD		
Inner Ring		
D-101-1 and -2		1.0 miles N
D-102-1 and -2		1.3 miles NNE
D-103-1 and -2		1.2 miles NE
D-104-1 and -2		1.7 miles ENE
D-105-1 and –2		1.5 miles E
D-106-1 and -2		1.1 miles ESE
D-107-1 and -2		1.4 miles SE
D-108-1 and -2		1.9 miles SSE
D-109-1 and -2		0.8 miles S
D-110-3 and -4		0.9 miles SSW
D-111-1 and -2		0.6 miles SW
D-112a-1 and -2		0.7 miles WSW
D-113-1 and -2		0.9 miles W
D-114-1 and -2		0.9 miles WNW
D-115-1 and -2		0.8 miles NW
D-116-1 and -2		1.0 miles NNW
Outer Ring		
D-201-1 and -2		4.8 miles N
D-202-1 and -2		5.1 miles NNE
D-203-1 and -2		4.7 miles NE
D-204-1 and -2		5.0 miles ENE
D-205-1 and -2		4.0 miles E
D-206 -1 and -2		3.5 miles ESE
D-207-1 and -2		4.2 miles SE
D-208-1 and -2		4.9 miles SSE
D-209-1 and -2		4.1 miles S
D-210-1 and -2		4.9 miles SSW
D-211-1 and -2		4.8 miles SW
D-212-3 and -4		6.0 miles WSW
D-213-1 and -2		4.5 miles W
D-214-1 and -2		5.0 miles WNW
D-215-1 and -2		4.8 miles NW
D-216-1 and -2		4.9 miles NNW
Other		
D-01-1 and -2	Onsite 1	0.8 miles NW
D-02-1 and -2	Onsite 2	0.3 miles NNE
D-03-1 and -2	Onsite 3	0.4 miles S
D-04-1 and -2	Collins Road	0.8 miles W
D-07-1 and -2	Clay Products	2.6 miles S
D-08-1 and -2	Prairie Park	3.8 miles SW
D-10-1 and -2	Goose Lake Village	3.5 miles SSW
D-13-1 and -2	Minooka	4.4 miles N
D-14-1 and -2	Channahon	3.7 miles NE
D-45-1 and -2	McKinley Woods Road	1.7 miles ENE
D-53-1 and -2	Grundy County Road	2.1 miles SSE
D-55-1 and -2	Ridge Road	4.3 miles N
D-56-1 and –2	Wildfeather	1.7 miles SE

TABLE B-1: Radiological Environmental Monitoring Program - Sampling Locations, Distance and Direction, Dresden Nuclear Power Station, 2007

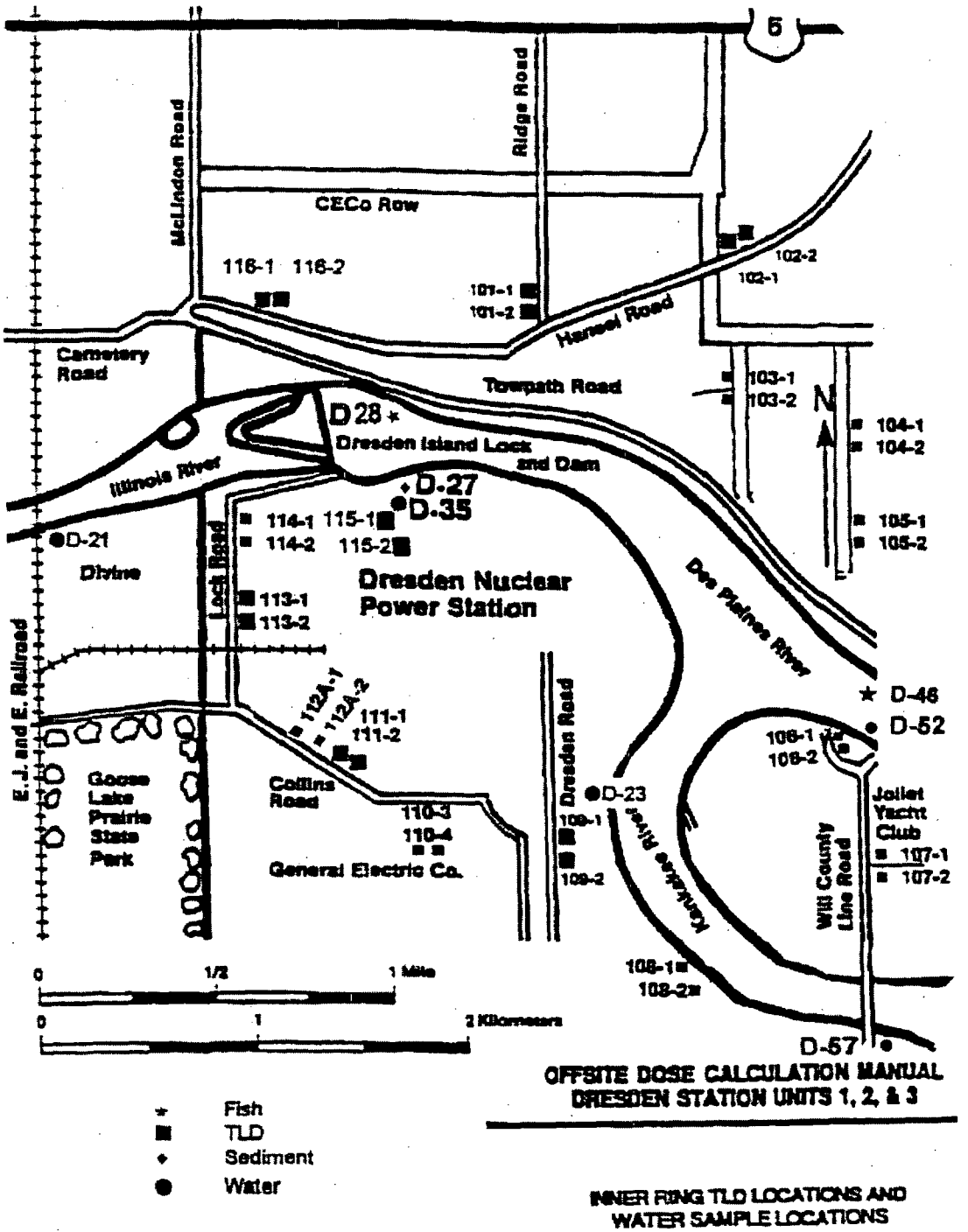
Location	Location Description	Distance & Direction From Site
Control		
D-12-1 and -2	Lisbon	10.5 miles NW

TABLE B-2: Radiological Environmental Monitoring Program – Summary of Sample Collection and Analytical Methods, Dresden Nuclear Power Station, 2007

Sample Medium	Analysis	Sampling Method	Collection Procedure Number	Sample Size	Analytical Procedure Number
Surface Water	Gamma Spectroscopy	Monthly composite sample or monthly composite from weekly grab samples.	EIML-SPM-1, Environmental Incorporated Midwest Laboratory Sampling Procedures Manual TBE, TBE-2023 Compositing of samples EIML-COMP-01 procedure for compositing water and milk samples	2 gallon	TBE, TBE-2007 Gamma emitting radioisotope analysis
Surface Water	Gross Beta	Monthly composite sample or monthly composite from weekly grab samples.	EIML-SPM-1, Environmental Incorporated Midwest Laboratory Sampling Procedures Manual TBE, TBE-2023 Compositing of samples EIML-COMP-01 procedure for compositing water and milk samples	2 gallon	TBE, TBE-2008 Gross Alpha and/or gross beta activity in various matrices
Surface Water	Tritium	Quarterly composite of monthly composite samples.	EIML-SPM-1, Environmental Incorporated Midwest Laboratory Sampling Procedures Manual TBE, TBE-2023 Compositing of samples EIML-COMP-01 procedure for compositing water and milk samples	500 ml	TBE, TBE-2011 Tritium analysis in drinking water by liquid scintillation
Ground Water	Gamma Spectroscopy	Quarterly grab samples.	EIML-SPM-1, Environmental Incorporated Midwest Laboratory Sampling Procedures Manual	2 gallon	TBE, TBE-2007 Gamma emitting radioisotope analysis
Ground Water	Tritium	Quarterly grab samples.	EIML-SPM-1, Environmental Incorporated Midwest Laboratory Sampling Procedures Manual	500 ml	TBE, TBE-2011 Tritium analysis in drinking water by liquid scintillation
Fish	Gamma Spectroscopy	Samples collected twice annually via electroshocking or other techniques	EIML-SPM-1, Environmental Incorporated Midwest Laboratory Sampling Procedures Manual	1000 grams (wet)	TBE-2007 Gamma emitting radioisotope analysis
Sediment	Gamma Spectroscopy	Semi-annual grab samples	EIML-SPM-1, Environmental Incorporated Midwest Laboratory Sampling Procedures Manual	500 grams (dry)	TBE, TBE-2007 Gamma emitting radioisotope analysis

TABLE B-2: Radiological Environmental Monitoring Program – Summary of Sample Collection and Analytical Methods, Dresden Nuclear Power Station, 2007

Sample Medium	Analysis	Sampling Method	Collection Procedure Number	Sample Size	Analytical Procedure Number
Dredging Spoils	Gamma Spectroscopy	Annual grab samples if dredging occurred within 1 mile of Dresden Station during the year.	EIML-SPM-1, Environmental Incorporated Midwest Laboratory Sampling Procedures Manual	500 grams (dry)	TBE, TBE-2007 Gamma emitting radioisotope analysis
Air Particulates	Gross Beta	One-week of continuous air sampling through glass fiber filter paper	EIML-SPM-1, Environmental Incorporated Midwest Laboratory Sampling Procedures Manual	1 filter (approximately 280 cubic meters weekly)	TBE, TBE-2008 Gross Alpha and/or gross beta activity in various matrices
Air Particulates	Gamma Spectroscopy	Quarterly composite of each station	TBE, TBE-2023 Compositing of samples Env. Inc., AP-03 Procedure for compositing air particulate filters for gamma spectroscopic analysis	13 filters	TBE, TBE-2007 Gamma emitting radioisotope analysis
Air Iodine	Gamma Spectroscopy	One- or two-week composite of continuous air sampling through charcoal filter	EIML-SPM-1, Environmental Incorporated Midwest Laboratory Sampling Procedures Manual	1 filter (approximately 280 cubic meters weekly)	TBE, TBE-2007 Gamma emitting radioisotope analysis
Milk	I-131	Bi-weekly grab sample May through October. Monthly all other times	EIML-SPM-1, Environmental Incorporated Midwest Laboratory Sampling Procedures Manual	2 gallon	TBE, TBE-2012 Radioiodine in various matrices
Milk	Gamma Spectroscopy	Bi-weekly grab sample May through October. Monthly all other times	EIML-SPM-1, Environmental Incorporated Midwest Laboratory Sampling Procedures Manual	2 gallon	TBE, TBE-2007 Gamma emitting radioisotope analysis
Food Products	Gamma Spectroscopy	Annual grab samples.	EIML-SPM-1, Environmental Incorporated Midwest Laboratory Sampling Procedures Manual	1000 grams	TBE, TBE-2007 Gamma emitting radioisotope analysis
TLD	Thermoluminescence Dosimetry	Quarterly TLDs comprised of two Global Dosimetry TLDs, with two CaF_2 elements and two LiF elements in each TLD.	EIML-SPM-1, Environmental Incorporated Midwest Laboratory Sampling Procedures Manual	2 dosimeters	Global Dosimetry



OFFSITE DOSE CALCULATION MANUAL
DRESDEN STATION UNITS 1, 2, & 3

INNER RING TLD LOCATIONS AND WATER SAMPLE LOCATIONS

Figure B-1
Dresden Station Inner Ring TLD Locations, Fish, Water, and Sediment Location, 2007

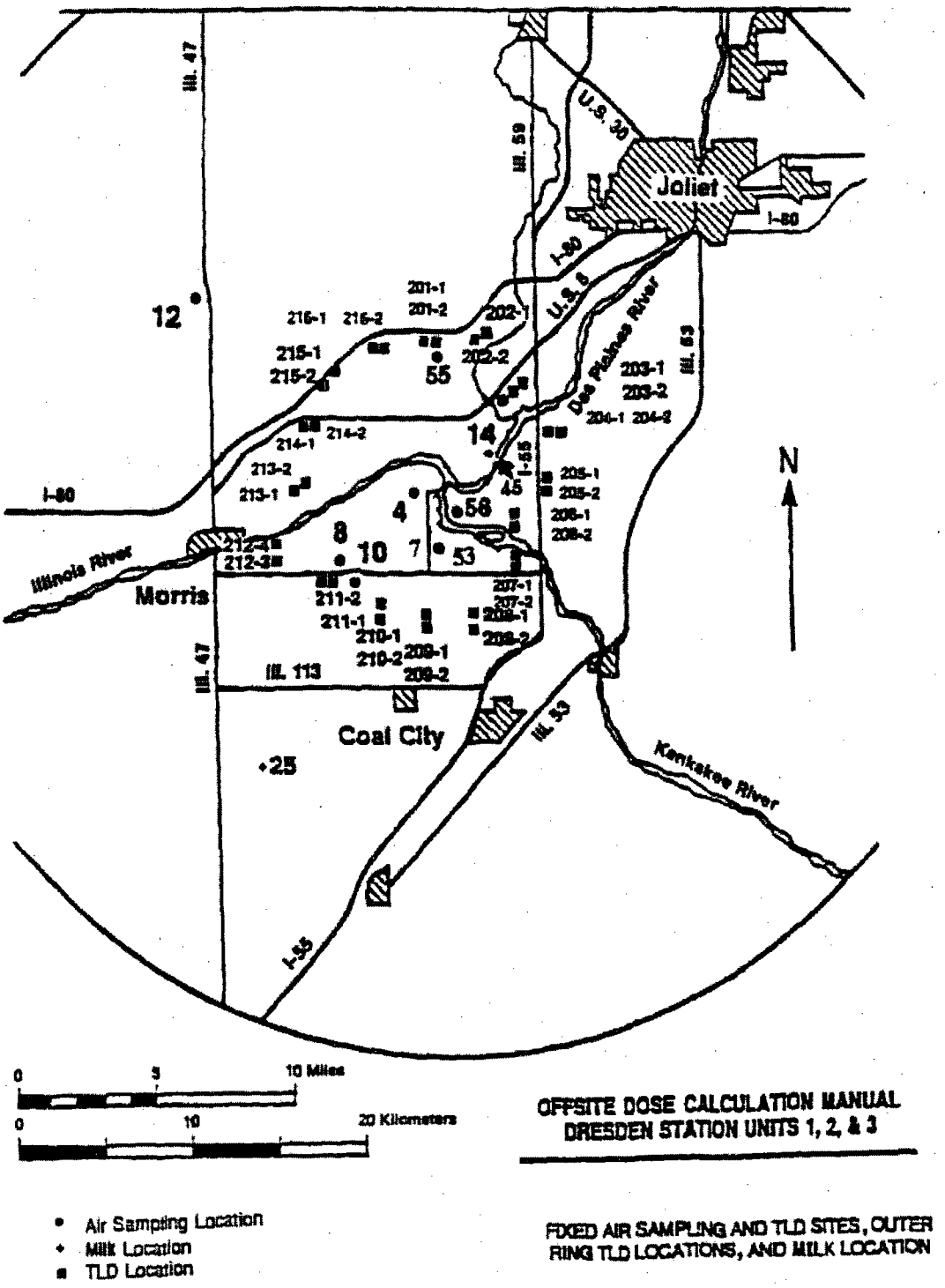


Figure B-2
Dresden Station Fixed Air Sampling and TLD Sites, Outer Ring TLD Locations and Milk Location, 2007

APPENDIX C

DATA TABLES AND FIGURES
PRIMARY LABORATORY

TABLE C-I.1 **CONCENTRATIONS OF GROSS BETA IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	D-21	D-51	D-52	D-54	D-57
01/05/07 - 01/26/07	(1)	5.1 ± 2.0	8.1 ± 2.3	3.6 ± 1.8	5.7 ± 2.1
02/02/07 - 02/24/07	(1)	8.3 ± 2.2	13 ± 2.8	5.4 ± 1.8	7.0 ± 1.9
03/02/07 - 03/30/07	(1)	5.8 ± 2.3	9.0 ± 2.7	4.8 ± 1.9	7.0 ± 2.2
04/06/07 - 04/27/07	21 ± 3.6	5.5 ± 2.3	7.4 ± 2.5	3.5 ± 2.1	3.6 ± 2.1
05/04/07 - 05/25/07	13 ± 2.8	5.0 ± 2.2	3.4 ± 2.0	3.0 ± 1.9	3.7 ± 2.0
06/01/07 - 06/29/07	8.1 ± 2.4	7.2 ± 2.3	4.3 ± 2.0	3.0 ± 2.0	4.1 ± 2.0
06/29/07 - 07/27/07	6.6 ± 1.9	(1)	3.1 ± 1.7	(1)	31 ± 5.1
07/27/07 - 08/31/07	11 ± 2.6	(1)	7.4 ± 2.0	(1)	8.2 ± 2.1
08/31/07 - 09/28/07	7.7 ± 2.2	(1)	6.0 ± 1.9	(1)	8.0 ± 2.1
09/28/07 - 10/26/07	9.0 ± 2.4	(1)	12 ± 2.5	(1)	5.9 ± 2.1
11/02/07 - 11/30/07	13 ± 2.2	(1)	9.4 ± 2.0	(1)	10 ± 2.1
11/30/07 - 12/28/07	13 ± 2.6	(1)	14 ± 2.8	(1)	9.3 ± 2.2
MEAN	11 ± 8.6	6.2 ± 2.7	8.0 ± 7.0	3.9 ± 2.0	8.6 ± 15

TABLE C-I.2 **CONCENTRATIONS OF TRITIUM IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	D-21	D-51	D-52	D-54	D-57
01/05/07 - 03/30/07	(1)	< 170	< 169	< 169	< 165
04/06/07 - 06/29/07	< 171	< 171	< 167	< 168	281 ± 117
06/29/07 - 09/28/07	< 186	(1)	< 183	(1)	572 ± 145
10/05/07 - 12/28/07	388 ± 111	(1)	< 164	(1)	1130 ± 184
MEAN*	388 ± 0	-	-	-	661 ± 863

* THE MEAN AND 2 STANDARD DEVIATION VALUES ARE CALCULATED USING THE POSITIVE VALUES
(1) SEE PROGRAM CHANGES SECTION FOR EXPLANATION

TABLE C-I.3 **CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
D-21	03/30/07 - 04/27/07	< 3	< 3	< 6	< 3	< 5	< 3	< 5	< 13	< 2	< 2	< 22	< 8
	04/27/07 - 05/25/07	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 14	< 1	< 1	< 21	< 6
	05/25/07 - 06/29/07	< 1	< 2	< 3	< 1	< 3	< 2	< 3	< 13	< 1	< 1	< 19	< 6
	06/29/07 - 07/27/07	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 13	< 1	< 2	< 20	< 6
	07/27/07 - 08/31/07	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 14	< 1	< 1	< 19	< 6
	09/07/07 - 09/28/07	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 10	< 1	< 1	< 17	< 6
	10/05/07 - 10/26/07	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 13	< 1	< 1	< 17	< 5
	11/02/07 - 11/30/07	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 13	< 2	< 2	< 20	< 6
	11/30/07 - 12/28/07	< 2	< 2	< 4	< 2	< 4	< 2	< 4	< 12	< 2	< 2	< 31	< 9
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
D-51	01/05/07 - 01/26/07	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 14	< 1	< 2	< 21	< 7
	02/02/07 - 02/24/07	< 2	< 3	< 7	< 3	< 6	< 3	< 6	< 15	< 3	< 3	< 26	< 7
	03/02/07 - 03/30/07	< 1	< 1	< 3	< 1	< 3	< 2	< 3	< 6	< 1	< 1	< 12	< 4
	04/06/07 - 04/27/07	< 3	< 3	< 6	< 2	< 5	< 3	< 6	< 14	< 3	< 3	< 25	< 8
	05/04/07 - 05/25/07	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 13	< 1	< 1	< 19	< 6
	06/01/07 - 06/29/07	< 1	< 1	< 3	< 1	< 2	< 1	< 3	< 12	< 1	< 1	< 18	< 4
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
D-52	01/05/07 - 01/26/07	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 15	< 2	< 2	< 23	< 7
	02/02/07 - 02/24/07	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 12	< 2	< 2	< 20	< 7
	03/02/07 - 03/30/07	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 10	< 2	< 2	< 19	< 6
	04/06/07 - 04/27/07	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 10	< 2	< 2	< 18	< 6
	05/04/07 - 05/25/07	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 14	< 1	< 2	< 19	< 7
	06/01/07 - 06/29/07	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 14	< 2	< 2	< 22	< 7
	07/06/07 - 07/27/07	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 10	< 1	< 1	< 16	< 6
	08/03/07 - 08/31/07	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 14	< 1	< 1	< 15	< 5
	09/07/07 - 09/28/07	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 13	< 2	< 2	< 21	< 7
	10/05/07 - 10/26/07	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 13	< 1	< 1	< 17	< 5
	11/02/07 - 11/30/07	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 13	< 2	< 2	< 20	< 6
	12/07/07 - 12/28/07	< 1	< 1	< 3	< 1	< 2	< 2	< 2	< 13	< 1	< 1	< 20	< 6
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

TABLE C-I.3

CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
D-54	01/04/07 - 01/25/07	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 8	< 1	< 1	< 12	< 4
	02/01/07 - 02/23/07	< 3	< 3	< 6	< 3	< 5	< 3	< 5	< 14	< 3	< 3	< 25	< 7
	03/01/07 - 03/29/07	< 1	< 1	< 3	< 1	< 3	< 2	< 3	< 7	< 1	< 1	< 12	< 4
	04/05/07 - 04/26/07	< 2	< 3	< 7	< 3	< 5	< 3	< 6	< 13	< 2	< 3	< 26	< 8
	05/03/07 - 05/31/07	< 2	< 3	< 6	< 2	< 5	< 3	< 5	< 13	< 2	< 2	< 26	< 9
	06/07/07 - 06/28/07	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 12	< 1	< 1	< 19	< 6
	(1)												
	(1)												
	(1)												
	(1)												
	(1)												
	(1)												
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
D-57	12/30/06 - 01/26/07	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 12	< 1	< 1	< 19	< 6
	01/26/07 - 02/24/07	< 2	< 3	< 6	< 3	< 5	< 3	< 5	< 13	< 2	< 2	< 21	< 8
	02/24/07 - 03/30/07	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 10	< 2	< 2	< 17	< 5
	03/30/07 - 04/27/07	< 3	< 3	< 6	< 3	< 6	< 3	< 5	< 13	< 2	< 3	< 23	< 8
	04/27/07 - 05/25/07	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 15	< 1	< 2	< 21	< 7
	05/25/07 - 06/29/07	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 13	< 1	< 2	< 20	< 6
	06/29/07 - 07/27/07	< 2	< 2	< 5	< 2	< 3	< 2	< 3	< 13	< 2	< 2	< 21	< 7
	07/27/07 - 08/31/07	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 12	< 1	< 1	< 17	< 5
	08/31/07 - 09/28/07	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 14	< 2	< 2	< 23	< 8
	09/28/07 - 10/26/07	< 1	< 1	< 3	< 1	< 3	< 1	< 3	< 14	< 1	< 1	< 19	< 6
	10/26/07 - 11/30/07	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 13	< 2	< 2	< 20	< 6
	11/30/07 - 12/28/07	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 14	< 1	< 1	< 19	< 5
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

(1) SEE PROGRAM CHANGES SECTION FOR EXPLANATION

TABLE C-II.1 CONCENTRATIONS OF TRITIUM IN GROUND WATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	D-23	D-35
01/12/07	481 ± 137	< 187
02/09/07	564 ± 144	
03/09/07	521 ± 138	
04/13/07	613 ± 126	< 160
05/11/07	598 ± 134	
06/08/07	577 ± 128	
07/13/07	506 ± 126	< 161
08/10/07	622 ± 134	
09/14/07	526 ± 130	
10/12/07	547 ± 141	< 190
11/09/07	321 ± 126	
12/14/07	503 ± 136	
MEAN	532 ± 161	-

TABLES C-II.2 **CONCENTRATIONS OF GAMMA EMITTERS IN GROUND WATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
D-23	01/12/07	< 4	< 3	< 7	< 4	< 7	< 4	< 7	< 8	< 3	< 4	< 20	< 7
	02/09/07	< 3	< 4	< 8	< 4	< 7	< 4	< 6	< 14	< 3	< 3	< 27	< 9
	03/09/07	< 1	< 2	< 4	< 2	< 3	< 2	< 3	< 13	< 1	< 2	< 20	< 6
	04/13/07	< 4	< 3	< 7	< 3	< 6	< 4	< 5	< 9	< 3	< 4	< 22	< 6
	05/11/07	< 4	< 3	< 8	< 3	< 7	< 4	< 8	< 11	< 3	< 3	< 23	< 7
	06/08/07	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 6	< 2	< 2	< 15	< 5
	07/13/07	< 6	< 6	< 12	< 6	< 11	< 6	< 10	< 15	< 5	< 6	< 35	< 13
	08/10/07	< 2	< 2	< 5	< 2	< 3	< 2	< 4	< 15	< 1	< 2	< 22	< 8
	09/14/07	< 3	< 3	< 6	< 3	< 3	< 2	< 4	< 14	< 2	< 2	< 17	< 7
	10/12/07	< 2	< 3	< 6	< 2	< 3	< 2	< 5	< 6	< 2	< 3	< 15	< 6
	11/09/07	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 14	< 1	< 2	< 21	< 6
	12/14/07	< 1	< 2	< 3	< 1	< 3	< 2	< 3	< 7	< 1	< 2	< 14	< 5
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
D-35	01/12/07	< 5	< 5	< 12	< 5	< 9	< 5	< 9	< 12	< 5	< 5	< 28	< 10
	04/13/07	< 4	< 5	< 10	< 5	< 8	< 4	< 7	< 11	< 4	< 4	< 26	< 9
	07/13/07	< 5	< 5	< 11	< 5	< 11	< 5	< 9	< 12	< 5	< 5	< 31	< 10
	10/12/07	< 6	< 5	< 15	< 5	< 10	< 6	< 12	< 14	< 5	< 6	< 32	< 12
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

