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Dresden Nuclear Power Station Units 1, 2, and 3
Facility Operation 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: Dresden Nuclear Power Station 2014 Annual Radiological Environmental Operating Report

Enclosed is the Exelon Dresden Nuclear Power Station 2014 Annual Radiological Environmental Operating Report, submitted in accordance with Section 6.9.A.3 of the Unit 1 Dresden Nuclear Power Station Technical Specifications and Section 5.6.2, "Annual Radiological Environmental Operation Report," of the Units 2 and 3 Technical Specifications. This report provides the results of the radiological environmental monitoring program for the 2014 calendar year.

In addition, Appendix F of the report contains the results of groundwater monitoring conducted in accordance with Exelon's 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 Bruce Franzen, Regulatory Assurance Manager, at (815) 416-2800.

Respectfully,

Shane Marik
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

NMSS20
IE25
NRR
NMSS

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 2014

Prepared By

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May 2015

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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 2014 through 31 December 2014. During that time period 1,924 analyses were performed on 1,839 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.

In 2014, the Dresden Generating Station released to the environment through the radioactive effluent liquid and gaseous pathways approximately 9.75E+01 curies of fission and activation gasses, 2.83E+01 curies of Carbon-14 and approximately 2.86E+01 curies of tritium. The dose from both liquid and gaseous effluents was conservatively calculated for the Maximum Exposed Member of the Public. The results of those calculations and their comparison to the allowable limits are excerpted from the Dresden Generating Station 2014 Annual Radioactive Effluent Release Report (page 35):

1. Liquid Dose to a Member of the Public for 2014
   Total Body: 3.97E-06 mrem
   Organ: 3.97E-06 mrem
   The above dose values are site totals. Liquid dose limits are assigned per unit (3 mrem/year/unit for total body, and 10 mrem/year/unit for any organ – from page 1 of the 2014 Annual Radioactive Effluent Release Report). Because the site values are significantly lower than the per unit limits, it can be concluded the effluent dose attributed to each unit is below the ODCM limits shown on page 1 of the 2014 Annual Radioactive Effluent Release Report .

2. Airborne Effluent Dose to a Member of the Public for 2014
   Gamma air (noble gases): 3.36E-03 mrad
   Beta air (noble gases): 2.12E-04 mrad
   Total Body (noble gases): 2.24E-03 mrem
   Skin (noble gases): 3.86E-03 mrem
   Organ - thyroid (particulate/iodine): 9.22E-02 mrem
   The above dose values are site totals. Airborne dose limits are assigned per unit (gamma air dose is 10 mrad/year/unit, beta air dose is 20 mrad/year/unit, organ dose limit is 15 mrem/year/unit - from page 1 of the 2014 Annual Radioactive Effluent Release Report) Because the site values are significantly lower than the per unit limits, it can be concluded the effluent dose attributed to each unit is below the ODCM limits shown on page 1 of the 2014 Annual Radioactive Effluent Release Report. Total body and skin doses due to noble gases are addressed as part of the 40CFR190 / 10CFR72 Compliance evaluation below.

3. Direct Radiation Dose to a Member of the Public for 2014
   Total Body (excluding skyshine): 1.80E+00 mrem

Total Body (skyshine): 8.60E+00 mrem

4. Total Body Doses to the Population and Average Doses to Individuals in the Population from All Receiving-Water-Related-Pathways: Not applicable for DNPS. No downstream drinking water pathway exist within the specified distance of 10 kilometers (6.2miles).

5. Total Body Doses to the Population and Average Doses to Individuals in the Population from Gaseous Effluents to a Distance of 50 Miles: Not applicable for DNPS.

6. Doses From Liquid and Gaseous Effluent to Members of the Public Due to Their Activities Inside the Site Boundary for the Report Period: Not applicable for DNPS. Any member of the public that is onsite for a significant period will be issued a Optical Stimulated Luminescent Dosimeter (OSLD).

7. Liquid and Gaseous Effluent Radiation Monitors and Instrumentation Unavailability for the Period Beyond the Requirements of the ODCM, Including Sampling Deviation: None

8. 40CFR190 / 10CFR72 Compliance
The General Electric Hitachi Nuclear Energy Morris Operation (GE-Hitachi Morris Operation) facility is physically located near Dresden Station and, in addition to evolutions performed at Dresden station, is considered in the evaluation of the uranium fuel cycle on members of the public in the general environment for 40CFR190 compliance.

   Dresden decommissioning activities (Unit 1) and operations (Units 2 and 3) resulted in a maximum 9.61E-02 mrem organ dose and 1.04E+01 mrem total body dose. Radiological Environmental Monitoring Program (REMP) direct radiation monitoring at or near the site boundary (1.80E+00 mrem) demonstrates that total body dose calculations to account for skyshine are conservative.

   No effluents were released from the Dresden Independent Spent Fuel Storage Installations (ISFSIs) during 2014. REMP direct radiation monitoring at or near the site boundary demonstrates that the ISFSIs do not result in measurable dose to the public.

   According to the 2014 GE-Hitachi Morris Operation 10CFR72.44(d)(3) report, dated 2/24/2015, for the 2014 calendar year, the maximum dose at their site boundary from direct radiation exposure was 6.85E-01 mrem. The maximum organ dose from site activities was 1.34E-02 mrem for 2014.

   Maximum combined total body dose from Dresden and GE-Hitachi Morris Operation activities was 1.11E+01 mrem during 2014, which was 44.4 % of the 40CFR190 limit of 25 mrem.

Maximum combined organ dose from Dresden and GE-Hitachi Morris Operation activities was 1.10E-01 mrem during 2014. This was 0.44 % of the 40CFR190 limit of 25 mrem to any organ. The combined thyroid dose was 1.06E-01 mrem. This was 0.14 % of the 40CFR190 limit of 75 mrem.

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), and sediment samples were analyzed for concentrations of gamma emitting nuclides. No fission or activation products were detected in fish. Cesium-137 was detected in both sediment samples at a concentration consistent with levels observed in previous years. No power station 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 for I-131.

Cow milk samples were not analyzed in 2014 for concentrations of I-131 and gamma emitting nuclides due to the cows being sold.

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 Optically Stimulated Luminescent Dosimetry (OSLD). Beginning in 2012, Exelon changed the type of dosimetry used for the Radiological Environmental Monitoring Program (REMP). Optically Stimulated Luminescent Dosimetry were deployed and Thermoluminescent Dosimetry (TLD) were discontinued. This change may result in a step change in readings, up or down, depending on site characteristics. The relative comparison to control locations remains valid. OSLD technology is different than that used in a TLD but has the same purpose (to measure direct radiation).

II. Introduction

The Dresden Nuclear Power Station (DNPS), consisting of one retired reactor and two operating 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) and Landauer on samples collected during the period 1 January 2014 through 31 December 2014.

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 Environmental Incorporated Midwest Laboratory (EIML). This section describes the general collection methods used by EIML to obtain environmental samples for the DNPS REMP in 2014. Sample locations and descriptions can be found in Appendix B, Table B–1 and Figures B–1 and B-2. 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 (SW), ground water (GW), fish (FI) and sediment (SS). Samples were collected from three surface water locations (D-21, D-52 and D-57) and composited for analysis. Control locations were D-52 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 golden redhorse, smallmouth bass, 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.

Atmospheric Environment

The atmospheric environment was evaluated by performing radiological analyses on samples of air particulate and airborne iodine (AP/AI). 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-14, D-45, D–53, D-55, D-56 and D-58). 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.

Terrestrial Environment

Milk (M) samples are typically 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 (6.2 miles) 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 (FL) 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

Beginning in 2012, Exelon changed the type of dosimetry used for the Radiological Environmental Monitoring Program (REMP). Optically Stimulated Luminescent Dosimetry (OSLD) were deployed and Thermoluminescent Dosimetry (TLD) were discontinued. This change may result in a step change in readings, up or down, depending on site characteristics. The relative comparison to control locations remains valid. OSLD technology is different than that used in a TLD but has the same purpose (to measure direct radiation).