TABLE C-III.1 **CONCENTRATIONS OF GAMMA EMITTERS IN FISH SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007**

RESULTS IN UNITS OF PCI/KG ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
D-28												
Channel Catfish	05/21/07	< 22	< 25	< 54	< 23	< 57	< 25	< 46	< 22	< 26	< 203	< 59
Largemouth Bass	05/21/07	< 23	< 25	< 55	< 18	< 50	< 23	< 44	< 19	< 24	< 164	< 48
Common Carp	10/16/07	< 26	< 30	< 82	< 26	< 56	< 33	< 52	< 23	< 25	< 445	< 114
Largemouth Bass	10/16/07	< 20	< 25	< 62	< 19	< 49	< 27	< 45	< 22	< 22	< 394	< 104
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-46												
Channel Catfish	05/21/07	< 36	< 40	< 85	< 26	< 71	< 42	< 70	< 33	< 37	< 389	< 115
Freshwater Drum	05/21/07	< 26	< 29	< 59	< 23	< 61	< 31	< 46	< 27	< 26	< 219	< 60
Common Carp	10/16/07	< 27	< 31	< 81	< 27	< 55	< 33	< 55	< 24	< 28	< 483	< 138
Largemouth Bass	10/16/07	< 22	< 25	< 68	< 24	< 55	< 28	< 46	< 20	< 23	< 380	< 126
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE C-IV.1 CONCENTRATIONS OF GAMMA EMITTERS IN SEDIMENT SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007

RESULTS IN UNITS OF PCI/KG ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
D-27	05/11/07	< 73	< 99	< 177	< 63	< 185	< 106	< 187	< 73	143 ± 55	< 1240	< 382
	10/05/07	< 82	< 82	< 172	< 87	< 174	< 105	< 177	< 69	< 95	< 631	< 134
	MEAN	-	-	-	-	-	-	-	-	143 ± 0	-	-

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

TABLE C-IV.2 **CONCENTRATIONS OF GAMMA EMITTERS IN DREDGE SPOIL SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007**

RESULTS IN UNITS OF PCI/KG ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
S-02 (DEEP)	11/09/07	< 67	< 83	< 163	< 67	< 163	< 88	< 137	< 62	< 80	< 950	< 311
S-02 (SHALLOW)	11/09/07	< 60	< 79	< 223	< 61	< 172	< 98	< 153	< 64	60 ± 58	< 1120	< 356
S-03 (DEEP)	11/09/07	< 57	< 57	< 165	< 53	< 138	< 80	< 126	< 48	< 65	< 827	< 217
S-03 (SHALLOW)	11/09/07	< 69	< 64	< 183	< 62	< 138	< 79	< 136	< 51	< 63	< 964	< 235
S-04 (DEEP)	11/09/07	< 68	< 88	< 216	< 64	< 196	< 99	< 142	< 69	< 84	< 1240	< 337
S-04 (SHALLOW)	11/09/07	< 98	< 120	< 301	< 83	< 211	< 122	< 230	< 77	< 111	< 1390	< 469
S-05 (DEEP)	11/09/07	< 50	< 58	< 130	< 43	< 123	< 80	< 118	< 42	61 ± 29	< 750	< 268
S-05 (SHALLOW)	11/09/07	< 82	< 97	< 229	< 86	< 223	< 115	< 155	< 57	< 77	< 1240	< 463
T-01 (DEEP)	11/09/07	< 61	< 72	< 208	< 63	< 173	< 79	< 128	< 56	< 77	< 1190	< 264
T-01 (SHALLOW)	11/09/07	< 55	< 66	< 151	< 55	< 131	< 77	< 106	< 42	< 66	< 920	< 267
	MEAN	-	-	-	-	-	-	-	-	61 ± 1.4	-	-

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

TABLE C-V.1 CONCENTRATIONS OF GROSS BETA IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007

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

COLLECTION	GROUP I			GROUP II				
PERIOD	D-01	D-02	D-03	D-04	D-07	D-45	D-53	D-56
12/30/06 - 01/05/07	16 ± 5	13 ± 5	13 ± 5	14 ± 5	19 ± 5	18 ± 5	21 ± 5	16 ± 5
01/05/07 - 01/12/07	19 ± 4	17 ± 4	18 ± 4	18 ± 4	17 ± 4	20 ± 4	19 ± 4	17 ± 4
01/12/07 - 01/19/07	13 ± 4	17 ± 4	15 ± 4	16 ± 4	18 ± 4	15 ± 4	16 ± 4	19 ± 4
01/19/07 - 01/26/07	27 ± 5	36 ± 5	35 ± 5	27 ± 5	35 ± 5	28 ± 5	31 ± 5	32 ± 5
01/26/07 - 02/02/07	21 ± 4	24 ± 5	25 ± 5	24 ± 5	23 ± 5	24 ± 5	22 ± 5	26 ± 5
02/02/07 - 02/09/07	22 ± 5	19 ± 4	17 ± 4	20 ± 5	20 ± 5	23 ± 5	16 ± 4	18 ± 4
02/09/07 - 02/16/07	21 ± 4	19 ± 4	19 ± 4	16 ± 4	18 ± 4	20 ± 4	20 ± 4	21 ± 4
02/16/07 - 02/24/07	27 ± 4	22 ± 4	22 ± 4	23 ± 4	21 ± 4	21 ± 4	22 ± 4	15 ± 4
02/24/07 - 03/02/07	11 ± 4	12 ± 4	14 ± 4	10 ± 4	9 ± 4	13 ± 4	14 ± 4	12 ± 4
03/02/07 - 03/09/07	14 ± 4	17 ± 4	15 ± 4	16 ± 4	16 ± 4	16 ± 4	20 ± 4	18 ± 4
03/09/07 - 03/16/07	21 ± 4	20 ± 4	20 ± 4	21 ± 4	15 ± 4	23 ± 4	19 ± 4	21 ± 4
03/16/07 - 03/23/07	17 ± 4	14 ± 4	17 ± 4	15 ± 4	16 ± 4	20 ± 4	15 ± 4	17 ± 4
03/23/07 - 03/30/07	16 ± 4	15 ± 4	13 ± 4	12 ± 4	13 ± 4	11 ± 4	12 ± 4	8 ± 4
03/30/07 - 04/06/07	14 ± 4	17 ± 4	17 ± 4	15 ± 4	14 ± 4	13 ± 4	17 ± 4	14 ± 4
04/06/07 - 04/13/07	11 ± 4	15 ± 4	14 ± 4	16 ± 4	15 ± 4	13 ± 4	15 ± 4	13 ± 4
04/13/07 - 04/20/07	16 ± 4	17 ± 4	15 ± 4	20 ± 4	14 ± 4	17 ± 4	17 ± 4	16 ± 4
04/20/07 - 04/27/07	16 ± 4	10 ± 4	14 ± 4	12 ± 4	9 ± 4	7 ± 4	12 ± 4	10 ± 4
04/27/07 - 05/04/07	10 ± 4	16 ± 4	11 ± 4	15 ± 4	11 ± 4	10 ± 4	13 ± 4	12 ± 4
05/04/07 - 05/11/07	17 ± 4	18 ± 4	19 ± 4	20 ± 4	22 ± 4	18 ± 4	25 ± 5	22 ± 4
05/11/07 - 05/18/07	13 ± 4	10 ± 4	13 ± 4	12 ± 4	17 ± 4	14 ± 4	14 ± 4	19 ± 4
05/18/07 - 05/25/07	21 ± 4	17 ± 4	23 ± 4	17 ± 4	20 ± 4	20 ± 4	17 ± 4	20 ± 4
05/25/07 - 06/01/07	23 ± 4	19 ± 4	18 ± 4	24 ± 4	20 ± 4	22 ± 4	21 ± 4	23 ± 4
06/01/07 - 06/08/07	13 ± 4	15 ± 4	13 ± 4	15 ± 4	15 ± 4	15 ± 4	18 ± 4	17 ± 4
06/08/07 - 06/15/07	18 ± 4	18 ± 4	15 ± 4	22 ± 4	17 ± 4	17 ± 4	15 ± 4	18 ± 4
06/15/07 - 06/22/07	23 ± 5	26 ± 5	20 ± 4	23 ± 5	25 ± 5	21 ± 4	19 ± 4	22 ± 5
06/22/07 - 06/29/07	14 ± 4	15 ± 4	15 ± 4	19 ± 4	19 ± 4	18 ± 4	19 ± 4	19 ± 4
06/29/07 - 07/06/07	13 ± 4	17 ± 4	15 ± 4	13 ± 4	16 ± 4	16 ± 4	17 ± 4	16 ± 4
07/06/07 - 07/13/07	14 ± 4	20 ± 4	23 ± 5	20 ± 4	20 ± 4	23 ± 5	25 ± 5	19 ± 4
07/13/07 - 07/20/07	12 ± 4	11 ± 4	12 ± 4	11 ± 4	13 ± 4	8 ± 4	14 ± 4	12 ± 4
07/20/07 - 07/27/07	18 ± 4	23 ± 5	20 ± 4	19 ± 4	19 ± 4	21 ± 5	24 ± 5	19 ± 4
07/27/07 - 08/03/07	27 ± 5	25 ± 5	25 ± 5	28 ± 5	24 ± 5	28 ± 5	25 ± 5	26 ± 5
08/03/07 - 08/10/07	20 ± 4	23 ± 4	23 ± 4	23 ± 4	23 ± 4	21 ± 4	23 ± 4	21 ± 4
08/10/07 - 08/17/07	22 ± 5	29 ± 5	26 ± 5	24 ± 5	23 ± 5	28 ± 5	24 ± 5	25 ± 5
08/17/07 - 08/24/07	13 ± 4	15 ± 4	10 ± 4	11 ± 4	10 ± 4	11 ± 4	12 ± 4	15 ± 4
08/24/07 - 08/31/07	25 ± 5	25 ± 4	27 ± 5	29 ± 5	23 ± 5	27 ± 5	26 ± 5	27 ± 5
08/31/07 - 09/07/07	31 ± 5	35 ± 5	30 ± 5	33 ± 5	33 ± 5	27 ± 5	30 ± 5	28 ± 5
09/07/07 - 09/14/07	11 ± 4	18 ± 4	11 ± 4	18 ± 4	16 ± 4	17 ± 4	13 ± 4	13 ± 4
09/14/07 - 09/21/07	24 ± 5	27 ± 5	26 ± 5	23 ± 4	26 ± 5	24 ± 5	28 ± 5	25 ± 5
09/21/07 - 09/28/07	19 ± 5	24 ± 5	20 ± 5	24 ± 5	17 ± 5	18 ± 5	22 ± 5	21 ± 5
09/28/07 - 10/05/07	30 ± 5	27 ± 5	30 ± 5	24 ± 5	33 ± 5	31 ± 5	29 ± 5	32 ± 5
10/05/07 - 10/12/07	6 ± 4	10 ± 4	14 ± 4	9 ± 4	13 ± 5	8 ± 4	9 ± 4	11 ± 4
10/12/07 - 10/19/07	22 ± 5	22 ± 5	24 ± 5	23 ± 5	26 ± 5	26 ± 5	22 ± 5	29 ± 5
10/19/07 - 10/26/07	13 ± 4	17 ± 4	18 ± 4	15 ± 4	18 ± 4	23 ± 4	19 ± 4	18 ± 4
10/26/07 - 11/02/07	15 ± 4	14 ± 4	19 ± 4	19 ± 4	17 ± 4	20 ± 5	17 ± 4	19 ± 4
11/02/07 - 11/09/07	22 ± 4	26 ± 5	24 ± 5	23 ± 5	20 ± 5	25 ± 5	24 ± 5	23 ± 5
11/09/07 - 11/16/07	23 ± 5	30 ± 5	25 ± 5	25 ± 5	28 ± 5	23 ± 5	26 ± 5	28 ± 5
11/16/07 - 11/23/07	26 ± 5	26 ± 5	25 ± 4	32 ± 5	30 ± 5	27 ± 5	23 ± 4	28 ± 5
11/23/07 - 11/30/07	28 ± 5	28 ± 5	29 ± 5	32 ± 5	31 ± 5	28 ± 5	28 ± 5	32 ± 5
11/30/07 - 12/07/07	20 ± 4	19 ± 4	20 ± 4	24 ± 5	21 ± 5	21 ± 5	22 ± 5	23 ± 5
12/07/07 - 12/14/07	33 ± 5	35 ± 5	37 ± 6	44 ± 6	36 ± 5	39 ± 6	35 ± 5	39 ± 6
12/14/07 - 12/21/07	41 ± 6	45 ± 6	38 ± 5	50 ± 6	47 ± 6	47 ± 6	40 ± 6	51 ± 6
12/21/07 - 12/28/07	28 ± 5	34 ± 5	31 ± 5	36 ± 5	37 ± 5	34 ± 5	31 ± 5	32 ± 5
MEAN	19 ± 13	21 ± 15	20 ± 14	21 ± 16	21 ± 15	21 ± 15	21 ± 13	21 ± 16

TABLE C-V.1 CONCENTRATIONS OF GROSS BETA IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007

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

COLLECTION PERIOD	GROUP III					GROUP IV
	D-08	D-10	D-13	D-14	D-55	D-12
12/30/06 - 01/05/07	21 ± 5	17 ± 5	19 ± 5	15 ± 4	22 ± 5	18 ± 5
01/05/07 - 01/12/07	16 ± 4	19 ± 4	18 ± 4	18 ± 4	20 ± 4	14 ± 4
01/12/07 - 01/19/07	16 ± 4	20 ± 4	19 ± 4	16 ± 4	14 ± 4	19 ± 4
01/19/07 - 01/26/07	34 ± 5	35 ± 5	38 ± 5	31 ± 5	34 ± 5	33 ± 5
01/26/07 - 02/02/07	27 ± 5	23 ± 5	18 ± 4	25 ± 5	27 ± 5	27 ± 5
02/02/07 - 02/09/07	23 ± 5	18 ± 4	20 ± 5	20 ± 5	26 ± 5	14 ± 4
02/09/07 - 02/16/07	20 ± 4	20 ± 4	26 ± 5	21 ± 4	24 ± 5	24 ± 4
02/16/07 - 02/24/07	24 ± 4	27 ± 4	22 ± 4	34 ± 8	21 ± 4	17 ± 4
02/24/07 - 03/02/07	14 ± 4	15 ± 4	13 ± 4	9 ± 6	14 ± 4	15 ± 4
03/02/07 - 03/09/07	19 ± 4	20 ± 4	16 ± 4	15 ± 4	14 ± 4	15 ± 4
03/09/07 - 03/16/07	21 ± 4	19 ± 4	19 ± 4	21 ± 4	19 ± 4	17 ± 4
03/16/07 - 03/23/07	17 ± 4	17 ± 4	16 ± 4	19 ± 4	15 ± 4	16 ± 4
03/23/07 - 03/30/07	13 ± 4	16 ± 4	13 ± 4	15 ± 4	11 ± 4	10 ± 4
03/30/07 - 04/06/07	20 ± 5	14 ± 4	17 ± 4	15 ± 4	15 ± 4	11 ± 4
04/06/07 - 04/13/07	14 ± 4	13 ± 4	17 ± 4	15 ± 4	20 ± 4	13 ± 4
04/13/07 - 04/20/07	19 ± 4	15 ± 4	14 ± 4	17 ± 4	13 ± 4	19 ± 4
04/20/07 - 04/27/07	13 ± 4	10 ± 4	14 ± 4	12 ± 4	12 ± 4	11 ± 4
04/27/07 - 05/04/07	16 ± 4	12 ± 4	11 ± 4	15 ± 4	14 ± 4	11 ± 4
05/04/07 - 05/11/07	25 ± 5	20 ± 4	22 ± 4	21 ± 4	21 ± 4	20 ± 4
05/11/07 - 05/18/07	13 ± 4	17 ± 4	13 ± 4	16 ± 4	16 ± 4	18 ± 4
05/18/07 - 05/25/07	24 ± 5	15 ± 4	23 ± 5	17 ± 4	23 ± 4	13 ± 4
05/25/07 - 06/01/07	21 ± 4	19 ± 4	23 ± 4	25 ± 4	20 ± 4	18 ± 4
06/01/07 - 06/08/07	16 ± 4	15 ± 4	17 ± 4	19 ± 4	17 ± 4	12 ± 4
06/08/07 - 06/15/07	20 ± 5	18 ± 4	17 ± 4	18 ± 4	17 ± 4	20 ± 4
06/15/07 - 06/22/07	36 ± 9	24 ± 5	20 ± 4	25 ± 5	27 ± 5	20 ± 4
06/22/07 - 06/29/07	10 ± 7	15 ± 4	16 ± 4	18 ± 4	18 ± 4	17 ± 4
06/29/07 - 07/06/07	18 ± 4	17 ± 4	(1)	19 ± 4	17 ± 4	15 ± 4
07/06/07 - 07/13/07	19 ± 4	24 ± 5		15 ± 4	25 ± 5	23 ± 5
07/13/07 - 07/20/07	11 ± 4	13 ± 4		12 ± 4	15 ± 4	13 ± 4
07/20/07 - 07/27/07	18 ± 4	21 ± 5		22 ± 4	21 ± 5	24 ± 5
07/27/07 - 08/03/07	24 ± 4	28 ± 5		28 ± 5	25 ± 5	23 ± 4
08/03/07 - 08/10/07	24 ± 4	25 ± 4		18 ± 4	24 ± 4	17 ± 4
08/10/07 - 08/17/07	24 ± 5	24 ± 5		22 ± 5	21 ± 5	23 ± 5
08/17/07 - 08/24/07	14 ± 4	12 ± 5		16 ± 5	15 ± 4	15 ± 4
08/24/07 - 08/31/07	10 ± 4	27 ± 5		73 ± 13	24 ± 4	28 ± 5
08/31/07 - 09/07/07	34 ± 5	30 ± 5		29 ± 5	28 ± 5	28 ± 5
09/07/07 - 09/14/07	19 ± 4	13 ± 4		15 ± 4	12 ± 4	11 ± 4
09/14/07 - 09/21/07	27 ± 5	29 ± 5		29 ± 5	23 ± 5	25 ± 5
09/21/07 - 09/28/07	25 ± 5	26 ± 5		21 ± 5	19 ± 5	20 ± 5
09/28/07 - 10/05/07	24 ± 5	34 ± 5		27 ± 5	30 ± 5	25 ± 5
10/05/07 - 10/12/07	9 ± 4	14 ± 4		10 ± 4	7 ± 4	9 ± 4
10/12/07 - 10/19/07	27 ± 5	25 ± 5		30 ± 5	23 ± 5	22 ± 5
10/19/07 - 10/26/07	15 ± 4	21 ± 4		20 ± 4	16 ± 4	19 ± 4
10/26/07 - 11/02/07	22 ± 5	21 ± 5		21 ± 5	15 ± 4	14 ± 4
11/02/07 - 11/09/07	25 ± 5	25 ± 5		26 ± 5	21 ± 5	21 ± 5
11/09/07 - 11/16/07	7 ± 3	33 ± 5		5 ± 4	22 ± 5	26 ± 5
11/16/07 - 11/23/07	61 ± 6	29 ± 5		27 ± 5	23 ± 4	24 ± 4
11/23/07 - 11/30/07	27 ± 5	30 ± 5		35 ± 5	25 ± 5	31 ± 5
11/30/07 - 12/07/07	21 ± 5	22 ± 5		20 ± 5	24 ± 5	20 ± 4
12/07/07 - 12/14/07	40 ± 6	36 ± 5		39 ± 6	33 ± 5	41 ± 6
12/14/07 - 12/21/07	45 ± 6	50 ± 6		48 ± 6	39 ± 6	49 ± 6
12/21/07 - 12/28/07	31 ± 5	38 ± 5		40 ± 6	32 ± 5	30 ± 5
MEAN	22 ± 19	22 ± 16	18 ± 11	22 ± 22	21 ± 13	20 ± 16

(1) SEE PROGRAM CHANGES SECTIONS 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 DRESDEN NUCLEAR POWER STATION, 2007

GROUP I - ON-SITE LOCATIONS				GROUP II - NEAR-FIELD LOCATIONS				GROUP III - FAR-FIELD LOCATIONS				GROUP IV - CONTROL LOCATION			
COLLECTION PERIOD	MIN	MAX	MEAN ± 2SD	COLLECTION PERIOD	MIN	MAX	MEAN ± 2SD	COLLECTION PERIOD	MIN	MAX	MEAN ± 2SD	COLLECTION PERIOD	MIN	MAX	MEAN ± 2SD
12/30/06 - 02/02/07	13	36	20 ± 15	12/29/06 - 02/02/07	14	35	21 ± 11	12/29/06 - 02/02/07	14	38	22 ± 14	12/29/06 - 02/02/07	14	33	22 ± 15
02/02/07 - 03/02/07	11	27	19 ± 9	02/02/07 - 03/02/07	9	23	18 ± 8	02/02/07 - 03/02/07	9	34	20 ± 12	02/02/07 - 03/02/07	14	24	17 ± 9
03/02/07 - 03/30/07	13	21	17 ± 5	03/02/07 - 03/30/07	8	23	16 ± 8	03/02/07 - 03/30/07	11	21	17 ± 6	03/02/07 - 03/30/07	10	17	14 ± 5
03/30/07 - 04/27/07	10	17	15 ± 4	03/30/07 - 04/27/07	7	20	14 ± 6	03/30/07 - 04/27/07	10	20	15 ± 5	03/30/07 - 04/27/07	11	19	14 ± 7
04/27/07 - 06/01/07	10	23	17 ± 8	04/27/07 - 06/01/07	10	25	18 ± 8	04/27/07 - 06/01/07	11	25	18 ± 9	04/27/07 - 06/01/07	11	20	16 ± 8
06/01/07 - 06/29/07	13	26	17 ± 8	06/01/07 - 06/29/07	15	25	19 ± 6	06/01/07 - 06/29/07	10	36	19 ± 11	06/01/07 - 06/29/07	12	20	17 ± 8
06/29/07 - 08/03/07	11	27	18 ± 11	06/29/07 - 08/03/07	8	28	19 ± 11	06/29/07 - 08/03/07	11	28	19 ± 10	06/29/07 - 08/03/07	13	24	19 ± 10
08/03/07 - 08/31/07	10	29	21 ± 12	08/03/07 - 08/31/07	10	29	21 ± 12	08/03/07 - 08/31/07	10	73	23 ± 28	08/03/07 - 08/31/07	15	28	21 ± 12
08/31/07 - 09/28/07	11	35	23 ± 15	08/31/07 - 09/28/07	13	33	23 ± 12	08/31/07 - 09/28/07	12	34	24 ± 13	08/31/07 - 09/28/07	11	28	21 ± 16
09/28/07 - 11/02/07	6	30	19 ± 14	09/28/07 - 11/02/07	8	33	20 ± 14	09/28/07 - 11/02/07	7	34	21 ± 14	09/28/07 - 11/02/07	9	25	18 ± 13
11/02/07 - 11/30/07	22	30	26 ± 5	11/02/07 - 11/30/07	20	32	27 ± 7	11/02/07 - 11/30/07	5	61	26 ± 25	11/02/07 - 11/30/07	21	31	26 ± 8
11/30/07 - 12/28/07	19	45	32 ± 17	11/30/07 - 12/28/07	21	51	36 ± 19	11/30/07 - 12/28/07	20	50	35 ± 18	11/30/07 - 12/28/07	20	49	35 ± 26
12/30/06 - 12/28/07	6	45	20 ± 14	12/29/06 - 12/28/07	7	51	21 ± 15	12/29/06 - 12/28/07	5	73	21 ± 17	12/29/06 - 12/28/07	9	49	20 ± 16

TABLE C-V.3

CONCENTRATIONS OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007

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

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
D-01	12/30/06 - 03/30/07	< 4	< 4	< 10	< 3	< 9	< 4	< 7	< 4	< 3	< 85	< 21
	03/30/07 - 06/29/07	< 3	< 5	< 14	< 3	< 5	< 5	< 8	< 3	< 2	< 316	< 114
	06/29/07 - 09/28/07	< 4	< 8	< 32	< 2	< 9	< 7	< 15	< 4	< 2	< 3790	< 1040
	09/28/07 - 12/28/07	< 2	< 3	< 7	< 3	< 5	< 3	< 5	< 2	< 2	< 46	< 16
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-02	12/30/06 - 03/30/07	< 4	< 4	< 10	< 3	< 7	< 4	< 8	< 3	< 3	< 76	< 39
	03/30/07 - 06/29/07	< 2	< 4	< 16	< 2	< 8	< 4	< 8	< 2	< 3	< 326	< 98
	06/29/07 - 09/28/07	< 3	< 6	< 36	< 3	< 10	< 9	< 20	< 3	< 3	< 3800	< 1040
	09/28/07 - 12/28/07	< 3	< 3	< 8	< 2	< 8	< 4	< 7	< 3	< 3	< 61	< 26
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-03	12/30/06 - 03/30/07	< 3	< 4	< 11	< 4	< 9	< 4	< 7	< 3	< 3	< 77	< 21
	03/30/07 - 06/29/07	< 4	< 6	< 14	< 3	< 8	< 6	< 10	< 4	< 3	< 419	< 136
	06/29/07 - 09/28/07	< 4	< 7	< 41	< 4	< 7	< 11	< 19	< 4	< 3	< 4740	< 1450
	09/28/07 - 12/28/07	< 3	< 4	< 7	< 2	< 9	< 5	< 6	< 3	< 3	< 61	< 26
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-04	12/30/06 - 03/30/07	< 2	< 3	< 7	< 2	< 5	< 3	< 5	< 2	< 2	< 58	< 23
	03/30/07 - 06/29/07	< 3	< 8	< 19	< 3	< 9	< 7	< 11	< 4	< 3	< 418	< 97
	06/29/07 - 09/28/07	< 3	< 7	< 26	< 2	< 8	< 8	< 13	< 3	< 2	< 3080	< 1150
	09/28/07 - 12/28/07	< 3	< 3	< 6	< 3	< 6	< 3	< 5	< 3	< 2	< 49	< 20
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE C-V.3 **CONCENTRATIONS OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007**

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

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
D-07	12/30/06 - 03/30/07	< 3	< 5	< 11	< 3	< 8	< 4	< 7	< 4	< 3	< 108	< 28
	03/30/07 - 06/29/07	< 2	< 3	< 13	< 3	< 7	< 4	< 7	< 2	< 2	< 364	< 128
	06/29/07 - 09/28/07	< 3	< 9	< 31	< 3	< 8	< 9	< 18	< 4	< 3	< 5220	< 1690
	09/28/07 - 12/28/07	< 3	< 3	< 7	< 3	< 6	< 4	< 6	< 2	< 2	< 51	< 18
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-08	12/30/06 - 03/30/07	< 2	< 3	< 7	< 2	< 5	< 3	< 4	< 2	< 2	< 54	< 18
	03/30/07 - 06/29/07	< 3	< 4	< 11	< 3	< 4	< 5	< 9	< 3	< 2	< 293	< 128
	06/29/07 - 09/28/07	< 4	< 9	< 43	< 4	< 12	< 9	< 16	< 4	< 3	< 5140	< 1700
	09/28/07 - 12/28/07	< 3	< 4	< 11	< 3	< 8	< 3	< 7	< 3	< 2	< 63	< 19
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-10	12/30/06 - 03/30/07	< 3	< 4	< 11	< 3	< 7	< 5	< 8	< 3	< 3	< 90	< 33
	03/30/07 - 06/29/07	< 3	< 5	< 12	< 3	< 10	< 6	< 10	< 4	< 3	< 328	< 113
	06/29/07 - 09/28/07	< 4	< 9	< 39	< 4	< 10	< 9	< 17	< 4	< 3	< 4670	< 1720
	09/28/07 - 12/28/07	< 3	< 4	< 11	< 3	< 8	< 4	< 8	< 3	< 3	< 60	< 21
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-12	12/29/06 - 03/30/07	< 3	< 5	< 10	< 3	< 7	< 4	< 7	< 3	< 3	< 96	< 25
	03/30/07 - 06/29/07	< 3	< 5	< 12	< 3	< 7	< 3	< 7	< 3	< 2	< 246	< 65
	06/29/07 - 09/28/07	< 3	< 9	< 39	< 2	< 11	< 10	< 15	< 4	< 3	< 3890	< 1660
	09/28/07 - 12/28/07	< 2	< 3	< 7	< 2	< 5	< 4	< 5	< 2	< 2	< 47	< 11
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE C-V.3 **CONCENTRATIONS OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007**

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

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
D-13	12/29/06 - 03/30/07	< 3	< 4	< 6	< 3	< 7	< 4	< 6	< 3	< 3	< 84	< 31
	03/30/07 - 06/29/07	< 4	< 6	< 13	< 3	< 8	< 6	< 13	< 3	< 3	< 412	< 147
	(1)											
	(1)											
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-14	12/29/06 - 03/30/07	< 3	< 5	< 15	< 5	< 6	< 5	< 9	< 3	< 3	< 113	< 32
	03/30/07 - 06/29/07	< 3	< 5	< 13	< 3	< 7	< 5	< 8	< 3	< 2	< 356	< 96
	06/29/07 - 09/28/07	< 4	< 11	< 28	< 4	< 9	< 9	< 17	< 4	< 3	< 5360	< 898
	09/28/07 - 12/28/07	< 3	< 4	< 10	< 4	< 7	< 5	< 8	< 3	< 3	< 68	< 27
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-45	12/29/06 - 03/30/07	< 2	< 3	< 8	< 2	< 7	< 3	< 7	< 2	< 2	< 60	< 7
	03/30/07 - 06/29/07	< 3	< 5	< 14	< 3	< 6	< 5	< 8	< 3	< 2	< 341	< 115
	06/29/07 - 09/28/07	< 3	< 6	< 26	< 3	< 8	< 9	< 12	< 3	< 3	< 3300	< 1090
	09/28/07 - 12/28/07	< 4	< 3	< 8	< 4	< 8	< 4	< 7	< 4	< 4	< 63	< 22
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-53	12/30/06 - 03/30/07	< 3	< 2	< 8	< 3	< 5	< 2	< 7	< 2	< 3	< 69	< 33
	03/30/07 - 06/29/07	< 4	< 5	< 18	< 3	< 9	< 6	< 10	< 4	< 3	< 469	< 169
	06/29/07 - 09/28/07	< 5	< 9	< 36	< 3	< 10	< 10	< 17	< 3	< 3	< 4650	< 1120
	09/28/07 - 12/28/07	< 3	< 3	< 7	< 2	< 7	< 4	< 6	< 3	< 2	< 48	< 20
	MEAN	-	-	-	-	-	-	-	-	-	-	-

(1) SEE PROGRAM CHANGES SECTION FOR EXPLANATION

TABLE C-V.3 **CONCENTRATIONS OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007**

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

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
D-55	12/29/06 - 03/30/07	< 2	< 2	< 8	< 3	< 5	< 3	< 7	< 2	< 2	< 67	< 23
	03/30/07 - 06/29/07	< 4	< 6	< 23	< 3	< 10	< 6	< 10	< 3	< 4	< 474	< 124
	06/29/07 - 09/28/07	< 4	< 8	< 34	< 4	< 8	< 10	< 16	< 3	< 3	< 5190	< 1100
	09/28/07 - 12/28/07	< 2	< 4	< 8	< 2	< 6	< 3	< 5	< 3	< 2	< 52	< 24
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-56	12/30/06 - 03/30/07	< 2	< 3	< 11	< 3	< 11	< 4	< 8	< 4	< 4	< 80	< 32
	03/30/07 - 06/29/07	< 4	< 17	< 145	< 4	< 8	< 27	< 41	< 4	< 3	< 707000 (2)	< 232000 (2)
	06/29/07 - 09/28/07	< 4	< 7	< 32	< 3	< 10	< 9	< 19	< 3	< 3	< 4310	< 1470
	09/28/07 - 12/28/07	< 3	< 4	< 8	< 3	< 7	< 4	< 6	< 3	< 3	< 63	< 25
	MEAN	-	-	-	-	-	-	-	-	-	-	-

(2) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-VI.1 **CONCENTRATIONS OF I-131 IN AIR IODINE SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007**

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

COLLECTION PERIOD	GROUP I			GROUP II				
	D-01	D-02	D-03	D-04	D-07	D-45	D-53	D-56
12/30/06 - 01/05/07	< 6	< 6	< 6	< 6	< 6	< 11	< 12	< 12
01/05/07 - 01/12/07	< 27	< 49	< 49	< 48	< 48	< 33	< 33	< 33
01/12/07 - 01/19/07	< 27	< 27	< 27	< 26	< 48	< 31	< 31	< 32
01/19/07 - 01/26/07	< 24	< 36	< 36	< 36	< 37	< 47	< 46	< 46
01/26/07 - 02/02/07	< 27	< 44	< 44	< 43	< 45	< 39	< 39	< 39
02/02/07 - 02/09/07	< 32	< 32	< 32	< 32	< 16	< 28	< 28	< 28
02/09/07 - 02/16/07	< 48	< 27	< 48	< 48	< 49	< 51	< 50	< 50
02/16/07 - 02/24/07	< 34	< 34	< 16	< 34	< 34	< 26	< 25	< 25
02/24/07 - 03/02/07	< 38	< 39	< 39	< 38	< 21	< 44	< 42	< 42
03/02/07 - 03/09/07	< 28	< 38	< 47	< 51	< 47	< 62	< 62	< 52
03/09/07 - 03/16/07	< 28	< 28	< 28	< 28	< 15	< 20	< 19	< 11
03/16/07 - 03/23/07	< 49	< 49	< 49	< 49	< 28	< 57	< 55	< 55
03/23/07 - 03/30/07	< 54	< 55	< 55	< 55	< 30	< 50	< 48	< 48
03/30/07 - 04/06/07	< 31	< 31	< 31	< 31	< 29	< 33	< 33	< 33
04/06/07 - 04/13/07	< 31	< 31	< 31	< 31	< 26	< 36	< 35	< 26
04/13/07 - 04/20/07	< 50	< 50	< 49	< 50	< 33	< 58	< 57	< 57
04/20/07 - 04/27/07	< 35	< 53	< 52	< 52	< 53	< 47	< 45	< 45
04/27/07 - 05/04/07	< 61	< 61	< 61	< 61	< 34	< 61	< 60	< 60
05/04/07 - 05/11/07	< 26	< 27	< 27	< 26	< 17	< 36	< 38	< 38
05/11/07 - 05/18/07	< 49	< 49	< 49	< 49	< 31	< 48	< 45	< 45
05/18/07 - 05/25/07	< 39	< 39	< 39	< 39	< 32	< 35	< 34	< 34
05/25/07 - 06/01/07	< 45	< 45	< 45	< 45	< 25	< 17	< 16	< 16
06/01/07 - 06/08/07	< 29	< 29	< 29	< 29	< 18	< 28	< 28	< 28
06/08/07 - 06/15/07	< 22	< 22	< 22	< 21	< 14	< 18	< 18	< 17
06/15/07 - 06/22/07	< 25	< 25	< 25	< 17	< 25	< 33	< 32	< 32
06/22/07 - 06/29/07	< 33	< 34	< 34	< 33	< 27	< 50	< 34	< 34
06/29/07 - 07/06/07	< 16	< 16	< 16	< 16	< 10	< 21	< 20	< 20
07/06/07 - 07/13/07	< 39	< 39	< 39	< 39	< 24	< 49	< 47	< 47
07/13/07 - 07/20/07	< 21	< 21	< 21	< 21	< 22	< 19	< 18	< 11
07/20/07 - 07/27/07	< 42	< 42	< 42	< 42	< 28	< 43	< 41	< 41
07/27/07 - 08/03/07	< 58	< 58	< 58	< 58	< 47	< 65	< 64	< 64
08/03/07 - 08/10/07	< 17	< 31	< 31	< 31	< 31	< 41	< 45	< 44
08/10/07 - 08/17/07	< 38	< 69	< 69	< 69	< 69	< 70	< 44	< 44
08/17/07 - 08/24/07	< 36	< 66	< 65	< 67	< 69	< 66	< 65	< 65
08/24/07 - 08/31/07	< 41	< 66	< 66	< 68	< 69	< 26	< 38	< 38
08/31/07 - 09/07/07	< 29	< 48	< 48	< 48	< 52	< 67	< 54	< 54
09/07/07 - 09/14/07	< 48	< 48	< 48	< 46	< 53	< 52	< 54	< 54
09/14/07 - 09/21/07	< 23	< 34	< 34	< 34	< 32	< 41	< 46	< 46
09/21/07 - 09/28/07	< 30	< 40	< 40	< 41	< 40	< 51	< 48	< 48
09/28/07 - 10/05/07	< 29	< 53	< 53	< 49	< 54	< 52	< 49	< 49
10/05/07 - 10/12/07	< 66	< 67	< 67	< 66	< 47	< 61	< 61	< 60
10/12/07 - 10/19/07	< 39	< 22	< 40	< 39	< 40	< 40	< 36	< 36
10/19/07 - 10/26/07	< 53	< 50	< 52	< 51	< 10	< 18	< 20	< 20
10/26/07 - 11/02/07	< 54	< 56	< 23	< 54	< 52	< 67	< 66	< 66
11/02/07 - 11/09/07	< 36	< 65	< 65	< 65	< 69	< 57	< 64	< 64
11/09/07 - 11/16/07	< 51	< 51	< 51	< 28	< 52	< 46	< 51	< 51
11/16/07 - 11/23/07	< 37	< 67	< 67	< 67	< 67	< 68	< 56	< 55
11/23/07 - 11/30/07	< 30	< 30	< 30	< 30	< 19	< 29	< 28	< 28
11/30/07 - 12/07/07	< 35	< 53	< 53	< 53	< 53	< 46	< 60	< 60
12/07/07 - 12/14/07	< 15	< 28	< 28	< 27	< 28	< 35	< 28	< 28
12/14/07 - 12/21/07	< 36	< 36	< 36	< 36	< 23	< 48	< 47	< 47
12/21/07 - 12/28/07	< 31	< 56	< 56	< 56	< 56	< 59	< 58	< 58
MEAN	-	-	-	-	-	-	-	-

TABLE C-VI.1 **CONCENTRATIONS OF I-131 IN AIR IODINE SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007**

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

COLLECTION PERIOD	GROUP III					GROUP IV
	D-08	D-10	D-13	D-14	D-55	D-12
12/30/06 - 01/05/07	< 31	< 31	< 27	< 20	< 11	< 27
01/05/07 - 01/12/07	< 33	< 49	< 49	< 49	< 33	< 49
01/12/07 - 01/19/07	< 49	< 49	< 31	< 32	< 20	< 49
01/19/07 - 01/26/07	< 24	< 43	< 44	< 44	< 47	< 44
01/26/07 - 02/02/07	< 27	< 44	< 44	< 44	< 40	< 43
02/02/07 - 02/09/07	< 33	< 33	< 33	< 18	< 28	< 32
02/09/07 - 02/16/07	< 52	< 52	< 52	< 29	< 51	< 50
02/16/07 - 02/24/07	< 36	< 36	< 36	< 62	< 25	< 36
02/24/07 - 03/02/07	< 33	< 33	< 33	< 33	< 44	< 33
03/02/07 - 03/09/07	< 47	< 47	< 62	< 60	< 52	< 37
03/09/07 - 03/16/07	< 15	< 15	< 10	< 20	< 19	< 15
03/16/07 - 03/23/07	< 44	< 44	< 44	< 35	< 57	< 44
03/23/07 - 03/30/07	< 57	< 57	< 59	< 39	< 50	< 59
03/30/07 - 04/06/07	< 27	< 29	< 29	< 18	< 33	< 29
04/06/07 - 04/13/07	< 26	< 26	< 21	< 36	< 39	< 26
04/13/07 - 04/20/07	< 61	< 33	< 63	< 61	< 60	< 61
04/20/07 - 04/27/07	< 32	< 60	< 58	< 60	< 47	< 58
04/27/07 - 05/04/07	< 58	< 58	< 59	< 35	< 60	< 58
05/04/07 - 05/11/07	< 31	< 31	< 30	< 30	< 36	< 18
05/11/07 - 05/18/07	< 45	< 46	< 47	< 29	< 48	< 46
05/18/07 - 05/25/07	< 36	< 36	< 37	< 20	< 35	< 36
05/25/07 - 06/01/07	< 46	< 46	< 46	< 35	< 16	< 46
06/01/07 - 06/08/07	< 29	< 29	< 29	< 18	< 28	< 29
06/08/07 - 06/15/07	< 22	< 22	< 22	< 13	< 19	< 22
06/15/07 - 06/22/07	< 63	< 29	< 30	< 16	< 33	< 30
06/22/07 - 06/29/07	< 60	< 27	< 50	< 22	< 35	< 28
06/29/07 - 07/06/07	< 30	< 30	(1)	< 30	< 21	< 30
07/06/07 - 07/13/07	< 39	< 39		< 42	< 49	< 39
07/13/07 - 07/20/07	< 22	< 22		< 18	< 19	< 22
07/20/07 - 07/27/07	< 43	< 43		< 42	< 42	< 44
07/27/07 - 08/03/07	< 46	< 46		< 45	< 65	< 46
08/03/07 - 08/10/07	< 22	< 40		< 40	< 45	< 41
08/10/07 - 08/17/07	< 55	< 69		< 70	< 44	< 70
08/17/07 - 08/24/07	< 61	< 65		< 66	< 66	< 60
08/24/07 - 08/31/07	< 27	< 16		< 70	< 39	< 25
08/31/07 - 09/07/07	< 34	< 65		< 66	< 59	< 67
09/07/07 - 09/14/07	< 53	< 53		< 53	< 54	< 29
09/14/07 - 09/21/07	< 22	< 41		< 41	< 46	< 41
09/21/07 - 09/28/07	< 49	< 49		< 50	< 50	< 49
09/28/07 - 10/05/07	< 41	< 52		< 52	< 50	< 52
10/05/07 - 10/12/07	< 55	< 57		< 53	< 61	< 57
10/12/07 - 10/19/07	< 21	< 39		< 42	< 37	< 39
10/19/07 - 10/26/07	< 9	< 10		< 10	< 19	< 9
10/26/07 - 11/02/07	< 49	< 49		< 49	< 62	< 49
11/02/07 - 11/09/07	< 43	< 54		< 57	< 69	< 54
11/09/07 - 11/16/07	< 37	< 47		< 50	< 53	< 47
11/16/07 - 11/23/07	< 37	< 68		< 68	< 56	< 68
11/23/07 - 11/30/07	< 15	< 15		< 29	< 29	< 29
11/30/07 - 12/07/07	< 25	< 45		< 46	< 62	< 46
12/07/07 - 12/14/07	< 19	< 35		< 35	< 28	< 35
12/14/07 - 12/21/07	< 38	< 38		< 38	< 48	< 38
12/21/07 - 12/28/07	< 50	< 50		< 52	< 58	< 50
MEAN	-	-	-	-	-	-

(1) SEE PROGRAM CHANGES SECTION FOR EXPLANATION

TABLE C-VII.1 **CONCENTRATIONS OF I-131 IN MILK SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	CONTROL FARM D-25
01/04/07	< 0.8
02/01/07	< 0.4
03/01/07	< 0.6
04/05/07	< 0.7
05/04/07	< 0.6
05/18/07	< 0.5
06/01/07	< 0.6
06/15/07	< 0.6
06/29/07	< 0.7
07/13/07	< 0.6
07/27/07	< 0.5
08/08/07	< 0.5
08/24/07	< 0.8
09/06/07	< 0.5
09/21/07	< 0.4
10/05/07	< 0.7
10/19/07	< 0.7
11/01/07	< 0.9
12/06/07	< 0.7
MEAN	-

TABLE C-VII.2 **CONCENTRATIONS OF GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
D-25	01/04/07	< 7	< 7	< 16	< 9	< 17	< 7	< 11	< 6	< 6	< 29	< 12
	02/01/07	< 6	< 10	< 18	< 8	< 21	< 8	< 15	< 7	< 8	< 39	< 15
	03/01/07	< 5	< 5	< 13	< 5	< 13	< 5	< 8	< 4	< 6	< 23	< 7
	04/05/07	< 5	< 5	< 13	< 6	< 12	< 5	< 9	< 5	< 5	< 29	< 10
	05/04/07	< 4	< 5	< 11	< 5	< 10	< 5	< 8	< 4	< 5	< 31	< 7
	05/18/07	< 5	< 5	< 11	< 5	< 11	< 5	< 8	< 4	< 5	< 23	< 6
	06/01/07	< 5	< 6	< 14	< 5	< 11	< 6	< 9	< 5	< 5	< 40	< 12
	06/15/07	< 4	< 5	< 12	< 4	< 12	< 5	< 9	< 4	< 4	< 44	< 13
	06/29/07	< 5	< 3	< 12	< 5	< 10	< 5	< 9	< 3	< 4	< 35	< 13
	07/13/07	< 6	< 6	< 15	< 7	< 14	< 7	< 11	< 5	< 6	< 38	< 9
	07/27/07	< 6	< 5	< 16	< 6	< 14	< 7	< 12	< 5	< 6	< 38	< 13
	08/08/07	< 6	< 6	< 13	< 7	< 13	< 7	< 11	< 5	< 6	< 35	< 12
	08/24/07	< 4	< 4	< 11	< 3	< 9	< 5	< 9	< 4	< 3	< 37	< 14
	09/06/07	< 8	< 9	< 22	< 9	< 19	< 7	< 14	< 7	< 7	< 43	< 15
	09/21/07	< 4	< 5	< 11	< 5	< 12	< 5	< 9	< 4	< 5	< 27	< 7
	10/05/07	< 7	< 8	< 17	< 8	< 16	< 7	< 10	< 7	< 8	< 45	< 13
	10/19/07	< 2	< 2	< 6	< 2	< 5	< 2	< 4	< 2	< 2	< 18	< 6
	11/01/07	< 7	< 7	< 19	< 8	< 17	< 8	< 11	< 6	< 6	< 44	< 14
	12/06/07	< 6	< 8	< 19	< 6	< 17	< 8	< 14	< 6	< 7	< 54	< 13
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE C-VIII.1 **CONCENTRATIONS OF GAMMA EMITTERS IN VEGETATION SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007**

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
CONTROL													
Cabbage	09/07/07	< 10	< 9	< 25	< 10	< 21	< 11	< 15	< 22	< 9	< 9	< 48	< 14
Potatoes	09/07/07	< 20	< 18	< 49	< 24	< 49	< 20	< 23	< 59	< 18	< 24	< 147	< 53
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
D-QUAD 1													
Cabbage	08/31/07	< 8	< 9	< 25	< 9	< 22	< 10	< 18	< 55	< 7	< 9	< 98	< 25
Onions	08/31/07	< 5	< 7	< 19	< 6	< 13	< 8	< 12	< 21	< 5	< 6	< 134	< 46
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
D-QUAD 2													
Beets	08/31/07	< 4	< 6	< 15	< 6	< 12	< 6	< 10	< 34	< 4	< 5	< 53	< 15
Cabbage	08/31/07	< 4	< 4	< 12	< 4	< 9	< 4	< 8	< 23	< 3	< 4	< 41	< 14
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
D-QUAD 3													
Cabbage	08/31/07	< 9	< 9	< 24	< 8	< 22	< 11	< 17	< 59	< 7	< 9	< 87	< 16
Onions	08/31/07	< 5	< 6	< 15	< 5	< 12	< 6	< 11	< 38	< 5	< 5	< 63	< 19
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
D-QUAD 4													
Beets	08/31/07	< 5	< 5	< 15	< 5	< 12	< 6	< 10	< 33	< 4	< 5	< 54	< 17
Broccoli	08/31/07	< 3	< 4	< 10	< 3	< 8	< 4	< 6	< 22	< 3	< 3	< 36	< 8
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

TABLE C-IX.1 QUARTERLY TLD RESULTS FOR DRESDEN NUCLEAR POWER STATION, 2007

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

STATION CODE	MEAN ±- 2 S.D.	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC
D-01-1	23.5 ± 6.0	21	21	25	27
D-01-2	22.5 ± 5.0	22	22	20	26
D-02-1	23.3 ± 7.9	22	22	20	29
D-02-2	23.8 ± 4.4	23	23	22	27
D-03-1	21.0 ± 4.3	19	20	21	24
D-03-2	19.5 ± 7.4	18	18	17	25
D-04-1	24.0 ± 7.8	22	25	20	29
D-04-2	24.8 ± 3.8	22	25	26	26
D-07-1	21.5 ± 6.6	21	21	18	26
D-07-2	23.0 ± 4.9	21	21	24	26
D-08-1	23.0 ± 4.3	23	21	22	26
D-08-2	23.0 ± 6.7	21	22	21	28
D-10-1	23.8 ± 5.7	24	24	20	27
D-10-2	22.5 ± 6.2	21	24	19	26
D-12-1	21.0 ± 5.9	21	20	18	25
D-12-2	19.8 ± 4.7	18	20	18	23
D-13-1	19.5 ± 1.4	19	20	(1)	(1)
D-13-2	19.0 ± 0.0	19	19	(1)	(1)
D-14-1	20.0 ± 4.9	20	20	17	23
D-14-2	19.5 ± 5.3	18	20	17	23
D-45-1	24.8 ± 8.7	24	23	21	31
D-45-2	24.0 ± 8.2	22	23	21	30
D-53-1	18.8 ± 5.7	17	18	17	23
D-53-2	18.8 ± 7.2	18	17	16	24
D-55-1	24.3 ± 3.0	25	23	23	26
D-55-2	24.3 ± 6.8	23	24	21	29
D-56-1	19.5 ± 7.4	18	18	17	25
D-56-2	19.8 ± 3.4	20	19	18	22
D-101-1	23.8 ± 8.2	21	25	20	29
D-101-2	22.3 ± 7.9	21	21	19	28
D-102-1	24.8 ± 7.2	23	24	22	30
D-102-2	23.8 ± 5.7	23	22	22	28
D-103-1	22.3 ± 4.4	21	23	20	25
D-103-2	23.0 ± 4.0	21	23	(2)	25
D-104-1	26.0 ± 3.7	25	24	27	28
D-104-2	21.8 ± 6.0	21	21	19	26
D-105-1	22.5 ± 5.8	20	25	20	25
D-105-2	23.3 ± 7.7	27	21	19	26
D-106-1	20.3 ± 6.6	18	20	18	25
D-106-2	20.8 ± 5.5	19	22	18	24
D-107-1	20.0 ± 5.4	19	19	18	24
D-107-2	20.3 ± 4.4	19	21	18	23
D-108-1	25.0 ± 8.2	22	23	24	31
D-108-2	21.5 ± 6.2	19	20	21	26
D-109-1	24.5 ± 3.8	25	23	23	27
D-109-2	24.0 ± 6.9	21	21	27	27

(1) SEE PROGRAM CHANGES SECTION FOR EXPLANATION
(2) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-IX.1 QUARTERLY TLD RESULTS FOR DRESDEN NUCLEAR POWER STATION, 2007

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

STATION CODE	MEAN ±-2 S.D.	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC
D-110-3	26.5 ± 4.8	25	28	24	29
D-110-4	25.5 ± 6.2	24	25	23	30
D-111-1	25.3 ± 6.4	24	24	23	30
D-111-2	22.0 ± 6.7	21	20	20	27
D-112A-1	21.8 ± 4.4	20	21	21	25
D-112A-2	20.5 ± 5.0	20	18	20	24
D-113-1	20.3 ± 5.3	19	18	20	24
D-113-2	21.0 ± 6.7	19	19	20	26
D-114-1	20.8 ± 6.2	21	18	19	25
D-114-2	20.5 ± 4.8	20	19	19	24
D-115-1	23.0 ± 4.3	21	22	23	26
D-115-2	22.8 ± 5.7	21	21	22	27
D-116-1	25.3 ± 7.5	26	24	21	30
D-116-2	23.3 ± 6.6	23	21	21	28
D-201-1	25.8 ± 3.4	25	26	24	28
D-201-2	25.5 ± 6.2	25	23	24	30
D-202-1	23.0 ± 7.7	24	20	20	28
D-202-2	22.5 ± 6.0	21	19	25	25
D-203-1	21.0 ± 5.4	20	20	19	25
D-203-2	20.0 ± 5.4	19	18	19	24
D-204-1	21.3 ± 3.8	21	20	20	24
D-204-2	20.3 ± 6.6	20	18	18	25
D-205-1	23.0 ± 6.3	21	24	20	27
D-205-2	22.0 ± 8.2	21	19	20	28
D-206-1	20.8 ± 5.7	20	19	19	25
D-206-2	23.8 ± 9.0	21	24	20	30
D-207-1	21.3 ± 3.0	22	22	19	22
D-207-2	21.5 ± 6.2	19	21	20	26
D-208-1	18.8 ± 6.2	19	16	17	23
D-208-2	19.3 ± 5.3	18	19	17	23
D-209-1	19.0 ± 5.9	19	16	18	23
D-209-2	18.8 ± 5.7	17	17	18	23
D-210-1	22.0 ± 5.4	20	21	21	26
D-210-2	21.8 ± 7.2	21	19	20	27
D-211-1	23.3 ± 5.3	21	23	22	27
D-211-2	23.3 ± 6.8	23	22	20	28
D-212-3	19.3 ± 3.8	19	18	18	22
D-212-4	20.5 ± 5.3	21	19	18	24
D-213-1	20.0 ± 5.9	19	20	17	24
D-213-2	18.8 ± 5.7	17	17	18	23
D-214-1	25.0 ± 6.7	23	24	23	30
D-214-2	25.3 ± 5.7	25	25	22	29
D-215-1	26.3 ± 6.4	24	25	25	31
D-215-2	25.0 ± 8.5	27	22	21	30
D-216-1	22.3 ± 6.6	22	20	20	27
D-216-2	24.0 ± 6.9	23	23	21	29

TABLE C-IX.2 MEAN QUARTERLY TLD RESULTS FOR THE INNER RING, OUTER RING, OTHER AND CONTROL LOCATIONS FOR DRESDEN NUCLEAR POWER STATION, 2007

RESULTS IN UNITS OF MILLI-ROENTGEN/QUARTER ± 2 STANDARD DEVIATIONS OF THE STATION DATA

COLLECTION PERIOD	INNER RING ± 2 S.D.	OUTER RING	OTHER	CONTROL
JAN-MAR	21.5 ± 4.7	21.2 ± 4.9	20.9 ± 4.3	19.5 ± 4.2
APR-JUN	21.8 ± 4.8	20.6 ± 5.5	21.3 ± 4.6	20.0 ± 0.0
JUL-SEP	21.0 ± 4.8	20.1 ± 4.5	20.1 ± 5.4	18.0 ± 0.0
OCT-DEC	26.6 ± 4.4	26.1 ± 5.4	26.2 ± 4.7	24.0 ± 2.8

TABLE C-IX.3 SUMMARY OF THE AMBIENT DOSIMETRY PROGRAM FOR DRESDEN NUCLEAR POWER STATION, 2007

RESULTS IN UNITS OF MILLI-ROENTGEN/QUARTER

LOCATION	SAMPLES ANALYZED	PERIOD MINIMUM	PERIOD MAXIMUM	PERIOD MEAN ± 2 S.D.
INNER RING	127	18	31	22.7 ± 6.5
OUTER RING	128	16	31	22.0 ± 7.0
OTHER	100	16	31	22.1 ± 6.6
CONTROL	8	18	25	20.4 ± 5.1

INNER RING STATIONS - D-101-1, D-101-2, D-102-1, D-102-2, D-103-1, D-103-2, D-104-1, D-104-2, D-105-1, D-105-2, D-106-1, D-106-2, D-107-1, D-107-2, D-108-1, D-108-2, D-109-1, D-109-2, D-110-3, D-110-4, D-111-1, D-111-2, D-112A-1, D-112A-2, D-113-1, D-113-2, D-114-1, D-114-2, D-115-1, D-115-2, D-116-1, D-116-2

OUTER RING STATIONS - D-201-1, D-201-2, D-202-1, D-202-2, D-203-1, D-203-2, D-204-1, D-204-2, D-205-1, D-205-2, D-206-1, D-206-2, D-207-1, D-207-2, D-208-1, D-208-2, D-209-1, D-209-2, D-210-1, D-210-2, D-211-1, D-211-2, D-212-3, D-212-4, D-213-1, D-213-2, D-214-1, D-214-2, D-215-1, D-215-2, D-216-1, D-216-2

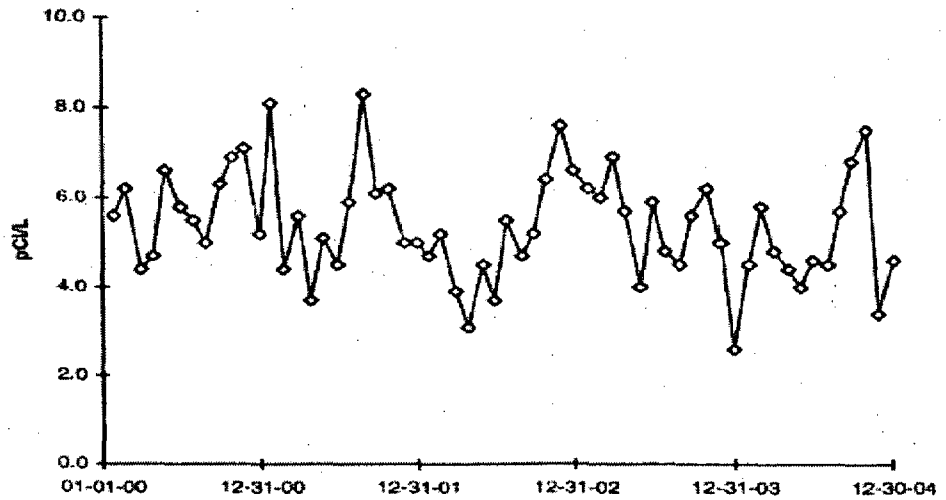
OTHER STATIONS - D-01-1, D-01-2, D-02-1, D-02-2, D-03-1, D-03-2, D-04-1, D-04-2, D-07-1, D-07-2, D-08-1, D-08-2, D-10-1, D-10-2, D-13-1, D-13-2, D-14-1, D-14-2, D-45-1, D-45-2, D-53-1, D-53-2, D-55-1, D-55-2, D-56-1, D-56-2

CONTROL STATIONS - D-12-1, D-12-2

Intentionally left blank

FIGURE C-1
SURFACE WATER - GROSS BETA - STATIONS D-51 and D-52 (C) COLLECTED IN THE VICINITY OF DNPS, 2000 - 2004

D-51 Dresden Lock & Dam



D-52 (C) DesPlaines River

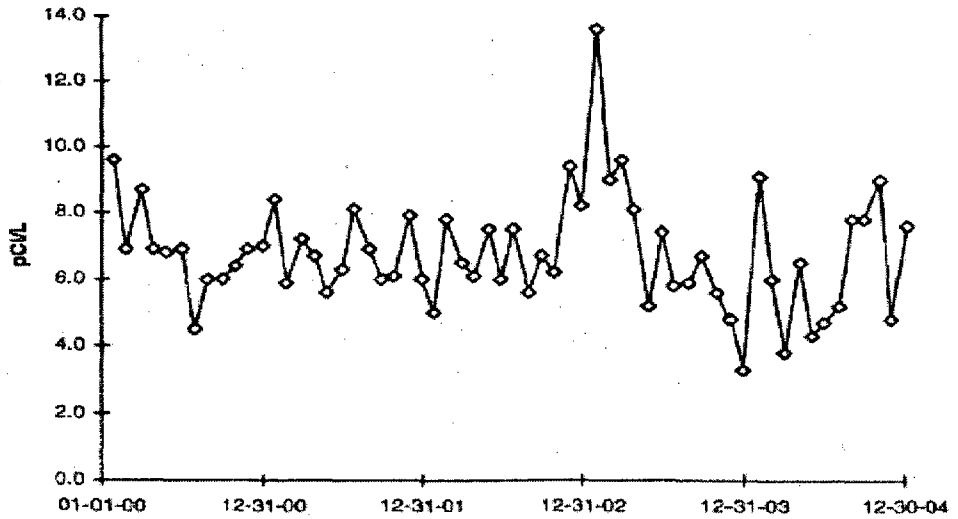
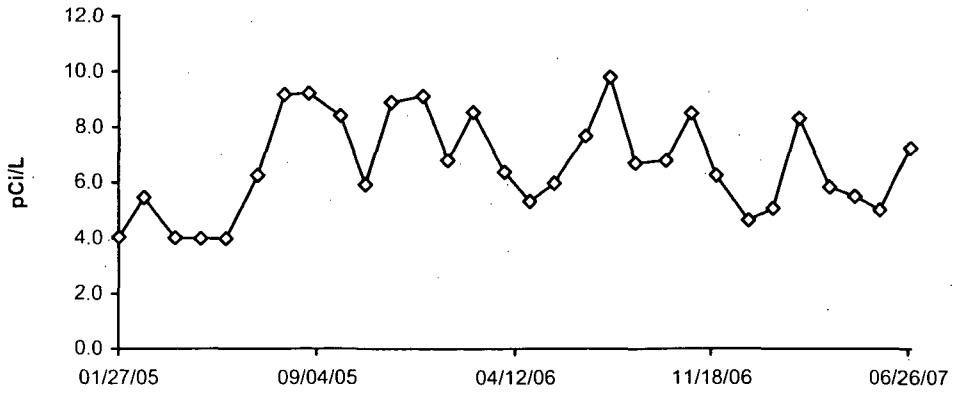
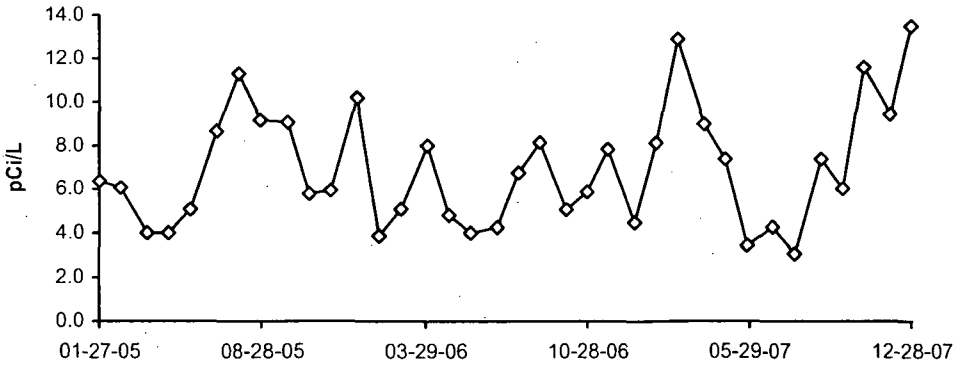


FIGURE C-1 (cont.)
SURFACE WATER - GROSS BETA - STATIONS D-51 and D-52 (C) COLLECTED IN THE VICINITY OF DNPS, 2005 - 2007

D-51 Dresden Lock & Dam



D-52 (C) DesPlaines River



DUE TO VENDOR CHANGE IN 2005, < VALUES ARE LLD VALUES JANUARY THROUGH JUNE 2005 AND MDC VALUES AFTER JULY 2005

D-51 LOCATION REMOVED FROM PROGRAM JUNE 29, 2007 AND REPLACED WITH D-21

FIGURE C-2
SURFACE WATER - GROSS BETA - STATION D-54 (C)
COLLECTED IN THE VICINITY OF DNPS, 2000 - 2004

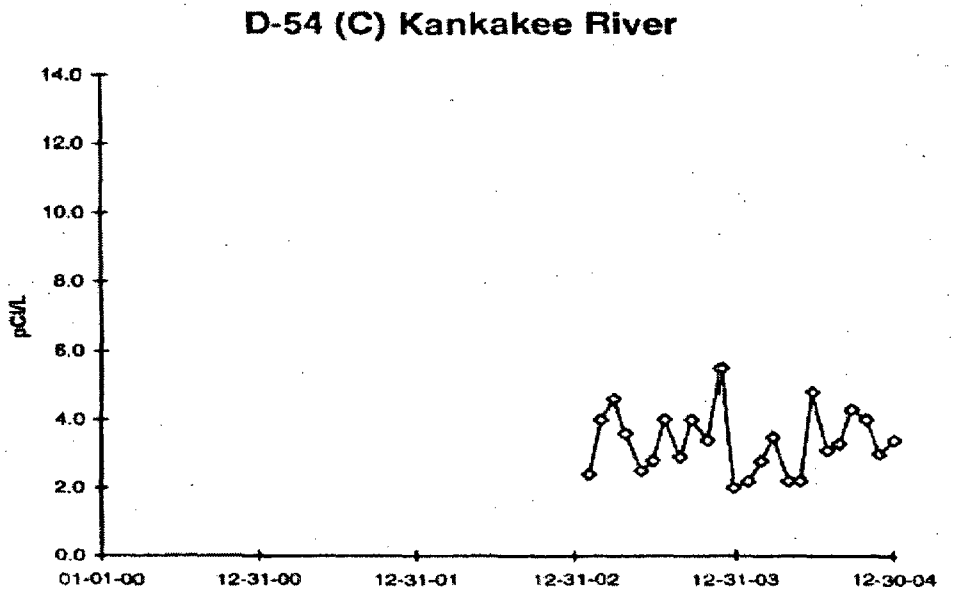
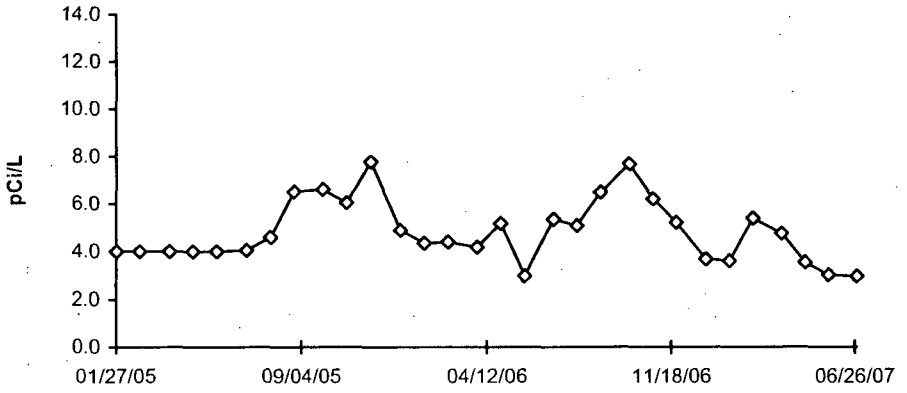
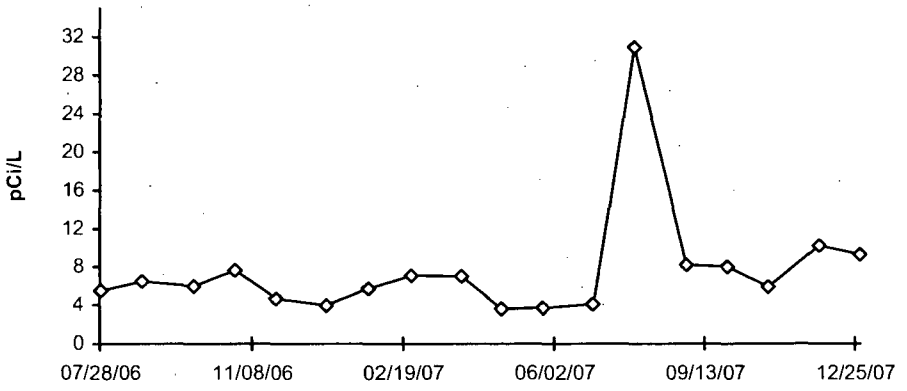


FIGURE C-2 (cont.)
SURFACE WATER - GROSS BETA - STATION D-54 (C) and D-57 (C) COLLECTED IN THE VICINITY OF DNPS, 2005 - 2007

D-54 (C) Kankakee River



D-57 (C) Kankakee River

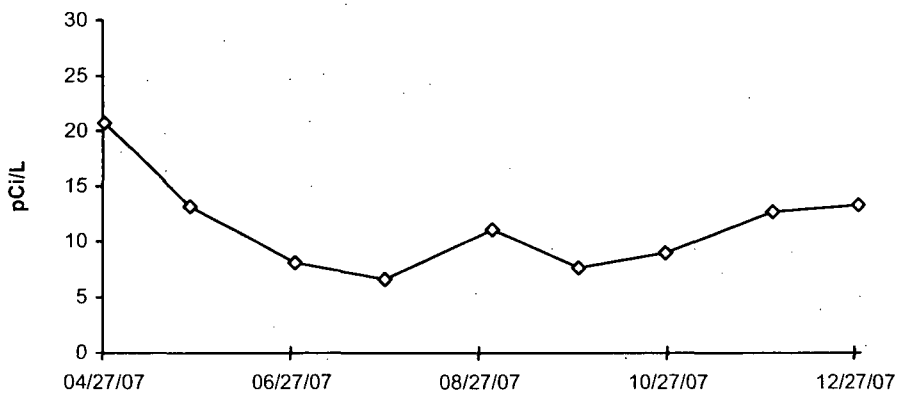


DUE TO VENDOR CHANGE IN 2005, < VALUES ARE LLD VALUES JANUARY THROUGH JUNE 2005 AND MDC VALUES AFTER JULY 2005

D-54 LOCATION REMOVED FROM PROGRAM JUNE 28, 2007 AND REPLACED WITH D-57

FIGURE C-3
SURFACE WATER - GROSS BETA - STATION D-21
COLLECTED IN THE VICINITY OF DNPS, 2007

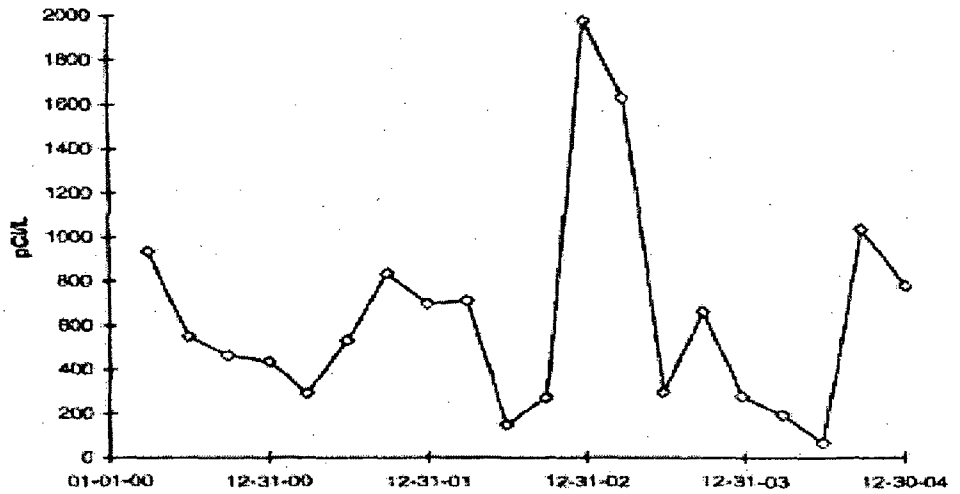
D-21 Illinois River



D-21 PLACED INTO SERVICE ON MARCH 30, 2007, REPLACED D-51

FIGURE C-4
SURFACE WATER - TRITIUM - STATIONS D-51 and D-52 (C) COLLECTED IN THE VICINITY OF DNPS, 2000 - 2004

D-51 Dresden Lock & Dam



D-52 (C) Des Plaines River

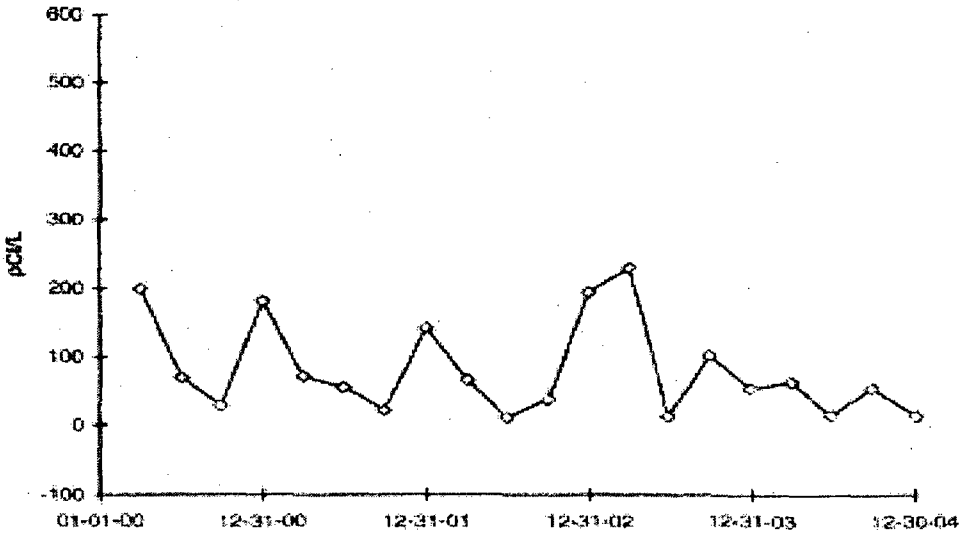
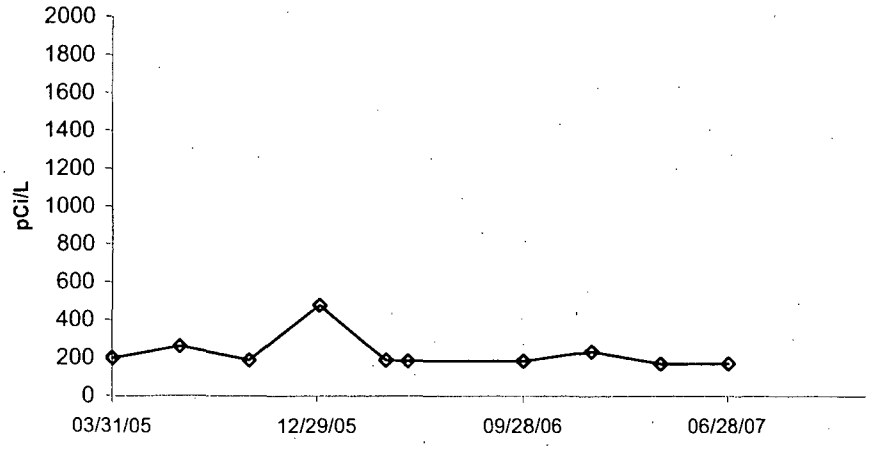
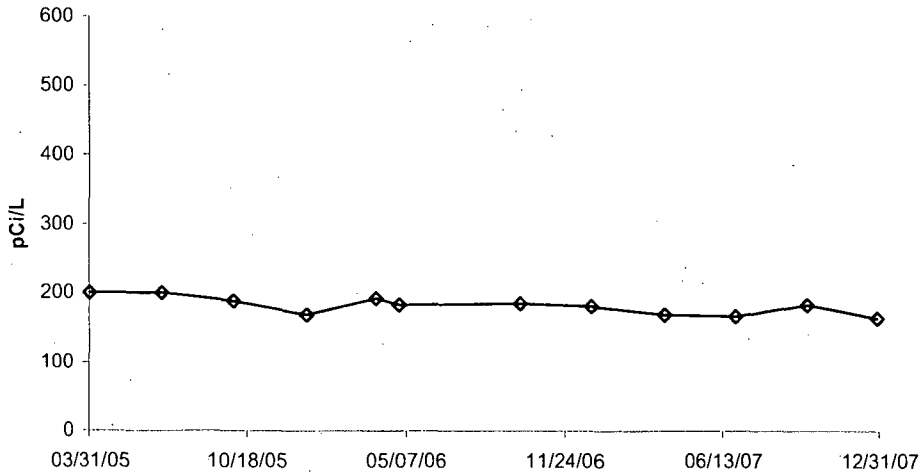


FIGURE C-4 (cont.)
SURFACE WATER - TRITIUM - STATIONS D-51 and D-52 (C) COLLECTED IN THE VICINITY OF DNPS, 2005 - 2007

D-51 Dresden Lock & Dam



D-52 (C) Des Plaines River



DUE TO VENDOR CHANGE IN 2005, < VALUES ARE LLD VALUES JANUARY THROUGH JUNE 2005 AND MDC VALUES AFTER JULY 2005

D-51 LOCATION REMOVED FROM PROGRAM JUNE 29, 2007 AND REPLACED WITH D-21

FIGURE C-5
SURFACE WATER - TRITIUM - STATION D-54 (C)
COLLECTED IN THE VICINITY OF DNPS, 2002 - 2004

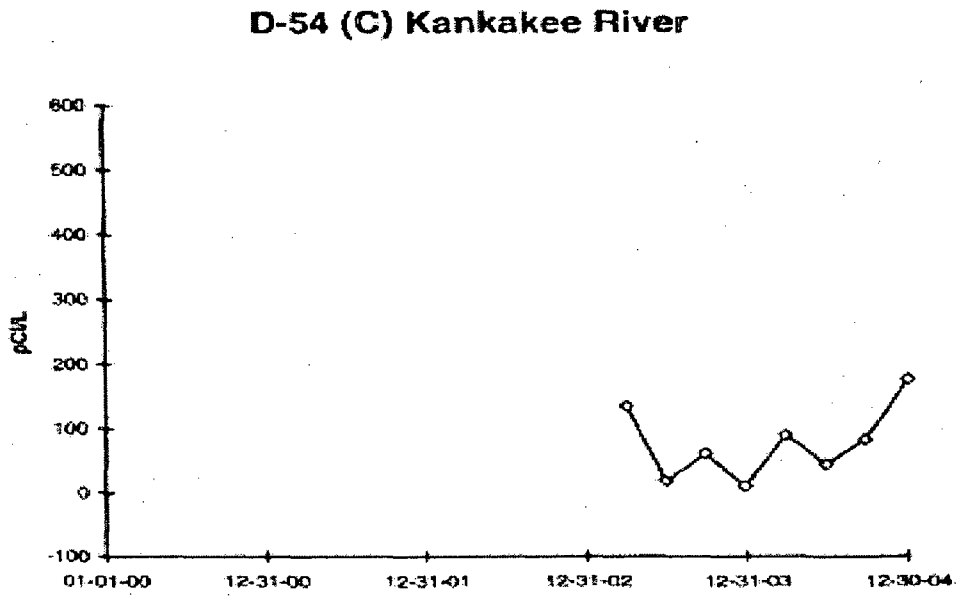
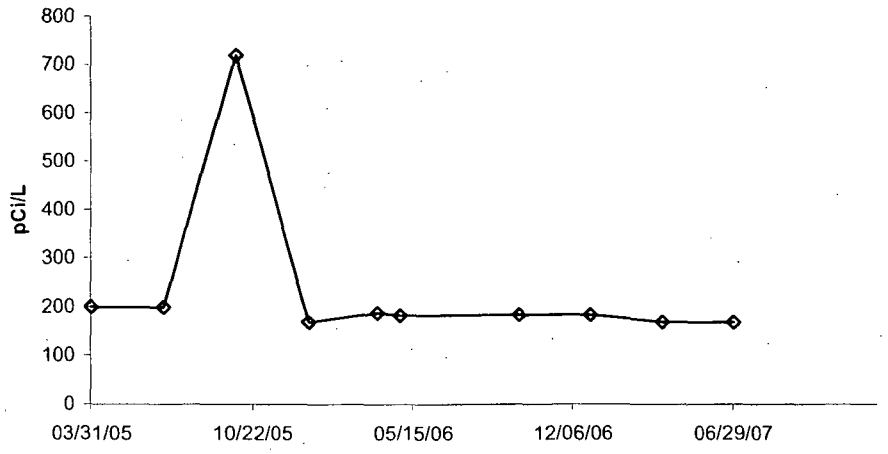


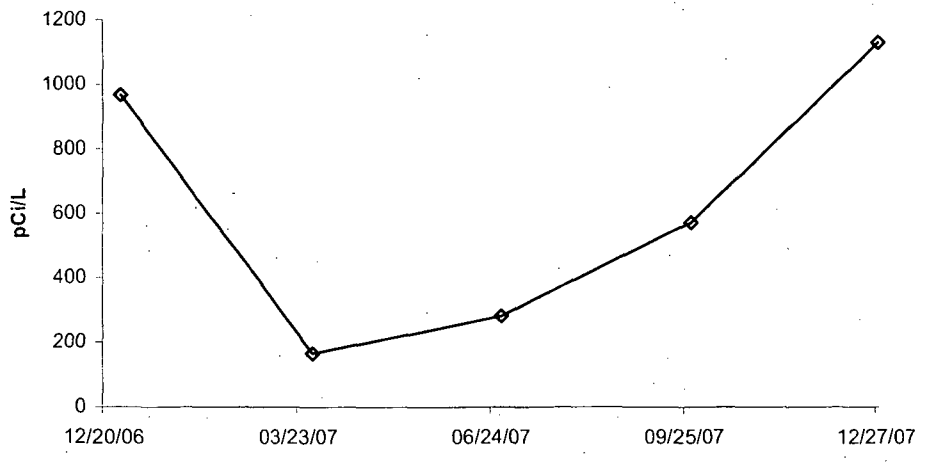
FIGURE C-5 (cont.)
SURFACE WATER - TRITIUM - STATION D-54 (C) AND D-57 (C) COLLECTED IN THE VICINITY OF DNPS, 2005 - 2007

D-54 (C) Kankakee River



Location shared with Braidwood Station (BD-10).

D-57 (C) Kankakee River

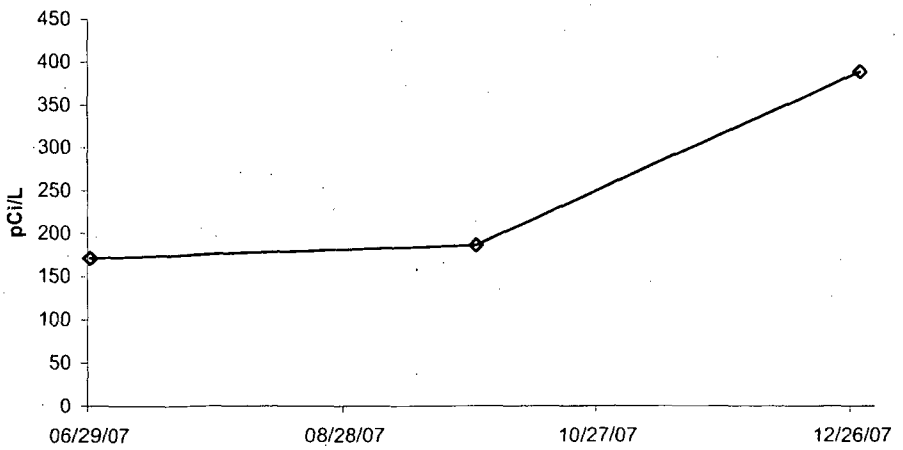


DUE TO VENDOR CHANGE IN 2005, < VALUES ARE LLD VALUES JANUARY THROUGH JUNE 2005 AND MDC VALUES AFTER JULY 2005

D-57 NEW STATION JULY 24, 2006. REPLACED D-54 ON JUNE 28, 2007

FIGURE C-6
SURFACE WATER - TRITIUM - STATION D-21
COLLECTED IN THE VICINITY OF DNPS, 2007

D-21 Illinois River



D-21 REPLACED D-51JUNE 29, 2007

FIGURE C-7
GROUND WATER - TRITIUM - STATIONS D-23 and D-35 COLLECTED IN THE VICINITY OF DNPS, 2000 - 2004

D-23 Thorsen

D-35 Dresden Lock and Dam

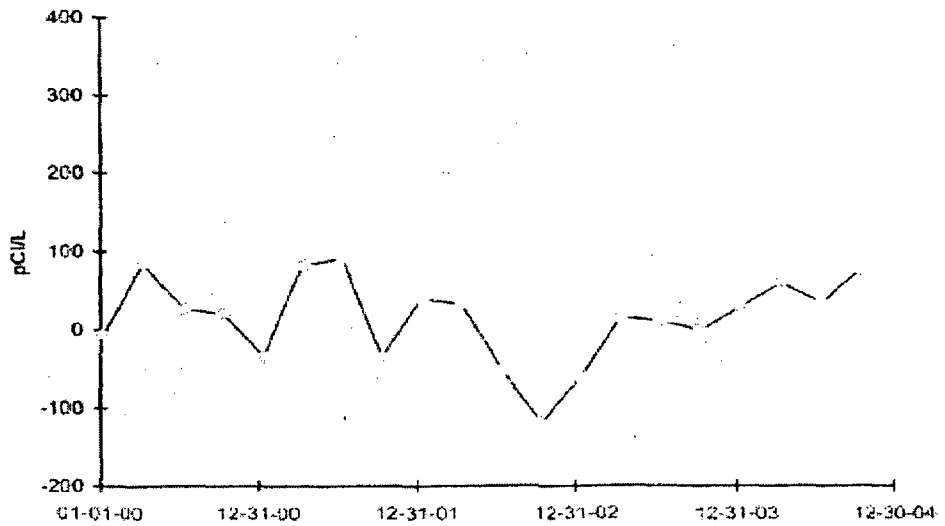
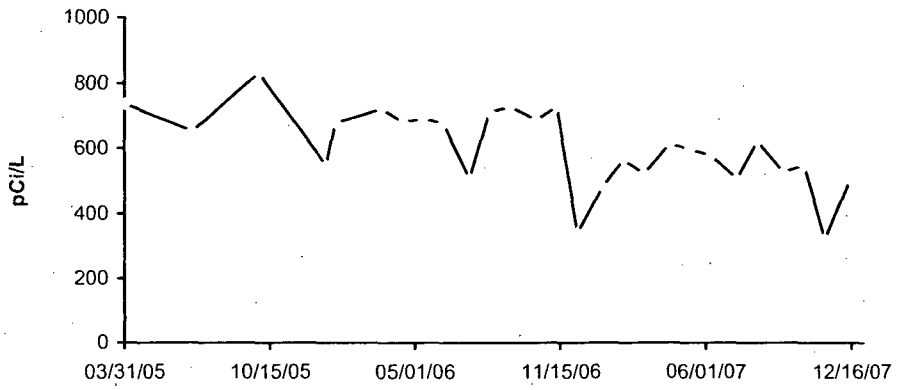
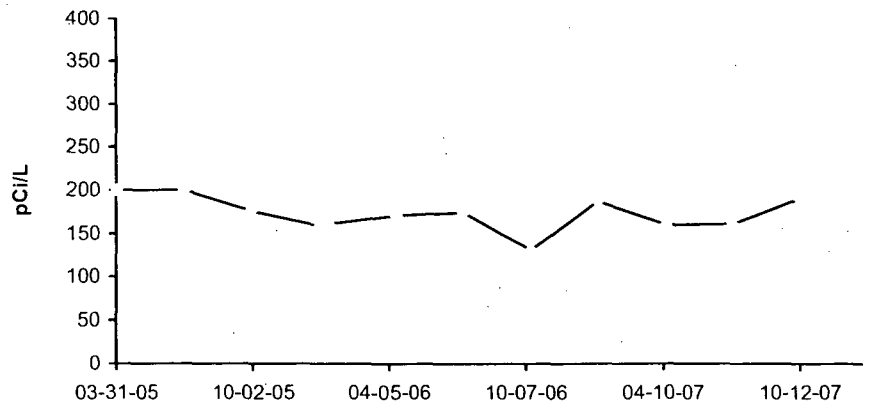


FIGURE C-7 (cont.)
GROUND WATER - TRITIUM - STATIONS D-23 and D-35 COLLECTED IN THE VICINITY OF DNPS, 2005 - 2007

D-23 Thorsen



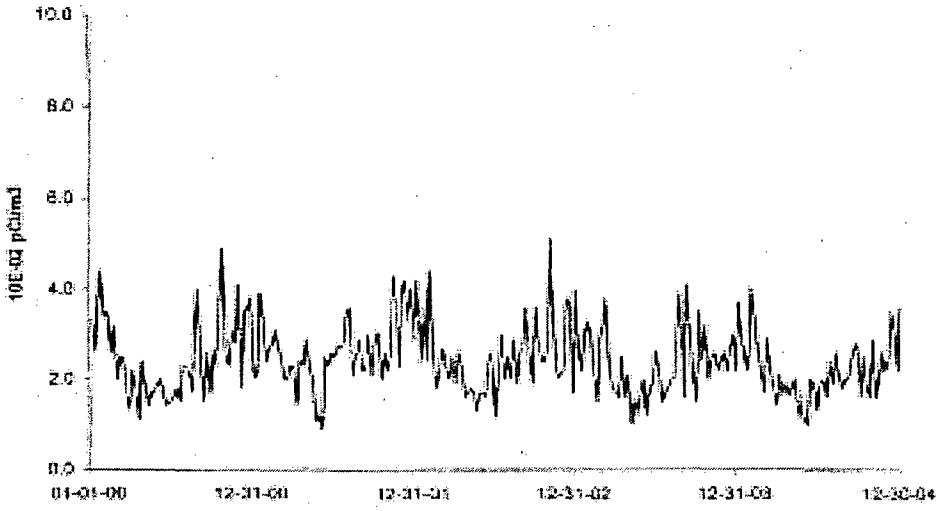
D-35 Dresden Lock and Dam



DUE TO VENDOR CHANGE IN 2005, < VALUES ARE LLD VALUES JANUARY THROUGH JUNE 2005 AND MDC VALUES AFTER JULY 2005

FIGURE C-8
AIR PARTICULATES - GROSS BETA - STATIONS D-01 and D-02 COLLECTED IN THE VICINITY OF DNPS, 2000 - 2004

D-01 Onsite Station 1



D-02 Onsite Station 2

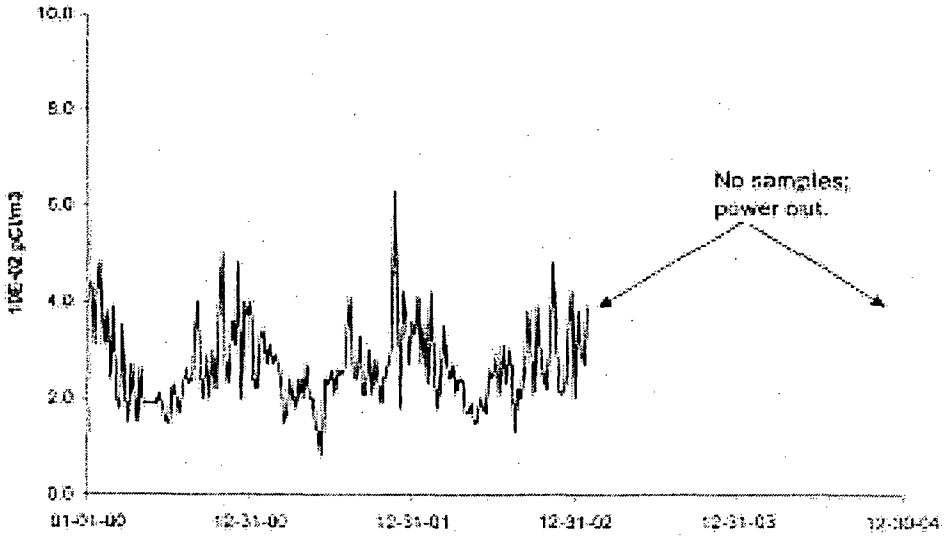
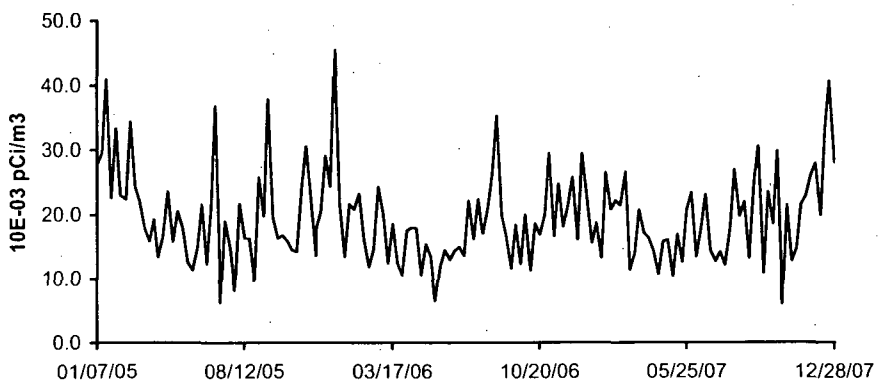
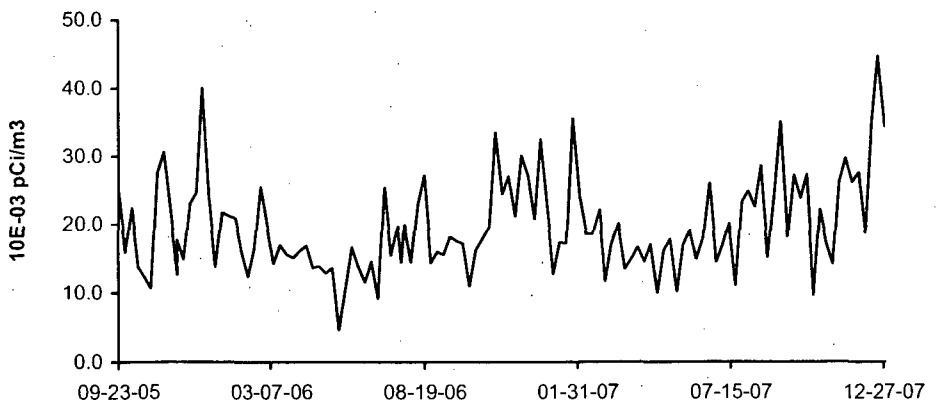


FIGURE C-8 (cont.)
AIR PARTICULATES - GROSS BETA - STATIONS D-01 and D-02 COLLECTED IN THE VICINITY OF DNPS, 2005 - 2007

D-01 Onsite Station 1



D-02 Onsite Station 2

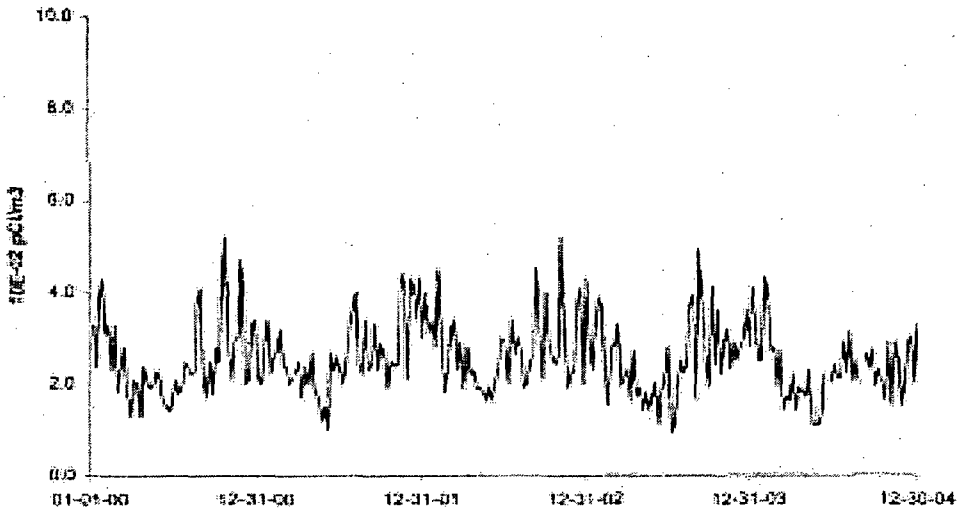


D-02 No samples; power was restored on 09-16-05.

DUE TO VENDOR CHANGE IN 2005, THE REPORTED UNITS CHANGED FROM E-02 PCI/M3 TO E-03 PCI/M3

FIGURE C-9
AIR PARTICULATES - GROSS BETA - STATIONS D-03 and D-04 COLLECTED IN THE VICINITY OF DNPS, 2000 - 2004

D-03 Onsite Station 3



D-04 Collins Road

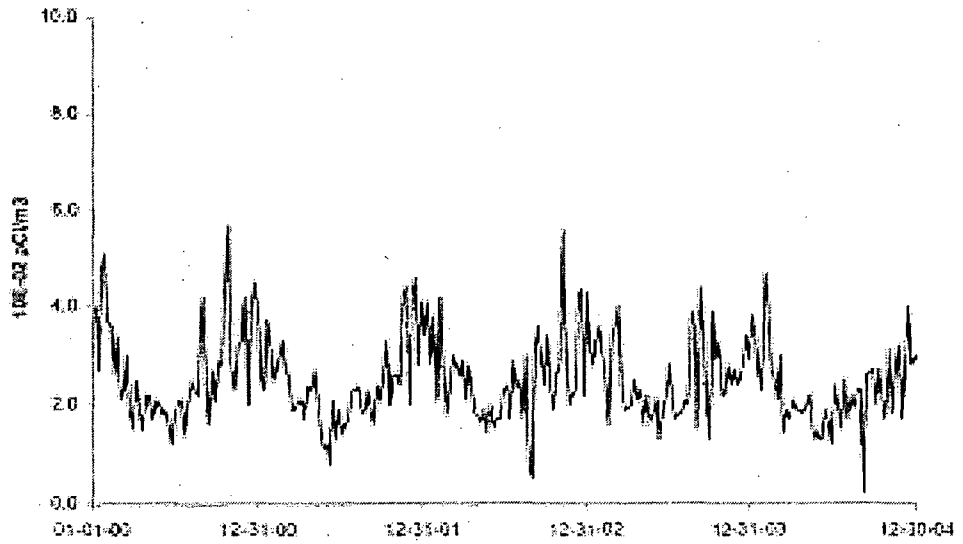
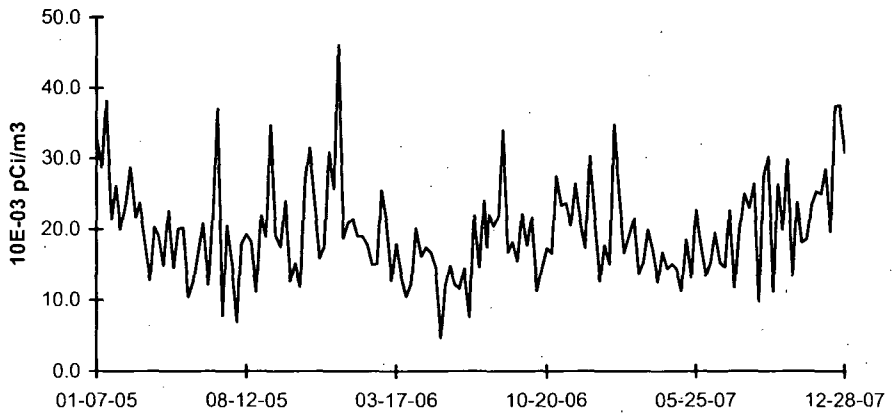
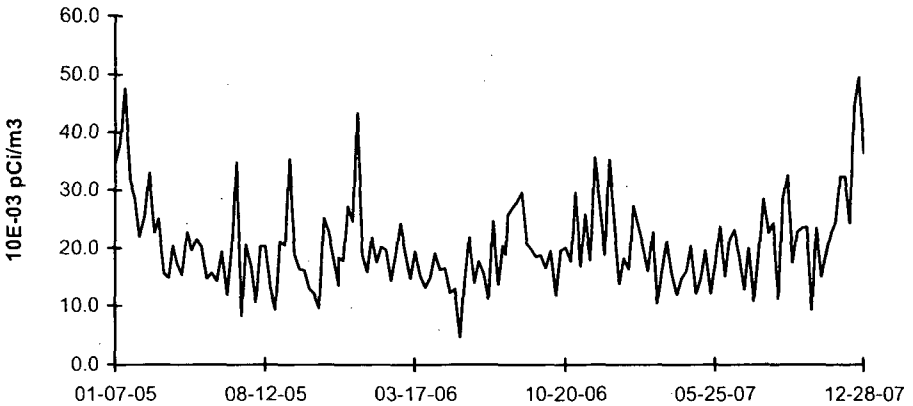


FIGURE C-9 (cont.)
AIR PARTICULATES - GROSS BETA - STATIONS D-03 and D-04 COLLECTED IN THE VICINITY OF DNPS, 2005 - 2007

D-03 Onsite Station 3



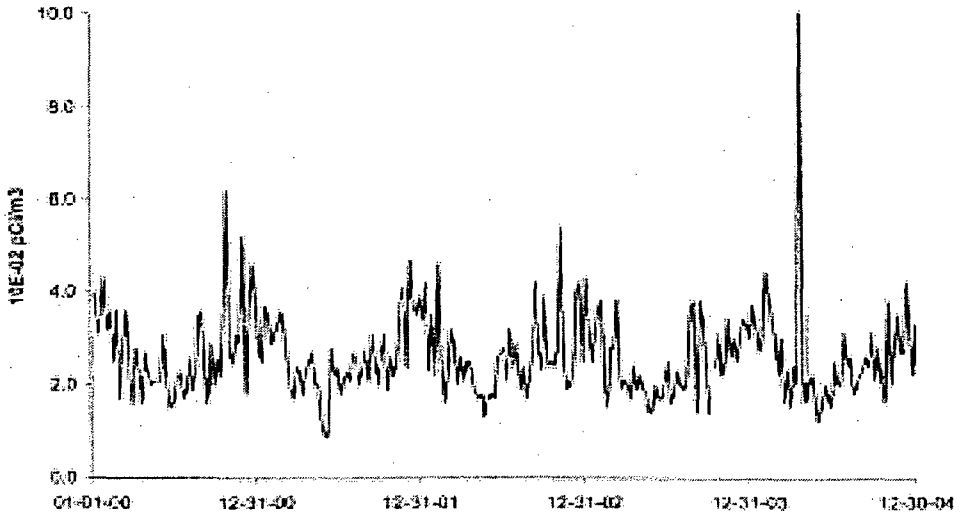
D-04 Collins Road



DUE TO VENDOR CHANGE IN 2005, THE REPORTED UNITS CHANGED FROM E-02 PCI/M3 TO E-03 PCI/M3

FIGURE C-10
AIR PARTICULATES - GROSS BETA - STATIONS D-07 and D-12 (C) COLLECTED IN THE VICINITY OF DNPS, 2000 - 2004

D-07 Clay Products



D-12 (C) Lisbon

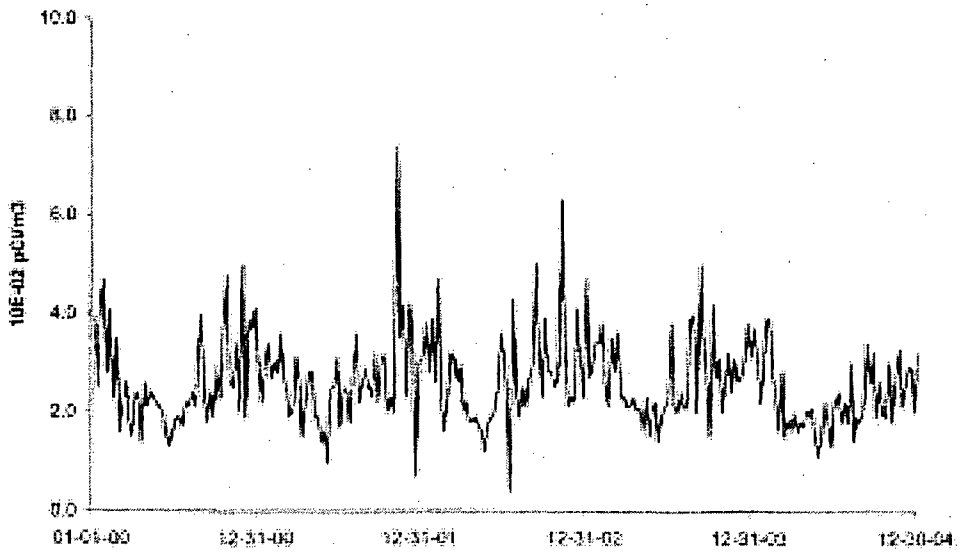
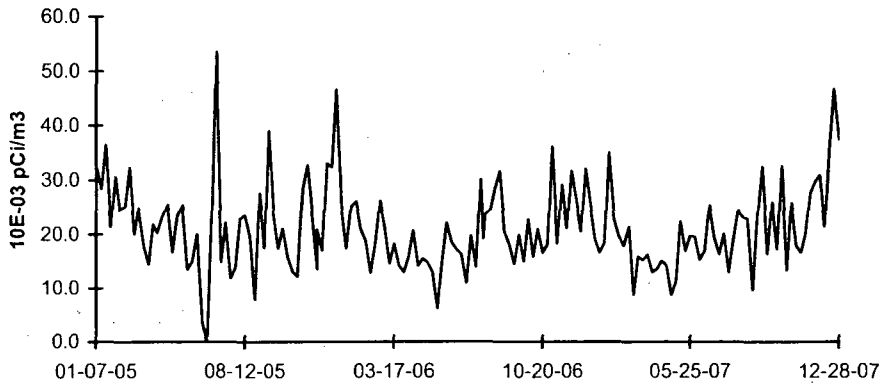


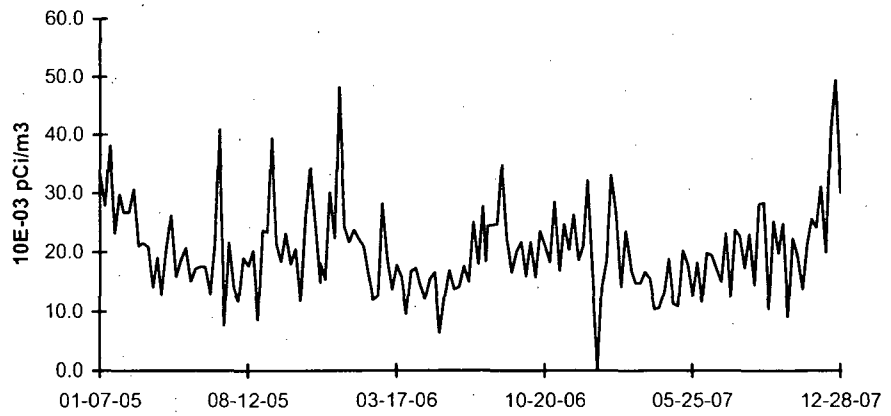
FIGURE C-10 (cont.)
AIR PARTICULATES - GROSS BETA - STATIONS D-07 and D-12 (C) COLLECTED IN THE VICINITY OF DNPS, 2005 - 2007

D-07 Clay Products



06/10/05 - 06/17/05 no sample due to pump malfunction

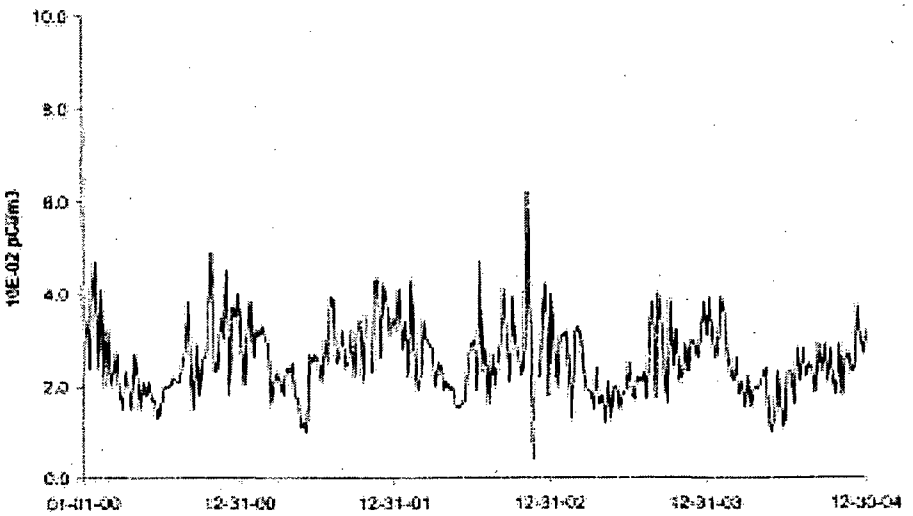
D-12 (C) Lisbon



DUE TO VENDOR CHANGE IN 2005, THE REPORTED UNITS CHANGED FROM E-02 PCI/M3 TO E-03 PCI/M3

FIGURE C-11
AIR PARTICULATES - GROSS BETA - STATIONS D-45 and D-53 COLLECTED IN THE VICINITY OF DNPS, 2000 - 2004

D-45 McKinley Woods Road



D-53 Grundy County Road

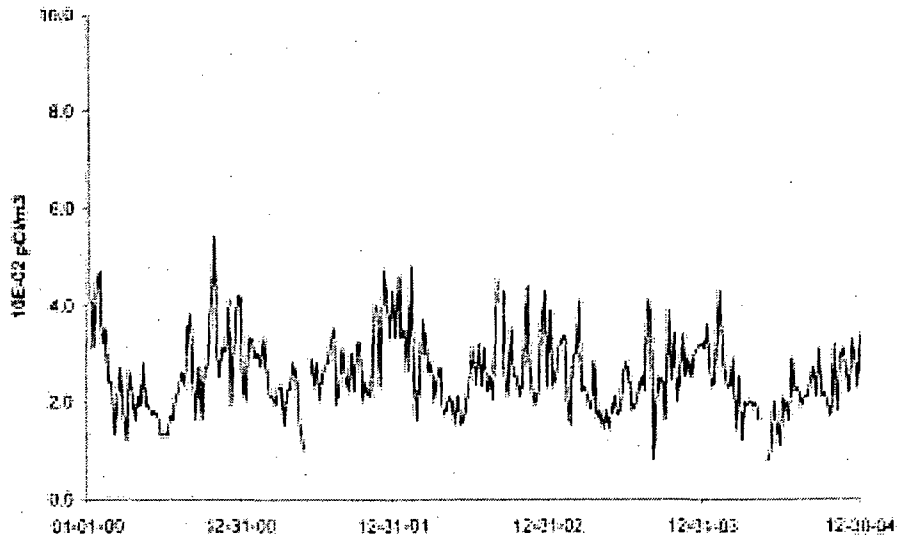
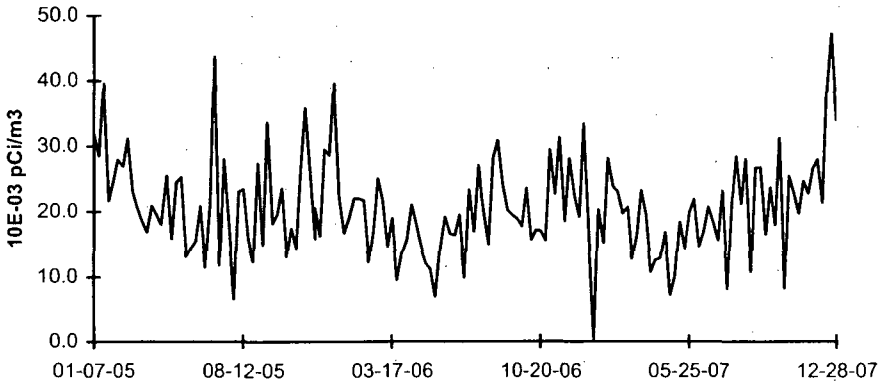
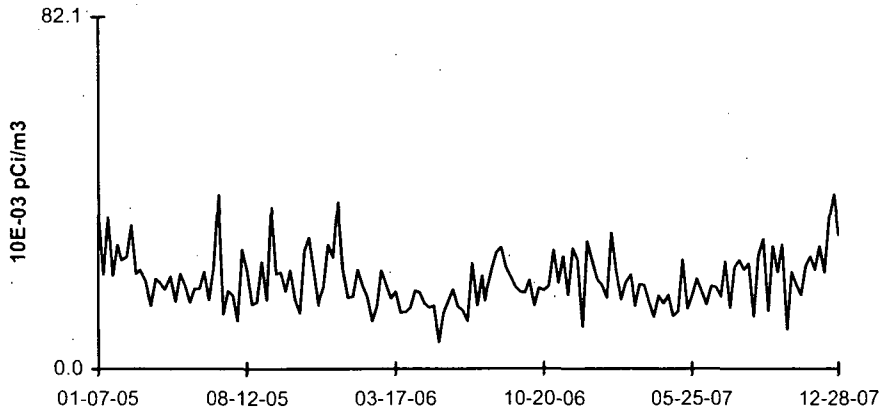


FIGURE C-11 (cont.)
AIR PARTICULATES - GROSS BETA - STATIONS D-45 and D-53 COLLECTED IN THE VICINITY OF DNPS, 2005 - 2007

D-45 McKinley Woods Road



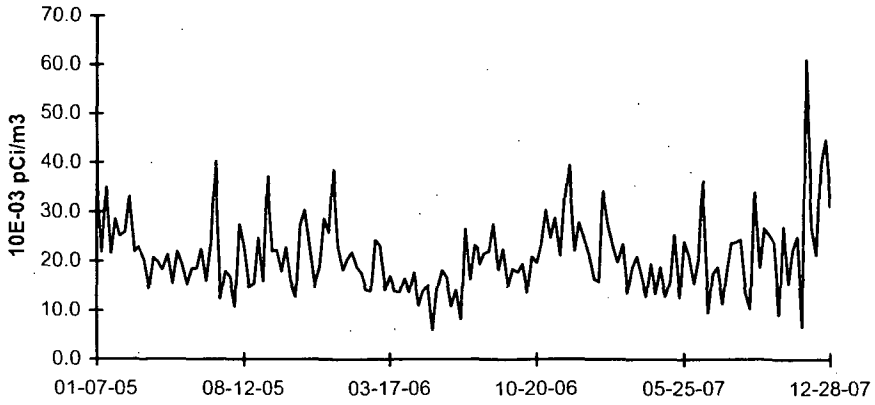
D-53 Grundy County Road



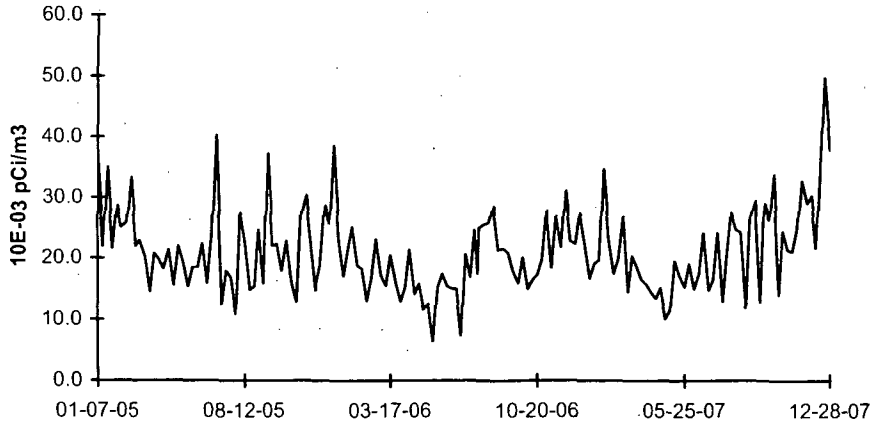
DUE TO VENDOR CHANGE, THE REPORTED UNITS CHANGED FROM E-02 PCI/M3 TO E-03 PCI/M3

FIGURE C-12
AIR PARTICULATES - GROSS BETA - STATIONS D-08 and D-10 COLLECTED IN THE VICINITY OF DNPS, 2005 - 2007

D-08 Prairie Park



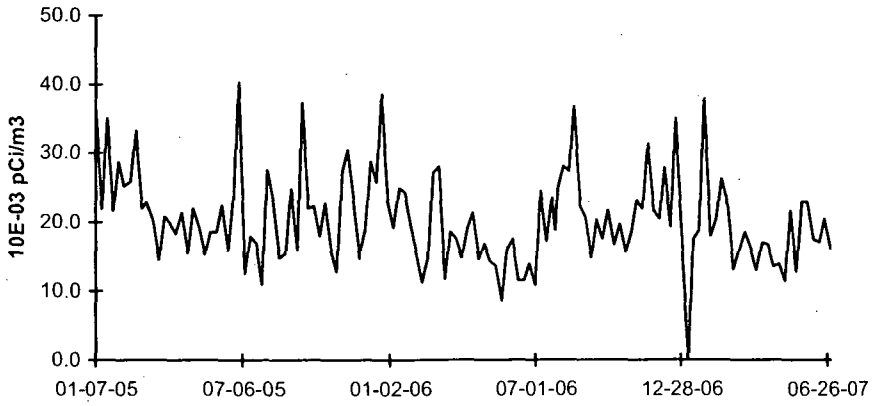
D-10 Goose Lake Village



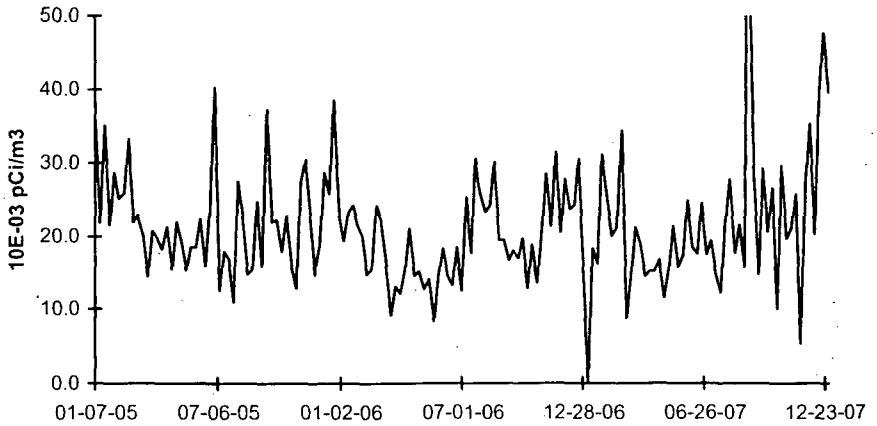
DUE TO VENDOR CHANGE IN 2005, THE REPORTED UNITS CHANGED FROM E-02 PCI/M3 TO E-03 PCI/M3

FIGURE C-13
AIR PARTICULATES - GROSS BETA - STATIONS D-13 and D-14 COLLECTED IN THE VICINITY OF DNPS, 2005 - 2007

D-13 Minooka



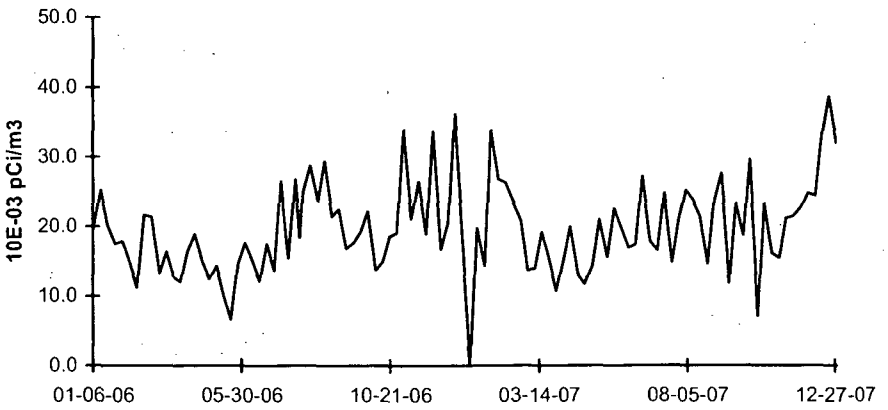
D-14 Channahon



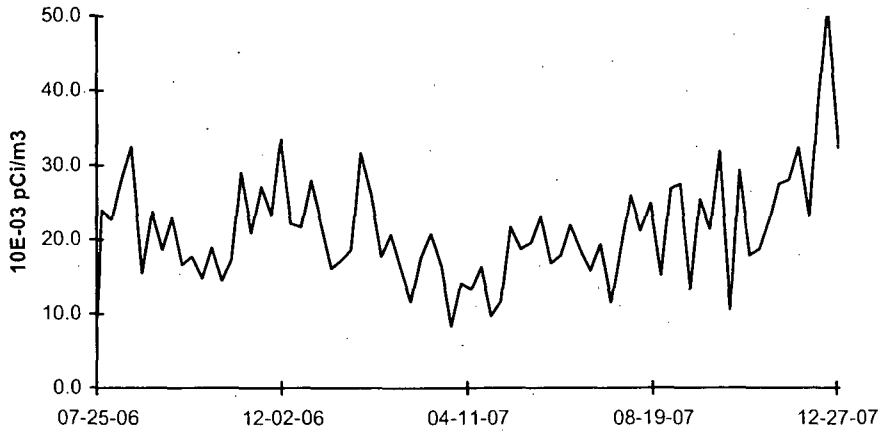
D-13 TAKEN OUT OF SERVICE JUNE 29, 2007 AND REPLACED WITH D-55

FIGURE C-14
AIR PARTICULATES - GROSS BETA - STATIONS D-55 and D-56 COLLECTED IN THE VICINITY OF DNPS, 2006-2007

D-55 Ridge Road



D-56 Wildfeather



D-55 NEW STATION DECEMBER 30, 2005 REPLACED D-13 JUNE 29, 2007
D-56 NEW STATION JULY 25, 2006

APPENDIX D

INTER-LABORATORY COMPARISON PROGRAM

TABLE D-1 **ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM**
TELEDYNE BROWN ENGINEERING, 2007
(PAGE 1 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
March 2007	E5255-396	Milk	Sr-89	pCi/L	125	137	0.91	A
			Sr-90	pCi/L	10.8	10	1.08	A
	E5256-396	Milk	I-131	pCi/L	107	85.2	1.26	W
			Ce-141	pCi/L	269	297	0.91	A
			Cr-51	pCi/L	244	245	1.00	A
			Cs-134	pCi/L	98.1	112	0.88	A
			Cs-137	pCi/L	227	234	0.97	A
			Co-58	pCi/L	92.5	98.8	0.94	A
			Mn-54	pCi/L	182.0	182	1.00	A
			Fe-59	pCi/L	108.0	106	1.02	A
			Zn-65	pCi/L	985	1000	0.99	A
			Co-60	pCi/L	143	152	0.94	A
	E5258-396	AP	Ce-141	pCi	252	245	1.03	A
			Cr-51	pCi	204	202	1.01	A
			Cs-134	pCi	74.9	92.3	0.81	A
			Cs-137	pCi	190.0	197.0	0.96	A
			Co-58	pCi	79.7	81.6	0.98	A
			Mn-54	pCi	156	151	1.03	A
			Fe-59	pCi	99.1	87.2	1.14	A
			Zn-65	pCi	894	826	1.08	A
			Co-60	pCi	122	126	0.97	A
	E5257-396	Charcoal	I-131	pCi	34.7	71.3	0.49	N (1)
June 2007	E5384-396	Milk	Sr-89	pCi/L	98.3	95.2	1.03	A
			Sr-90	pCi/L	16.1	12.9	1.25	W
	E5385-396	Milk	I-131	pCi/L	71.0	70.1	1.01	A
			Ce-141	pCi/L	176	200	0.88	A
			Cr-51	pCi/L	459	512	0.90	A
			Cs-134	pCi/L	197	242	0.81	A
			Cs-137	pCi/L	158	169	0.93	A
			Co-58	pCi/L	180	198	0.91	A
			Mn-54	pCi/L	163	166	0.98	A
			Fe-59	pCi/L	158	167	0.95	A
			Zn-65	pCi/L	318	334	0.95	A
			Co-60	pCi/L	212	238	0.89	A
	E5387-396	AP	Ce-141	pCi	87.5	105	0.83	A
			Cr-51	pCi	232	268	0.87	A
			Cs-134	pCi	101	127	0.80	A
			Cs-137	pCi	78.9	88.5	0.89	A
			Co-58	pCi	91.8	104.0	0.88	A
			Mn-54	pCi	85.6	87	0.99	A
			Fe-59	pCi	89.8	87.3	1.03	A
			Zn-65	pCi	178	175	1.02	A
			Co-60	pCi	111	125	0.89	A
	E5386-396	Charcoal	I-131	pCi	79.3	79.1	1.00	A

TABLE D-1 **ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM**
TELEDYNE BROWN ENGINEERING, 2007
(PAGE 2 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
September 2007	E5492-396	Milk	Sr-89	pCi/L	99.0	94.9	1.04	A
			Sr-90	pCi/L	13.9	13.1	1.06	A
	E5493-396	Milk	I-131	pCi/L	81.9	85.2	0.96	A
			Ce-141	pCi/L	200	211	0.95	A
			Cr-51	pCi/L	271	289	0.94	A
			Cs-134	pCi/L	131	147	0.89	A
			Cs-137	pCi/L	131	131	1.00	A
			Co-58	pCi/L	114	114	1.00	A
			Mn-54	pCi/L	171	168	1.02	A
			Fe-59	pCi/L	117	111	1.05	A
			Zn-65	pCi/L	212	202	1.05	A
			Co-60	pCi/L	143	148	0.97	A
	E5495-396	AP	Ce-141	pCi	128	136	0.94	A
			Cr-51	pCi	181	186	0.97	A
			Cs-134	pCi	85.9	94.7	0.91	A
			Cs-137	pCi	83.2	83.9	0.99	A
			Co-58	pCi	69.4	73.3	0.95	A
			Mn-54	pCi	112	108	1.04	A
			Fe-59	pCi	79.6	71.1	1.12	A
			Zn-65	pCi	159	130	1.22	W
			Co-60	pCi	92.0	95.2	0.97	A
	E5494-396	Charcoal	I-131	pCi	70.8	69.5	1.02	A
December 2007	E5749-396	Milk	Sr-89	pCi/L	87.6	93.7	0.93	A
			Sr-90	pCi/L	15.5	15.2	1.02	A
	E5750-396	Milk	I-131	pCi/L	60.6	60.8	1.00	A
			Ce-141	pCi/L	137	141	0.97	A
			Cr-51	pCi/L	497	512	0.97	A
			Cs-134	pCi/L	117	137	0.85	A
			Cs-137	pCi/L	166	166	1.00	A
			Co-58	pCi/L	159	174	0.91	A
			Mn-54	pCi/L	190	190	1.00	A
			Fe-59	pCi/L	149	148	1.01	A
			Zn-65	pCi/L	231	234	0.99	A
			Co-60	pCi/L	198	211	0.94	A
	E5752-396	AP	Ce-141	pCi	88.6	93.4	0.95	A
			Cr-51	pCi	352	340	1.04	A
			Cs-134	pCi	84.6	91.2	0.93	A
			Cs-137	pCi	111	110.0	1.01	A
			Co-58	pCi	114	116.0	0.98	A
			Mn-54	pCi	135	126	1.07	A
			Fe-59	pCi	119	98.5	1.21	W
			Zn-65	pCi	172	155	1.11	A
			Co-60	pCi	137	141	0.97	A

TABLE D-1 **ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM**
TELEDYNE BROWN ENGINEERING, 2007
(PAGE 3 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
December 2007	E5751-396	Charcoal	I-131	pCi	65.8	74.1	0.89	A

(1) New technician counted charcoal cartridge on the back rather than the face, resulting in low activity. If the charcoal cartridge had been counted on the face, the ratio would have been approximately 1.07, which is acceptable. NCR 07-02

(a) Teledyne Brown Engineering reported result.

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

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

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

TABLE D-2 **ERA ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM**
TELEDYNE BROWN ENGINEERING, 2007
(PAGE 1 OF 1)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Control Limits	Evaluation (c)
July 2007	Rad 70	Water	Sr-89	pCi/L	58.6	58.2	49.5 - 66.9	A
			Sr-90	pCi/L	18.7	19.0	10.3 - 27.7	A
			Ba-133	pCi/L	18.6	19.4	10.7 - 28.1	A
			Cs-134	pCi/L	57.6	68.9	60.2 - 77.6	N (1)
			Cs-137	pCi/L	55.4	61.3	52.6 - 70.0	A
			Co-60	pCi/L	31.3	33.5	24.8 - 42.2	A
			Zn-65	pCi/L	49.0	54.6	45.2 - 64.0	A
			Gr-A	pCi/L	26.8	27.1	15.4 - 38.8	A
			Gr-B	pCi/L	12	11.5	2.84 - 20.2	A
			I-131	pCi/L	31.1	26.5	21.3 - 31.7	A
			H-3	pCi/L	1700	1770	1180 - 2360	A
October 2007	RAD 71	Water	Sr-89	pCi/L	27.07	27.4	19.3 - 33.9	A
			Sr-90	pCi/L	17.40	18.2	12.9 - 21.6	A
			Ba-133	pCi/L	12.57	12.6	8.64 - 15.5	A
			Cs-134	pCi/L	63.33	71.1	58.0 - 78.2	A
			Cs-137	pCi/L	168	180	162 - 200	A
			Co-60	pCi/L	21.93	23.2	19.9 - 28.3	A
			Zn-65	pCi/L	245.33	251	226 - 294	A
			Gr-A	pCi/L	55.60	58.6	30.6 - 72.9	A
			Gr-B	pCi/L	15.23	9.73	4.26 - 18.2	A
			I-131	pCi/L	27.43	28.9	24.0 - 33.8	A
			H-3	pCi/L	9263.3	9700	8430 - 10700	A

(1) The Cs-134 TBE found/ERA known ratio is 83.6%, which TBE considers acceptable. NCR 07-07

(a) Teledyne Brown Engineering reported result.

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

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

TABLE D-3 **DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)**
TELEDYNE BROWN ENGINEERING, 2007
(PAGE 1 OF 1)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Acceptance Range	Evaluation (c)
February 2007	07-MaW17	Water	Cs-134	Bq/L	74.5	83.5	58.5 - 108.6	A
			Cs-137	Bq/L	162	163.0	114-1 - 211.9	A
			Co-57	Bq/L	140	143.7	100.6 - 186.8	A
			Co-60	Bq/L	27.9	26.9	18.8 - 35.0	A
			H-3	Bq/L	346	283.0	198.1 - 367.9	W
			Mn-54	Bq/L	125	123.8	86.7 - 160.9	A
			Sr-90	Bq/L	8.90	8.87	6.21- 11.53	A
			Zn-65	Bq/L	117	114.8	80.4 - 149.2	A
	07-GrW17	Water	Gr-A	Bq/L	0.502	0.327	>0.0 - 0.654	A
			Gr-B	Bq/L	0.975	0.851	0.426 - 1.277	A
	07-MaS17	Soil	Cs-134	Bq/kg	322	327.4	229.2 - 425.6	A
			Cs-137	Bq/kg	893	799.7	559.8 - 1039.6	A
			Co-57	Bq/kg	508.3	471.2	329.8 - 612.6	A
			Co-60	Bq/kg	300.3	274.7	192.3 - 357.1	A
			Mn-54	Bq/kg	779	685.2	479.6 - 890.8	A
			K-40	Bq/kg	682	602	421 - 783	A
			Sr-90	Bq/kg	293	319.0	223.3 - 414.7	A
			Zn-65	Bq/kg	618.7	536.8	375.8 - 697.8	A
	07-RdF17	AP	Cs-134	Bq/sample	3.230	1.4960	2.9372 - 5.4548	W
			Cs-137	Bq/sample	2.453	2.5693	1.7985 - 3.3401	A
			Co-57	Bq/sample	3.067	2.8876	2.0213 - 3.7539	A
			Co-60	Bq/sample	2.767	2.9054	2.0338 - 3.7770	A
			Mn-54	Bq/sample	3.557	3.5185	2.4630 - 4.5741	A
			Sr-90	Bq/sample	0.584	0.6074	0.4252 - 0.7896	A
			Zn-65	Bq/sample	2.463	2.6828	1.8780 - 3.4876	A
	07-GrF17	AP	Gr-A	Bq/sample	0.353	0.601	>0.0 - 1.202	A
			Gr-B	Bq/sample	0.500	0.441	0.221 - 0.662	A
February 2007	07-RdV17	Vegetation	Cs-134	Bq/sample	6.207	6.2101	4.3471 - 8.0731	A
			Cs-137	Bq/sample	7.80	6.9949	4.8964 - 9.0934	A
			Co-57	Bq/sample	8.64	8.1878	5.7315 - 10.6441	A
			Co-60	Bq/sample	6.10	5.8215	4.0751 - 7.5680	A
			Mn-54	Bq/sample	9.41	8.4492	5.9144 - 10.9840	A
			K-40	Bq/sample	63.5	Not evaluated by MAPEP		
			Sr-90	Bq/sample	1.51	1.5351	1.0746 - 1.9956	A
			Zn-65	Bq/sample	7.15	5.6991	3.9894 - 7.4088	W

(a) Teledyne Brown Engineering reported result.

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

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

TABLE D-4 **ERA[(a)] STATISTICAL SUMMARY PROFICIENCY TESTING PROGRAM**
ENVIRONMENTAL, INC., 2007
(Page 1 of 2)

Lab Code *	Date	Analysis	Concentration (pCi/L) Laboratory Result[b]	ERA Result[c]	Control Limits	Acceptance
STAP-1116	03/19/07	Gr. Alpha	34.64 ± 2.56	25.8	12.4 - 39	Pass
STAP-1116	03/19/07	Gr. Beta	93.41 ± 3.20	79.5	48.8 - 116	Pass
STAP-1117	03/19/07	Co-60	1610.00 ± 8.40	1300.0	1010.0 - 1620	Pass
STAP-1117	03/19/07	Cs-134	1340.40 ± 48.84	1120.0	732.0 - 1380	Pass
STAP-1117 [e]	03/19/07	Cs-137	345.30 ± 8.20	255.0	192.0 - 336	Fail
STAP-1117 [f]	03/19/07	Mn-54	< 5.0	0.0		Pass
STAP-1117	03/19/07	Sr-90	156.10 ± 6.60	156.0	66.6 - 246	Pass
STAP-1117	03/19/07	Zn-65	363.80 ± 11.90	245.0	208.0 - 412	Pass
STSO-1118	03/19/07	Ac-228	3097.77 ± 94.96	2790.0	1790.0 - 3930	Pass
STSO-1118	03/19/07	Bi-212	2467.87 ± 114.33	2500.0	658.0 - 3730	Pass
STSO-1118	03/19/07	Co-60	7847.40 ± 86.60	7330.0	5340.0 - 9820	Pass
STSO-1118	03/19/07	Cs-134	7910.60 ± 356.88	7560.0	4850.0 - 9070	Pass
STSO-1118	03/19/07	Cs-137	4635.00 ± 99.10	4300.0	3290.0 - 5580	Pass
STSO-1118	03/19/07	K-40	12201.60 ± 423.20	11100.0	8050.0 - 15000	Pass
STSO-1118 [f]	03/19/07	Mn-54	< 34.0	0.0		Pass
STSO-1118	03/19/07	Pb-212	2046.80 ± 127.20	1730.0	1120.0 - 2430	Pass
STSO-1118	03/19/07	Pb-214	4142.80 ± 110.40	3330.0	1980.0 - 4980	Pass
STSO-1118	03/19/07	Sr-90	6163.30 ± 791.60	7500.0	2610.0 - 12400	Pass
STSO-1118	03/19/07	Th-234	4329.40 ± 569.10	3590.0	2190.0 - 4560	Pass
STSO-1118 [f]	03/19/07	Zn-65	0.00 ± 0.00	0.0	0.0 - 0	Pass
STVE-1119	03/19/07	Co-60	2827.90 ± 62.40	2600.0	1760.0 - 3720	Pass
STVE-1119	03/19/07	Cs-134	654.80 ± 48.40	579.0	308.0 - 822	Pass
STVE-1119	03/19/07	Cs-137	3307.30 ± 58.80	2920.0	2150.0 - 4060	Pass
STVE-1119	03/19/07	K-40	40814.20 ± 618.80	37900.0	27200.0 - 53600	Pass
STVE-1119 [f]	03/19/07	Mn-54	< 27.6	0.0		Pass
STVE-1119	03/19/07	Sr-90	8999.70 ± 580.90	8890.0	4900.0 - 11800	Pass
STVE-1119	03/19/07	Zn-65	474.30 ± 45.70	366.0	267.0 - 500	Pass
STW-1120	03/19/07	Co-60	541.40 ± 9.00	536.0	467.0 - 631	Pass
STW-1120	03/19/07	Cs-134	1623.80 ± 66.10	1750.0	1290.0 - 2020	Pass
STW-1120	03/19/07	Cs-137	1839.10 ± 17.90	1850.0	1570.0 - 2220	Pass
STW-1120 [f]	03/19/07	Mn-54	< 8.1	0.0		Pass
STW-1120	03/19/07	Sr-90	949.40 ± 16.70	989.0	630.0 - 1320	Pass
STW-1120	03/19/07	Zn-65	2009.00 ± 36.40	1910.0	1600.0 - 2410	Pass
STW-1121	04/09/07	Sr-89	30.7 ± 4.3	35.4	26.7 - 44.1	Pass
STW-1121	04/09/07	Sr-90	39.3 ± 1.8	42.1	33.4 - 50.8	Pass

TABLE D-4 **ERA[a] STATISTICAL SUMMARY PROFICIENCY TESTING PROGRAM ENVIRONMENTAL, INC., 2007**

(Page 2 of 2)

Lab Code *	Date	Analysis	Concentration (pCi/L) Laboratory Result[b]	ERA Result[c]	Control Limits	Acceptance
STW-1122	04/09/07	Ba-133	30.0 ± 2.4	29.3	20.6 - 38.0	Pass
STW-1122	04/09/07	Co-60	118.5 ± 3.9	119.0	109.0 - 129.0	Pass
STW-1122	04/09/07	Cs-134	52.6 ± 2.3	54.3	45.6 - 63.0	Pass
STW-1122	04/09/07	Cs-137	49.5 ± 3.8	50.3	41.6 - 59.0	Pass
STW-1122	04/09/07	Zn-65	91.7 ± 6.3	88.6	73.3 - 104.0	Pass
STW-1123	04/09/07	Gr. Alpha	33.8 ± 3.5	56.5	32.0 - 81.0	Pass
STW-1123	04/09/07	Gr. Beta	24.2 ± 2.3	25.3	16.6 - 34.0	Pass
STW-1124	04/09/07	I-131	19.2 ± 1.2	18.9	13.7 - 24.1	Pass
STW-1125	04/09/07	H-3	7540.0 ± 255.0	8060.0	6660.0 - 9450.0	Pass
STW-1127	07/09/07	Sr-89	51.7 ± 5.0	58.2	49.5 - 66.9	Pass
STW-1127	07/09/07	Sr-90	21.4 ± 2.3	19.0	10.3 - 27.7	Pass
STW-1128	07/09/07	Ba-133	19.4 ± 2.2	19.4	10.7 - 28.1	Pass
STW-1128	07/09/07	Co-60	32.8 ± 2.0	33.5	24.8 - 42.2	Pass
STW-1128	07/09/07	Cs-134	67.0 ± 2.9	68.9	60.2 - 77.6	Pass
STW-1128	07/09/07	Cs-137	61.6 ± 3.8	61.3	52.6 - 70.0	Pass
STW-1128	07/09/07	Zn-65	55.6 ± 7.5	54.6	45.2 - 64.0	Pass
STW-1129	07/09/07	Gr. Alpha	19.2 ± 1.6	27.1	15.4 - 38.8	Pass
STW-1129	07/09/07	Gr. Beta	9.1 ± 0.9	11.5	2.8 - 20.2	Pass
STW-1131	10/05/07	Sr-89	27.3 ± 3.3	27.4	19.3 - 33.9	Pass
STW-1131	10/05/07	Sr-90	17.7 ± 1.2	18.2	12.9 - 21.6	Pass
STW-1132	10/05/07	Ba-133	12.2 ± 3.3	12.6	8.6 - 15.5	Pass
STW-1132	10/05/07	Co-60	23.8 ± 1.4	23.2	19.9 - 28.3	Pass
STW-1132	10/05/07	Cs-134	70.5 ± 4.2	71.1	58.0 - 78.2	Pass
STW-1132	10/05/07	Cs-137	178.2 ± 3.3	180.0	162.0 - 200.0	Pass
STW-1132	10/05/07	Zn-65	263.9 ± 6.9	251.0	226.0 - 294.0	Pass
STW-1133	10/05/07	Gr. Alpha	54.7 ± 2.1	58.6	30.6 - 72.9	Pass
STW-1133	10/05/07	Gr. Beta	11.9 ± 0.9	9.7	4.3 - 18.2	Pass
STW-1134	10/05/07	I-131	33.0 ± 1.5	28.9	24.0 - 33.8	Pass
STW-1135	10/05/07	H-3	9965.0 ± 250.0	9700.0	8430.0 - 10700.0	Pass

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

[a] Results obtained by Environmental, Inc., Midwest Laboratory as a participant in the crosscheck program for proficiency testing administered by Environmental Resources Associates, serving as a replacement for studies conducted previously by the Environmental Measurements Laboratory Quality Assessment Program (EML).

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

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

[e] A high bias (~ 20%) was observed in gamma results for air filters. A composite filter geometry was used in the calculations vs. a single filter geometry. Result of recalculation. Cs-137, 305.8 ± 6.0 pCi/filter.

[f] Included in the testing series as a "false positive". No activity expected.

TABLE D-5 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)[a] ENVIRONMENTAL, INC., 2007

(Page 1 of 1)

		Concentration [b]				
Lab Code[c]	Date	Analysis	Laboratory result	Known Activity	Control Limits [d]	Acceptance
STW-1110	01/01/07	Gr. Alpha	0.45 ± 0.08	0.33	0.00 - 0.65	Pass
STW-1110	01/01/07	Gr. Beta	0.90 ± 0.14	0.85	0.43 - 1.28	Pass
STW-1111	01/01/07	Co-57	151.60 ± 10.00	143.70	100.60 - 186.80	Pass
STW-1111	01/01/07	Cs-134	79.20 ± 8.00	83.50	58.50 - 108.60	Pass
STW-1111	01/01/07	Cs-137	168.70 ± 12.10	163.00	114.10 - 211.90	Pass
STW-1111	01/01/07	H-3	262.20 ± 9.10	283.00	198.10 - 367.90	Pass
STW-1111	01/01/07	Mn-54	130.60 ± 11.50	123.80	86.70 - 160.90	Pass
STW-1111	01/01/07	Sr-90	9.60 ± 1.40	8.87	6.21 - 11.53	Pass
STW-1111	01/01/07	Zn-65	123.70 ± 17.00	114.80	80.40 - 149.20	Pass
STSO-1112	01/01/07	Co-57	501.20 ± 2.90	471.20	329.80 - 612.60	Pass
STSO-1112	01/01/07	Co-60	285.90 ± 2.10	274.70	192.30 - 357.10	Pass
STSO-1112	01/01/07	Cs-134	325.90 ± 7.40	327.40	229.20 - 425.60	Pass
STSO-1112	01/01/07	Cs-137	855.70 ± 4.60	799.70	559.80 - 1039.60	Pass
STSO-1112	01/01/07	Mn-54	750.90 ± 4.70	685.20	479.60 - 890.80	Pass
STAP-1113	01/01/07	Gr. Alpha	0.27 ± 0.04	0.60	0.00 - 1.20	Pass
STAP-1113	01/01/07	Gr. Beta	0.57 ± 0.05	0.44	0.22 - 0.66	Pass
STAP-1114	01/01/07	Co-57	3.51 ± 0.07	2.89	2.02 - 3.75	Pass
STAP-1114	01/01/07	Co-60	2.98 ± 0.10	2.91	2.03 - 3.78	Pass
STAP-1114	01/01/07	Cs-134	4.02 ± 0.16	4.20	2.94 - 5.45	Pass
STAP-1114	01/01/07	Cs-137	2.75 ± 0.12	2.57	1.80 - 3.34	Pass
STAP-1114	01/01/07	Mn-54	3.94 ± 0.12	3.52	2.46 - 4.57	Pass
STAP-1114	01/01/07	Sr-90	0.58 ± 0.18	0.61	0.43 - 0.79	Pass
STAP-1114	01/01/07	Zn-65	2.70 ± 0.10	2.68	1.88 - 3.49	Pass
STVE-1115	01/01/07	Co-57	8.90 ± 0.20	8.19	5.73 - 10.64	Pass
STVE-1115	01/01/07	Co-60	6.50 ± 0.20	5.82	4.08 - 7.57	Pass
STVE-1115	01/01/07	Cs-134	6.90 ± 0.30	6.21	4.35 - 8.07	Pass
STVE-1115	01/01/07	Cs-137	8.20 ± 0.30	6.99	4.90 - 9.09	Pass
STVE-1115	01/01/07	Mn-54	10.10 ± 0.30	8.46	5.91 - 10.98	Pass

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

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

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

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

APPENDIX E

ERRATA DATA

There is no errata data for 2007.

APPENDIX F

ANNUAL RADIOLOGICAL GROUNDWATER PROTECTION PROGRAM REPORT (ARGPPR)

Docket No: 50-010
50-237
50-249

DRESDEN NUCLEAR POWER STATION
UNITS 1, 2 and 3

Annual Radiological
Groundwater Protection Program Report

1 January Through 31 December 2007

Prepared By

Teledyne Brown Engineering
Environmental Services

Exelon SM

Nuclear

Dresden Nuclear Power Station
Norris, IL 60450

May 2008

Table Of Contents

I. Summary and Conclusions 1

II. Introduction 2
- A. Objectives of the RGPP 3
- B. Implementation of the Objectives 4
- C. Program Description 4
- D. Characteristics of Tritium (H-3) 5

III. Program Description 6
- A. Sample Analysis 6
- B. Data Interpretation 6
- C. Background Analysis 7
  - 1. Background Concentrations of Tritium 7

IV. Results and Discussion 9
- A. Groundwater Results 9
- B. Drinking Water Well Survey 10
- C. Summary of Results – Inter-laboratory Comparison Program 10
- D. Leaks, Spills, and Releases 10
- E. Trends 10
- F. Investigations 10
- G. Actions Taken 11

Appendices

Appendix A Location Designation

Tables

Table A-1: Radiological Groundwater Protection Program - Sampling Locations, Distance and Direction, Dresden Nuclear Power Station, 2007

Figures

Security-Related Information: Maps of the Dresden Nuclear Power Station have been withheld from public disclosure under 10CFR2.390 and N.J.S.A. 47:1A-1.1

Appendix B Data Tables

Tables

Table B-I.1 Concentrations of Tritium in Groundwater Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2007.

Table B-I.2 Concentrations of Gamma Emitters in Groundwater Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2007.

Table B-II.1 Concentrations of Tritium in Surface Water Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2007.

I. Summary and Conclusions

Dresden Station is situated on approximately 600 acres of land that borders the Illinois River to the north and the Kankakee River to the east. This land is referred to as the owner-controlled area. The Dresden power plant itself takes up a small parcel of the owner-controlled area and is surrounded by a security fence. The security fence defines what is known as the Protected Area (P.A.).

The Dresden power plant has experienced a number of leaks from underground lines and spills from above ground systems containing radioactive water over its 40-year history. These incidents have created a number of areas of localized contamination within the P.A. Isotopic analyses of groundwater in many of these areas show measurable concentrations of tritium (H-3). In addition, Strontium (Sr-90) was detected just above the Lower Limit of Detectability (LLD) in one of the wells within the P.A.

Dresden participated in a fleetwide hydrogeologic investigation in during the summer of 2006 in an effort to characterized groundwater movement at each site. This investigation also compiled a list of the historic spills and leaks. Combining the tritium concentration in a locally contaminated area with the speed and direction of groundwater in the vicinity can produce a contaminated groundwater plume projection. If the plume of contaminated groundwater passes through the path of a groundwater monitoring well, it can be anticipated that the tritium concentration in this well will increase to some maximum concentration, then decrease over time.

The fleetwide Hydrogeologic Investigation Report (HIR) shows that groundwater movement on the Dresden site is very slow. In addition, there is a confining rock layer, the Maquoketa Shale layer, about 55 feet below the surface that impedes groundwater movement below this depth. The results of the HIR are available on: [http://www.exeloncorp.com/ourcompanies/powergen/nuclear/Tritium.htm].

Dresden has a domestic water system that is supplied by two deep wells (1500 feet deep) that were installed about 50 years ago south of the P.A. Samples taken from domestic water supply and have never shown any detectable tritium concentration.

Tritium has a half-life of 12.3 years. This means that 40 years from now 90% of the tritium on site today will have decayed away to more stable elements.
Given the limited volume of contaminated groundwater on site, radioactive decay, slow groundwater movement, and dilution effects the conclusion of the HIR is that the operation of Dresden Nuclear Power Station had no adverse radiological impact on the environment. As a result there is little potential for contaminated groundwater on site to affect off-site drinking water.

II. Introduction

Radiological Groundwater Monitoring Program (RGPP):

Dresden has a Radiological Groundwater Monitoring Program (RGPP) that provides long-term monitoring intended to verify the fleet-wide hydrogeologic study conclusions. Dresden uses developed groundwater wells and surface water sample points in the RGPP.

The Dresden RGPP was established in 2006 and there have been no significant changes to this program. This program does not impact the operation of the plant and is independent of the REMP.

Developed groundwater wells are wells that were installed specifically for monitoring groundwater. These wells are equipped with screens and are properly sealed near the surface to avoid surface water intrusion. The wells were designed in accordance with appropriate codes and developed in accordance with appropriate standards and procedures. Dresden has groundwater monitoring wells identified as "shallow" (depths from 15 to 35 feet), "Intermediate" (depths from 35 to 55 feet) and "deep" (depths beyond 100 feet). All wells installed to a depth greater than 100 feet ("deep" wells) were found to be dry and removed from the RGPP. Surface water sample points are identified sample locations in the station's canals and cooling pond.

There are 71 sampling points in the RGPP:

*Dresden has 39 developed groundwater monitoring wells within the Protected Area. Some of these wells form a ring just inside the security fence and the remaining wells were installed near underground plant system piping that contains radioactive water.

*Dresden has 26 developed groundwater monitoring wells outside the P.A. the majority of which form a ring just within the perimeter of the property.

*Dresden has 6 surface water monitoring locations on the owner-controlled area sampled as part of the Dresden RGPP. These consist of one sample from each of the 5 different canals and one sample from the cooling pond.

The Dresden site-specific RGPP procedure identifies the historic 'events' that would affect the individual RGPP sample results. This procedure identifies threshold values for each sample point, which if exceeded, could be an indication of a new spill from an above ground system or a new leak in an underground pipe containing tritiated water.

The RGPP sample points are currently sampled on a frequency of twice per year. During 2007, there were 194 analyses that were performed on 130 samples from 71

sample points.

Supplemental Radiological Groundwater Monitoring Program (SRGPP):

Dresden also has a Supplemental Radiological Groundwater Monitoring Program (SRGPP) that provides short-term monitoring of a limited selection of monitoring points, mostly within the P.A., intended to identity relatively rapid changes in the groundwater tritium concentrations.

Sentinel Wells, sometimes referred to as "baby wells" are wells that were installed to monitor local shallow groundwater; typically in associated with a historic underground pipe leak. These wells are not constructed to code or developed to a standard. Most sentinel wells are from 6 to 12 feet deep and consist of 2" PVC pipe without screens. Many sentinel wells were installed near an underground HPCI suction line and were subsequently removed as part of the excavation and repair of that line.

Dresden has two basic storm water runoff sewer systems within the P.A: one sewer-system routes to the east, then north, and discharges into the Unit 1 intake canal, the second sewer-system routes to the west, then north, through a large Oil Separator, and discharges to the hot canal. Both the Unit 1 intake canal and the hot canal eventually route to the cooling pond.

The Dresden site-specific RGPP procedure identifies the historic 'events' that would affect the individual SRGPP sample results. This procedure identifies threshold values for each sample point, which if exceeded, could be an indication of a new spill from an above ground system or a new leak in an underground pipe containing tritiated water.

During 2007 the Dresden SRGPP sampling included 3 sewers, 8 sentinel wells and a variety of RGPP wells. Samples were taken at a frequency of approximately every two weeks. There were 441 analyses performed on 441 samples from 17 different sample points.

A. Objectives of the RGPP

The Objective of the RGPP is to provide long-term monitoring intended to verify the fleet-wide hydrogeologic study conclusions. The objective of the SRGPP is to provide indication of short-term changes to groundwater tritium concentrations within the P.A.

If isotopic results of groundwater samples exceed the thresholds specified in this procedure it could be an indication of a new spill from an above ground system or a new leak in an underground pipe containing tritiated water.

Specific Objectives include:

1. Perform routine water sampling and radiological analysis of water from selected locations.
2. Report new leaks, spills, or other detections with potential radiological significance to stakeholders in a timely manner.
3. Regularly assess analytical results to identify adverse trends.
4. Take necessary corrective actions to protect groundwater resources.

B. Implementation of the Objectives

1. Dresden Nuclear Power Station will continue to perform routine sampling and radiological analysis of water from selected locations.
2. Dresden Nuclear Power Station has implemented new procedures to identify and report new leaks, spills, or other detections with potential radiological significance in a timely manner.
3. Dresden Nuclear Power Station staff and consulting hydrogeologist assess analytical results on an ongoing basis to identify adverse trends.
4. If an adverse trend in groundwater monitoring analytical results is identified, further investigation will be undertaken. If the investigation identifies a leak or unidentified spill, corrective actions will be implemented.

C. Program Description

Dresden has a Radiological Groundwater Monitoring Program (RGPP) that provides long-term monitoring intended to verify the fleet-wide hydrogeologic study conclusions. Dresden uses 71 developed groundwater wells and surface water sample points in the RGPP.

Dresden also has a Supplemental Radiological Groundwater Monitoring Program (SRGPP) that provides short-term monitoring of a limited selection of monitoring points mostly within the P.A. intended to identity relatively rapid changes in the groundwater tritium concentrations. In addition to the 71 sampling points in the RGPP, the SRGPP also includes sampling of 9 sentinel wells, 39 sewers and 1-trench totaling 120 possible sample points.

1. Sample Collection

Sample locations can be found in Table A–1 and Figures A–1 and A–2, Appendix A.

Groundwater and Surface Water

Water samples are collected in accordance with the schedule delineated in the Dresden site-specific RGPP and SRGPP procedures. Analytical laboratories are subject to internal quality assurance programs, industry crosscheck programs, as well as nuclear industry audits. Station personnel review and evaluate the analytical results.

D. Characteristics of Tritium (H-3)

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

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

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

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

associated dose to these tissues is generally uniform and is dependent on the water content of the specific tissue.

III. Program Description

A. Sample Analysis

This section describes the general analytical methodologies used by Teledyne Brown Engineers (TBE) to analyze the environmental samples for radioactivity for the Dresden Nuclear Power Station RGPP in 2007.

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

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

2. Concentrations of strontium in groundwater and surface water.

3. Concentrations of tritium in groundwater and surface water.

B. Data Interpretation

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

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

   The lower limit of detection (LLD) is specified by federal regulation as a minimum sensitivity value that must be achieved routinely by the analytical parameter.

2. <u>Laboratory Measurements Uncertainty</u>

   The estimated uncertainty in measurement of tritium in environmental samples is frequently on the order of 50% of the measurement value.
   Statistically, the exact value of a measurement is expressed as a range with a stated level of confidence. The convention is to report results with a 95% level of confidence. The uncertainty comes from

calibration standards, sample volume or weight measurements, sampling uncertainty and other factors. Exelon reports the uncertainty of a measurement created by statistical process (counting error) as well as all sources of error (Total Propagated Uncertainty or TPU). Each result has two values calculated. Exelon reports the TPU by following the result with plus or minus ± the estimated sample standard deviation, as TPU, that is obtained by propagating all sources of analytical uncertainty in measurements.

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

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

For groundwater 12 nuclides, K-40, Mn-54, Co-58, Fe-59, Co-60, Zn-65, Nb-95, Zr-95, Cs-134, Cs-137, Ba-140 and La-140 were reported.

C. Background Analysis

A pre-operational radiological environmental monitoring program (pre-operational REMP) was conducted to establish background radioactivity levels prior to operation of the Station. The environmental media sampled and analyzed during the pre-operational REMP were atmospheric radiation, fall-out, domestic water, surface water, marine life, and foodstuffs. The results of the monitoring were detailed in the report entitled, Environmental Radiological Monitoring for Dresden Nuclear Power Nuclear Power Station, Commonwealth Edison Company, Annual Report 1986, May 1987.

1. Background Concentrations of Tritium

The purpose of the following discussion is to summarize background measurements of tritium in various media performed by others. Additional detail may be found by consulting references (CRA 2006).

a. Tritium Production

Tritium is created in the environment from naturally occurring processes both cosmic and subterranean, as well as from anthropogenic (i.e., man-made) sources. In the upper atmosphere, "Cosmogenic" tritium is produced from the

bombardment of stable nuclides and combines with oxygen to form tritiated water, which will then enter the hydrologic cycle. Below ground, "lithogenic" tritium is produced by the bombardment of natural lithium present in crystalline rocks by neutrons produced by the radioactive decay of naturally abundant uranium and thorium. Lithogenic production of tritium is usually negligible compared to other sources due to the limited abundance of lithium in rock. The lithogenic tritium is introduced directly to groundwater.

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

b. Precipitation Data

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

the 1960s that was elevated in tritium.

c. Surface Water Data

Tritium concentrations are routinely measured in large surface water bodies, including Lake Michigan and the Mississippi River. Illinois surface water data were typically less than 100 pCi/L.

The radio-analytical laboratory is counting tritium results to an Exelon specified LLD of 200 pCi/L. Typically, the lowest positive measurement will be reported within a range of 40 – 240 pCi/L or 140 ± 100 pCi/L. These sample results cannot be distinguished as different from background at this concentration.

IV. Results and Discussion

Dresden Station initiated a Radiological Groundwater Protection Program (RGPP) in 2006.

A. Groundwater Results

Groundwater

Samples were collected from on and off-site wells throughout the year in accordance with Dresden's RGPP. Analytical results and anomalies are discussed below.

Tritium

Of the 39 developed groundwater-monitoring wells inside the Protected Area, 28 wells show some level of tritium contamination ranging from just above LLD to 150,000 pCi/L.

Of the 26 developed groundwater-monitoring wells outside the Protected Area, 2 wells show tritium contamination just above LLD. One of these wells is located near the radwaste discharge line (about 200 yards north of the plant) that ruptured in 1999. The other well is about 1500 feet south of the Security Check point adjacent to the hot canal that had measurable concentrations of tritium from an upstream source.

Gamma Emitters and Strontium

Potassium-40 was detected in four of 64 samples. The concentrations ranged from 58 pCi/liter to 165 pCi/liter. No other gamma emitting nuclides were detected. (Table B–I.2, Appendix B).

B. Drinking Water Well Survey

A drinking water well survey was conducted during the summer 2006 by CRA (CRA 2006) around the Dresden Nuclear Power Station.

C. Summary of Results – Inter-Laboratory Comparison Program

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

D. Leaks, Spills, and Releases

In the summer of 2004 elevated tritium concentrations were identified in sentinel wells by the HPCI suction line near the HPCI room. This line was found leaking and about one-half of the line was excavated and replaced.

In January of 2006 there was an increase in tritium concentration in two sentinel wells near the HPCI suction line adjacent to the 2/3B Contaminated Storage Tank (2/3B CST). This suggested that the other half of the HPCI suction line was leaking. The line was excavated and pressure tested. It was determined that this line was not leaking. The line did show some indications of degradation and as a result, this half of the line was replaced.

There have been no incidences of a leaks or spills at Dresden Station in 2007.

E. Trends

The tritium concentration in the water found near the 2004 HPCI leak is traveling to the west. Wells in the vicinity show that tritium levels have been trending down slightly.

F. Investigations

Following a heavy rain in August of 2007, water was flowing into the Cribhouse basement through an underground electrical penetration. The water contained tritium at a concentration above LLD. Samples taken the

next day were showed higher concentrations of tritium suggesting an increasing trend.

Further monitoring showed the tritium concentration was steady for a few days then started decreasing. The flow decrease over the next several days then stopped completely. If this were a leak of an underground piping system we would expect that the flow would continue.

There is currently no flow through any Cribhouse electrical penetrations and Dresden continues to monitor in the vicinity of the Cribhouse basement.

G. Actions Taken

1. Compensatory Actions

   No compensatory actions were taken as a result of the RGPP in 2007.

2. Actions to Recover/Reverse Plumes

   No actions were taken by Dresden Station if an effort to reverse plume movement.

APPENDIX A

TABLE A-1: Radiological Groundwater Protection Program - Sampling Locations
Dresden Nuclear Power Station, 2007

Site	Site Type	Location
DSP-105	Monitoring Well	30 feet east of the east wall of the EM Shop
DSP-106	Monitoring Well	65 feet east of east wall of EM Shop
DSP-107	Monitoring Well	9 feet east of the east Unit 1 Fuel Pool wall
DSP-108	Monitoring Well	40 ft east of the Unit 1 Sphere
DSP-117	Monitoring Well	Northeast of Unit 1 Sphere; 825 feet west of Ross Bridge
DSP-121	Monitoring Well	72 feet north of 2/3 Intake Canal fence
DSP-122	Monitoring Well	50 feet north of the Radwaste Tank Farm
DSP-123	Monitoring Well	Northeast corner of the Unit 1 Off-gas Building
DSP-124	Monitoring Well	9 feet south of Floor Drain Collector Tank
DSP-125	Monitoring Well	Northeast corner of the Unit 2/3A CST
DSP-126	Monitoring Well	21 feet northwest of the northwest bend in road behind Training Building
DSP-147	Monitoring Well	325 feet west of Telemetry Bridge
DSP-148	Monitoring Well	130 feet southeast of the Flow Regulating Station building
DSP-149R	Monitoring Well	35 feet south by southwest of the 138 KV yard fence
DSP-150	Monitoring Well	85 feet east of the northeast corner of the Unit 1 Spent Fuel Pool pad
DSP-151	Monitoring Well	65 feet north of the northeast corner of the Storeroom
DSP-152	Monitoring Well	210 feet south by southeast of the southeast corner of Maintenance Garage
DSP-153	Monitoring Well	150 feet east of the southeast corner of liquid hydrogen tank farm fence
DSP-154	Monitoring Well	33 feet west of the track; 165 feet east of the Security Checkpoint
DSP-156	Monitoring Well	70 feet east by northeast of the northwest corner of 138 KV yard fence
DSP-157-I (M)	Monitoring Well	25 feet south of the south edge of the Employee Parking lot
DSP-157-S	Monitoring Well	25 feet south of the south edge of the Employee Parking lot
DSP-158-I (M)	Monitoring Well	53 feet west of the Kankakee River; 33 feet west of the cinder track
DSP-158-S	Monitoring Well	50 feet west of the Kankakee River; 33 feet west of the cinder track
DSP-159-I (M)	Monitoring Well	250 feet west of the Thorsen house; 450 ft south of the plant access gate
DSP-159-S	Monitoring Well	251 feet west of the Thorsen house; 450 ft south of the plant access gate
MW-DN-101-I	Monitoring Well	60 feet north of the Unit 1 Diesel Fuel Storage
MW-DN-101-S	Monitoring Well	60 feet north of the Unit 1 Diesel Fuel Storage
MW-DN-102-I	Monitoring Well	12 feet south of the southeast corner of the MUDS Building
MW-DN-102-S	Monitoring Well	13 feet south of the southeast corner of the MUDS Building
MW-DN-103-I	Monitoring Well	280 feet west of the northwest corner of N-GET Building
MW-DN-103-S	Monitoring Well	281 feet west of the northwest corner of N-GET Building
MW-DN-104-S	Monitoring Well	50 feet north of Radwaste Tank Farm
MW-DN-105-S	Monitoring Well	65 feet north of the northeast corner of the Storeroom
MW-DN-106-S	Monitoring Well	75 feet north of the 2/3 Intake Canal fence; east of the Unit 1 Intake Canal
MW-DN-107-S	Monitoring Well	15 feet west by southwest of the Unit 1 CST
MW-DN-108-I	Monitoring Well	7 feet southwest of the southwest corner of the Unit 1 Cribhouse
MW-DN-109-I	Monitoring Well	8 feet north of Chemistry Building
MW-DN-109-S	Monitoring Well	8 feet north of Chemistry Building
MW-DN-110-I	Monitoring Well	25 feet west of the Waste Water Treatment (WWT) Building
MW-DN-110-S	Monitoring Well	25 feet west of the Waste Water Treatment (WWT) Building
MW-DN-111-S	Monitoring Well	9 feet east of the Floor Drain Collector Tank
MW-DN-112-I	Monitoring Well	100 feet south of the Chemistry Building

TABLE A-1: Radiological Groundwater Protection Program - Sampling Locations
Dresden Nuclear Power Station, 2007

Site	Site Type	Location
MW-DN-112-S	Monitoring Well	100 feet south of the Chemistry Building
MW-DN-113-I	Monitoring Well	90 feet west of the southwest corner of the Administration Building
MW-DN-113-S	Monitoring Well	91 feet west of the southwest corner of the Administration Building
MW-DN-114-I	Monitoring Well	50 feet east of the Unit 1 Clean Demineralized Water Tank
MW-DN-114-S	Monitoring Well	8 feet southwest of the Radiation protection Dept west access doors
MW-DN-115-I	Monitoring Well	11 feet south of Instrument Maintenance Shop
MW-DN-115-S	Monitoring Well	12 feet south of Instrument Maintenance Shop
MW-DN-116-I	Monitoring Well	75 feet south of the Calgon Building roll-up door
MW-DN-116-S	Monitoring Well	75 feet south of the Calgon Building roll-up door
MW-DN-117-I	Monitoring Well	35 feet east by northeast of the Unit 1 Stack
MW-DN-118-S	Monitoring Well	Southeast corner of the Unit 1 Fuel Pool
MW-DN-119-I	Monitoring Well	20 feet east by northeast of the Unit 1 Sewage Ejector Building
MW-DN-119-S	Monitoring Well	21 feet east by northeast of the Unit 1 Sewage Ejector Building
MW-DN-120-I	Monitoring Well	45 feet north by northeast of the Ross Bridge railing
MW-DN-120-S	Monitoring Well	46 feet north by northeast of the Ross Bridge railing
MW-DN-121-S	Monitoring Well	7 feet west of the dirt road; 42 feet east of the 345KV yard fence
MW-DN-122-I	Monitoring Well	150 feet north of Heineke Road; northeast of the G.E. Fuel Storage Facility
MW-DN-122-S	Monitoring Well	150 feet north of Heineke Road; northeast of the G.E. Fuel Storage Facility
MW-DN-123-I	Monitoring Well	400 feet west of the Thorsen house; west of the Cold Canal
MW-DN-123-S	Monitoring Well	400 feet west of the Thorsen house; west of the Cold Canal
MW-DN-124-I	Monitoring Well	10 feet south of the liquid nitrogen inerting tanks
MW-DN-124-S	Monitoring Well	10 feet south of the liquid nitrogen inerting tanks
SW-DN-101	Surface Water	Unit 2/3 Intake (DSP50) at the Ross Bridge
SW-DN-102	Surface Water	Unit 2/3 Discharge (DSP20) at the Telemetry Bridge
SW-DN-103	Surface Water	Unit 2/3 Return Canal at the Discharge to the Intake Canal
SW-DN-104	Surface Water	Cold Canal (DSP34A) at the Cooling Tower walkway bridge
SW-DN-105	Surface Water	Hot Canal (DSP34B) at the Cooling Tower walkway bridge
SW-DN-106	Surface Water	Cooling Pond - Pool II at the east side of the Covered Bridge

APPENDIX B

DATA TABLES

TABLE B-I.1 CONCENTRATIONS OF TRITIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICNITY OF DRESDEN NUCLEAR POWER STATION, 2007

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3
DSP-105	05/10/07	301 ± 109
DSP-105	10/23/07	193 ± 122
DSP-106	05/21/07	2540 ± 299
DSP-106	10/23/07	2670 ± 339
DSP-107	05/21/07	7430 ± 782
DSP-107	10/23/07	7380 ± 802
DSP-108	05/21/07	1770 ± 225
DSP-108	10/23/07	1790 ± 251
DSP-117	05/02/07	< 161
DSP-117	10/30/07	< 194
DSP-121	05/02/07	< 154
DSP-121	10/30/07	< 188
DSP-122	05/11/07	3930 ± 432
DSP-122	10/26/07	3990 ± 467
DSP-123	05/21/07	12200 ± 1260
DSP-123	10/26/07	11200 ± 1180
DSP-124	05/21/07	28600 ± 2890
DSP-124	10/26/07	18700 ± 1920
DSP-125	05/09/07	319 ± 110
DSP-125	10/26/07	203 ± 127
DSP-126	05/01/07	< 155
DSP-126	10/31/07	< 194
DSP-147	05/02/07	< 156
DSP-147	10/30/07	< 194
DSP-148	05/02/07	268 ± 112
DSP-148	10/30/07	235 ± 130
DSP-149R	05/02/07	463 ± 116
DSP-149R	10/30/07	399 ± 134
DSP-150	05/08/07	< 148
DSP-150	10/25/07	< 195
DSP-151	05/08/07	189 ± 99
DSP-151	10/25/07	< 191
DSP-152	05/01/07	< 155
DSP-152	11/01/07	< 192
DSP-153	05/01/07	< 156
DSP-153	10/31/07	< 192
DSP-154	05/01/07	< 160
DSP-154	10/31/07	< 196
DSP-156	05/02/07	< 161
DSP-156	10/30/07	233 ± 134
DSP-157M	05/01/07	< 157
DSP-157M	10/31/07	< 189
DSP-157S	05/01/07	< 154
DSP-157S	10/31/07	< 199

SAMPLES ARE DISTILLED FOR H-3 ANALYSIS

TABLE B-I.1 CONCENTRATIONS OF TRITIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICNITY OF DRESDEN NUCLEAR POWER STATION, 2007

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3
DSP-158I	11/01/07	< 188
DSP-158M	05/01/07	< 153
DSP-158S	05/01/07	< 157
DSP-158S	11/01/07	< 199
DSP-159M	05/02/07	596 ± 129
DSP-159M	10/29/07	416 ± 140
DSP-159S	05/02/07	< 156
DSP-159S	10/29/07	< 198
MW-101I	05/09/07	2420 ± 286
MW-101I	10/24/07	1830 ± 258
MW-101S	05/09/07	< 148
MW-101S	10/24/07	195 ± 128
MW-102I	05/11/07	< 148
MW-102I	10/25/07	< 192
MW-102S	05/11/07	252 ± 104
MW-102S	10/25/07	480 ± 140
MW-103I	05/01/07	356 ± 112
MW-103I	11/01/07	188 ± 120
MW-103S	05/01/07	< 147
MW-103S	11/01/07	< 179
MW-104S	05/11/07	246 ± 104
MW-104S	10/26/07	382 ± 134
MW-105S	05/08/07	178 ± 101
MW-105S	10/25/07	< 192
MW-106S	05/02/07	< 145
MW-106S	10/30/07	< 177
MW-107S	05/21/07	255 ± 105
MW-107S	10/25/07	2350 ± 306
MW-108I	05/11/07	< 156
MW-108I	10/24/07	< 193
MW-109I	05/10/07	1090 ± 167
MW-109I	10/24/07	541 ± 141
MW-109S	05/10/07	254 ± 109
MW-109S	10/24/07	< 190
MW-110I	05/08/07	429 ± 119
MW-110I	10/24/07	525 ± 143
MW-110S	05/08/07	< 156
MW-110S	10/24/07	< 192
MW-111S	05/11/07	767 ± 138
MW-111S	10/26/07	742 ± 157
MW-112I	05/09/07	1410 ± 197
MW-112S	05/09/07	< 160

SAMPLES ARE DISTILLED FOR H-3 ANALYSIS

TABLE B-I.1 CONCENTRATIONS OF TRITIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICNITY OF DRESDEN NUCLEAR POWER STATION, 2007

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3
MW-113I	05/08/07	< 157
MW-113I	10/25/07	< 196
MW-113S	05/08/07	< 156
MW-113S	10/25/07	349 ± 135
MW-114I	05/21/07	7890 ± 834
MW-114I	10/26/07	9470 ± 1010
MW-114S	05/10/07	1070 ± 166
MW-114S	10/26/07	1530 ± 229
MW-115I	05/09/07	< 151
MW-115I	10/25/07	206 ± 126
MW-115S	05/09/07	168 ± 105
MW-115S	10/25/07	< 195
MW-116I	05/10/07	4390 ± 486
MW-116I	10/24/07	4390 ± 507
MW-116S	05/10/07	343 ± 116
MW-116S	10/24/07	457 ± 141
MW-117I	05/11/07	250 ± 103
MW-117I	10/24/07	227 ± 131
MW-118S	05/10/07	3180 ± 361
MW-118S	10/23/07	1440 ± 223
MW-119I	05/09/07	383 ± 114
MW-119I	10/23/07	1670 ± 242
MW-119S	05/09/07	< 146
MW-119S	10/23/07	< 196
MW-120I	05/02/07	< 150
MW-120I	10/30/07	< 182
MW-120S	05/02/07	< 150
MW-120S	10/30/07	< 183
MW-121S	05/02/07	< 150
MW-121S	10/31/07	< 179
MW-122I	05/02/07	< 145
MW-122I	10/29/07	< 182
MW-122S	05/02/07	< 150
MW-122S	10/29/07	< 183
MW-123I	05/02/07	< 147
MW-123I	10/29/07	< 179
MW-123S	05/02/07	< 150
MW-123S	10/29/07	< 182
MW-124I	01/05/07	112000 ± 5840
MW-124I	05/21/07	105000 ± 10500
MW-124I	10/26/07	125000 ± 12500
MW-124S	01/05/07	82700 ± 4380
MW-124S	05/21/07	137000 ± 13700
MW-124S	10/26/07	114000 ± 11400

SAMPLES ARE DISTILLED FOR H-3 ANALYSIS

TABLE B-I.2

CONCENTRATIONS OF GAMMA EMITTERS IN GROUNDWATER SAMPLES COLLECTED IN THE VICNITY OF DRESDEN NUCLEAR POWER STATION, 2007

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC		COLLECTION PERIOD	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140
DSP-105		10/23/07 - 10/23/07	< 70	< 2	< 3	< 9	< 3	< 5	< 4	< 7	< 2	< 3	< 42
DSP-106		10/23/07 - 10/23/07	< 76	< 3	< 4	< 9	< 3	< 6	< 4	< 8	< 3	< 3	< 52
DSP-107		10/23/07 - 10/23/07	< 58	< 3	< 4	< 9	< 3	< 7	< 4	< 6	< 3	< 3	< 49
DSP-108		10/23/07 - 10/23/07	< 38	< 3	< 3	< 8	< 3	< 5	< 4	< 6	< 3	< 3	< 52
DSP-117		10/30/07 - 10/30/07	< 24	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 1	< 1	< 30
DSP-121		10/30/07 - 10/30/07	129 ± 24	< 2	< 3	< 7	< 2	< 4	< 3	< 5	< 2	< 2	< 43
DSP-122		10/26/07 - 10/26/07	< 26	< 3	< 3	< 7	< 3	< 5	< 3	< 5	< 2	< 2	< 38
DSP-123		10/26/07 - 10/26/07	165 ± 52	< 3	< 4	< 7	< 3	< 7	< 4	< 6	< 3	< 3	< 44
DSP-124		10/26/07 - 10/26/07	< 17	< 2	< 2	< 5	< 1	< 4	< 2	< 3	< 2	< 2	< 21
DSP-125		10/26/07 - 10/26/07	< 67	< 3	< 3	< 9	< 2	< 6	< 4	< 7	< 3	< 3	< 41
DSP-126		10/31/07 - 10/31/07	< 32	< 2	< 2	< 5	< 2	< 4	< 3	< 4	< 2	< 2	< 36
DSP-147		10/30/07 - 10/30/07	< 46	< 2	< 3	< 7	< 2	< 5	< 3	< 5	< 2	< 2	< 42
DSP-148		10/30/07 - 10/30/07	< 45	< 2	< 3	< 7	< 2	< 4	< 3	< 5	< 2	< 2	< 40
DSP-149R		10/30/07 - 10/30/07	< 14	< 2	< 2	< 5	< 2	< 3	< 2	< 4	< 1	< 2	< 32
DSP-150		10/25/07 - 10/25/07	< 16	< 2	< 2	< 4	< 2	< 4	< 2	< 4	< 2	< 2	< 24
DSP-151		10/25/07 - 10/25/07	< 44	< 2	< 3	< 6	< 2	< 5	< 3	< 5	< 2	< 3	< 34
DSP-152		11/01/07 - 11/01/07	< 18	< 2	< 3	< 6	< 2	< 4	< 3	< 5	< 2	< 2	< 39
DSP-153		10/31/07 - 10/31/07	< 19	< 2	< 3	< 6	< 2	< 5	< 3	< 5	< 2	< 2	< 42
DSP-154		10/31/07 - 10/31/07	< 18	< 2	< 2	< 6	< 2	< 5	< 3	< 4	< 2	< 2	< 38
DSP-156		10/30/07 - 10/30/07	58 ± 25	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 2	< 2	< 35
DSP-157M		10/31/07 - 10/31/07	< 22	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 1	< 1	< 29
DSP-157S		10/31/07 - 10/31/07	< 37	< 2	< 2	< 6	< 2	< 4	< 3	< 5	< 2	< 2	< 45
DSP-158I		11/01/07 - 11/01/07	< 32	< 2	< 2	< 6	< 2	< 4	< 3	< 4	< 2	< 2	< 38
DSP-158S		11/01/07 - 11/01/07	< 30	< 2	< 2	< 5	< 2	< 3	< 2	< 4	< 2	< 2	< 32
DSP-159M		10/29/07 - 10/29/07	< 37	< 2	< 2	< 6	< 2	< 4	< 2	< 4	< 2	< 2	< 41
DSP-159S		10/29/07 - 10/29/07	< 40	< 2	< 3	< 6	< 2	< 4	< 3	< 4	< 2	< 2	< 44
MW-DN-101I		10/24/07 - 10/24/07	< 23	< 3	< 3	< 7	< 3	< 6	< 3	< 5	< 2	< 3	< 38
MW-DN-101S		10/24/07 - 10/24/07	< 52	< 2	< 3	< 7	< 2	< 5	< 3	< 5	< 2	< 3	< 34
MW-DN-102I	Orig	10/25/07 - 10/25/07	< 53	< 2	< 3	< 7	< 3	< 6	< 3	< 6	< 2	< 3	< 37
MW-DN-102I	Rerun	10/25/07 - 10/25/07		< 2	< 3	< 10	< 2	< 4	< 4	< 6	< 2	< 2	< 260
MW-DN-102S		10/25/07 - 10/25/07		< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 2	< 2	< 27
MW-DN-103I		11/01/07 - 11/01/07		< 4	< 4	< 11	< 4	< 9	< 5	< 8	< 4	< 4	< 49
			< 32										
			< 37										
			< 71										

TABLE B-I.2

CONCENTRATIONS OF GAMMA EMITTERS IN GROUNDWATER SAMPLES COLLECTED IN THE VICNITY OF DRESDEN NUCLEAR POWER STATION, 2007

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140
MW-DN-103S	11/01/07 - 11/01/07	< 25	< 3	< 3	< 9	< 4	< 6	< 4	< 6	< 3	< 3	< 42
MW-DN-104S	10/26/07 - 10/26/07	< 49	< 2	< 3	< 6	< 2	< 5	< 3	< 6	< 2	< 3	< 35
MW-DN-105S	10/25/07 - 10/25/07	< 58	< 3	< 4	< 9	< 3	< 7	< 4	< 6	< 3	< 3	< 44
MW-DN-106S	10/30/07 - 10/30/07	< 57	< 3	< 3	< 9	< 3	< 6	< 4	< 6	< 3	< 3	< 49
MW-DN-107S	10/25/07 - 10/25/07	< 10	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 1	< 1	< 15
MW-DN-108I	10/24/07 - 10/24/07	< 49	< 5	< 5	< 14	< 5	< 10	< 7	< 10	< 4	< 7	< 57
MW-DN-109I	10/24/07 - 10/24/07	< 114	< 6	< 6	< 16	< 6	< 13	< 7	< 10	< 5	< 5	< 51
MW-DN-109S	10/24/07 - 10/24/07	< 46	< 5	< 6	< 11	< 5	< 9	< 5	< 9	< 4	< 4	< 43
MW-DN-110I	10/24/07 - 10/24/07	< 89	< 5	< 5	< 12	< 5	< 9	< 6	< 9	< 4	< 4	< 50
MW-DN-110S	10/24/07 - 10/24/07	< 23	< 2	< 3	< 6	< 2	< 5	< 3	< 5	< 2	< 3	< 25
MW-DN-111S	10/26/07 - 10/26/07	< 65	< 3	< 4	< 8	< 3	< 7	< 4	< 7	< 3	< 3	< 33
MW-DN-113I	10/25/07 - 10/25/07	< 34	< 3	< 4	< 8	< 4	< 8	< 4	< 7	< 3	< 3	< 30
MW-DN-113S	10/25/07 - 10/25/07	< 32	< 4	< 4	< 8	< 3	< 7	< 3	< 7	< 3	< 4	< 34
MW-DN-114I	10/26/07 - 10/26/07	< 78	< 4	< 4	< 9	< 3	< 8	< 4	< 8	< 3	< 4	< 35
MW-DN-114S	10/26/07 - 10/26/07	< 26	< 3	< 3	< 6	< 3	< 6	< 3	< 5	< 3	< 3	< 27
MW-DN-115I	10/25/07 - 10/25/07	< 69	< 3	< 4	< 8	< 3	< 7	< 4	< 7	< 3	< 3	< 32
MW-DN-115S	10/25/07 - 10/25/07	< 33	< 3	< 4	< 8	< 4	< 7	< 4	< 6	< 3	< 3	< 37
MW-DN-116I	10/24/07 - 10/24/07	< 77	< 4	< 5	< 11	< 5	< 7	< 5	< 8	< 4	< 5	< 50
MW-DN-116S	10/24/07 - 10/24/07	58 ± 39	< 3	< 4	< 8	< 3	< 6	< 4	< 7	< 3	< 3	< 32
MW-DN-117I	10/24/07 - 10/24/07	< 58	< 4	< 4	< 12	< 4	< 8	< 5	< 8	< 4	< 4	< 45
MW-DN-118S	10/23/07 - 10/23/07	< 54	< 3	< 3	< 8	< 4	< 6	< 4	< 6	< 3	< 3	< 40
MW-DN-119I	10/23/07 - 10/23/07	< 59	< 4	< 4	< 9	< 4	< 7	< 4	< 7	< 3	< 3	< 41
MW-DN-119S	10/23/07 - 10/23/07	< 59	< 3	< 3	< 8	< 3	< 6	< 4	< 7	< 3	< 3	< 39
MW-DN-120I	10/30/07 - 10/30/07	< 61	< 3	< 3	< 8	< 3	< 6	< 3	< 6	< 3	< 3	< 47
MW-DN-120S	10/30/07 - 10/30/07	< 22	< 2	< 3	< 8	< 3	< 5	< 4	< 6	< 2	< 3	< 43
MW-DN-121S	10/31/07 - 10/31/07	< 69	< 3	< 4	< 9	< 3	< 7	< 4	< 6	< 3	< 3	< 43
MW-DN-122I	10/29/07 - 10/29/07	< 25	< 3	< 3	< 8	< 3	< 6	< 4	< 6	< 2	< 3	< 45
MW-DN-122S	10/29/07 - 10/29/07	< 51	< 3	< 3	< 7	< 3	< 5	< 3	< 6	< 2	< 3	< 42
MW-DN-123I	10/29/07 - 10/29/07	< 25	< 3	< 3	< 8	< 3	< 6	< 3	< 6	< 3	< 3	< 46
MW-DN-123S	10/29/07 - 10/29/07	< 58	< 3	< 3	< 7	< 3	< 5	< 3	< 6	< 2	< 3	< 45
MW-DN-124I	10/26/07 - 10/26/07	< 27	< 3	< 4	< 7	< 3	< 7	< 4	< 7	< 3	< 3	< 37
MW-DN-124S	10/26/07 - 10/26/07	< 35	< 3	< 4	< 9	< 3	< 8	< 4	< 7	< 3	< 4	< 41

TABLE B-II.1 CONCENTRATIONS OF TRITIUM IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3
SW-DN-101	04/30/07	< 146
SW-DN-101	10/22/07	4670 ± 535
SW-DN-102	04/30/07	< 143
SW-DN-102	10/22/07	1680 ± 242
SW-DN-103	04/30/07	185 ± 101
SW-DN-103	10/22/07	1340 ± 212
SW-DN-104	04/30/07	< 147
SW-DN-104	10/22/07	1230 ± 203
SW-DN-105	04/30/07	243 ± 104
SW-DN-105	10/22/07	1710 ± 246
SW-DN-106	04/30/07	< 149
SW-DN-106	10/22/07	1350 ± 213

TABLE B-II.2 **CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2007**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Be-7	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
SW-DN-101	10/22/07	< 21	< 40	< 2	< 2	< 6	< 2	< 4	< 3	< 4	< 20	< 2	< 2	< 28	< 10
SW-DN-102	10/22/07	< 21	134 ± 24	< 2	< 2	< 5	< 2	< 3	< 2	< 4	< 20	< 2	< 2	< 27	< 7
SW-DN-103	10/22/07	< 21	< 17	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 22	< 2	< 2	< 29	< 10
SW-DN-104	10/22/07	< 27	< 44	< 2	< 3	< 6	< 3	< 6	< 3	< 5	< 27	< 2	< 3	< 37	< 11
SW-DN-105	10/22/07	< 10	< 27	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 9	< 1	< 1	< 13	< 4
SW-DN-106	10/22/07	< 24	< 20	< 2	< 3	< 6	< 3	< 6	< 3	< 5	< 24	< 2	< 2	< 33	< 12