Each location consisted of two OSLD sets. The OSLD locations were placed on and around the DNPS site as follows:

An inner ring consisting of 17 locations (D-58, 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 (3.1 to 6.2 miles) from the site.

Other locations consisting of OSLD sets at the 13 air sampler locations (D-01, D-02, D-03, D-04, D-07, D-08, D-10, D-14, D-45, D-53, D-55, D-56 and D-58).

The balance of one location (D-12) represents the control area OSLD set.

The OSLDs were exchanged quarterly and sent to Landauer 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 2014. The analytical procedures used by the laboratories are listed in Appendix B 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 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 groundwater, surface water, and vegetation twelve nuclides, Mn-54, Co-58, Fe-59, Co-60, Zn-65, Nb-95, Zr-95, I-131, Cs-134, Cs-137, Ba-140 and La-140 were reported.

For fish, sediment, air particulate and milk eleven 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 2014 the DNPS REMP had a sample recovery rate greater than 97%. 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
WW	D-23	01/10/14	No sample; frozen pipes. Collector obtained sample 01/17/14.
AP/I	D-02	01/24/14	No sample; Ross barrier would not open; collector will attempt to collect next period.
AP/I	D-02	01/31/14	Sample has two week runtime due to inaccessibility last sample period; field check performed.
AP/I	D-08	04/11/14	Controlled burn in field near air sampler; collector noted filter very dark with particulate matter.
AP/I	D-02	04/18/14	Low reading of 154.6 hours; no electricity to building. Collector unable to field check pump. Estimated flow of 60 cfh used for TBE COC.

Table D-1 LISTING OF SAMPLE ANOMALIES (continued)

Sample Type	Location Code	Collection Date	Reason
AP/I	D-53	04/18/14	No apparent reason for low reading of 164.6 hours.
AP/I	D-53	04/25/14	No apparent reason for low reading of 150.2 hours.
AP/I	D-53	05/02/14	No apparent reason for low reading of 150.2 hours. If still low next period, collector will replace timer.
AP/I	D-53	05/09/14	No apparent reason for low reading of 150.2 hours. Collector placed new timer.
AP/I	D-53	05/16/14	No apparent reason for low reading of 141.8 hours. Two timers at location, both have same reading.
AP/I	D-53	05/23/14	No apparent reason for low reading of 145.0 hours. Two timers at location, both have same reading. Collector replaced pump.
AP/I	D-01	07/04/14	Low reading of 99.1 hours possibly due to power outages from storms in the area.
AP/I	D-04	07/04/14	Low reading of 97.1 hours possibly due to power outages from storms in the area.
AP/I	D-12	07/04/14	Low reading of 127.6 hours possibly due to power outages from storms in the area.
AP/I	D-10	07/25/14	Low reading of 137.3 hours possibly due to power outages from storms in the area.

Table D-1 LISTING OF SAMPLE ANOMALIES (continued)

Sample Type	Location Code	Collection Date	Reason
WG	D-23	08/08/14	The LLDs for I-131, Ba-140, and La-140 could not be met because Teledyne mistakenly did not analyze the sample for the gamma analysis when received. This error was discovered by Teledyne while assembling the AREOR. Upon discovering the error, the sample was analyzed for gamma. All LLDs with the exception of I-131, Ba-140 and La-140 were met.
AP/I	D-01	08/22/14	Low reading of 159 hours possibly due to work on power lines in the area.
AP/I	D-02	08/22/14	Low reading of 159.6 hours possibly due to work on power lines in the area.
AP/I	D-03	08/22/14	Low reading of 159.8 hours possibly due to work on power lines in the area.
AP/I	D-04	08/22/14	Low reading of 159 hours possibly due to work on power lines in the area.
AP/I	D-10	10/24/14	No apparent reason for low reading of 83.5 hours

Table D-2 LISTING OF MISSED SAMPLES

Sample Type	Location Code	Collection Date	Reason
M	D-25	01/01/14 – 12/31/14	No sample; farmer sold cows.
AP/I	D-03	01/03/14 – 06/27/14	No electricity. New power supply line installed. Power Restored 06/27/14.

Table D-2 LISTING OF MISSED SAMPLES (continued)

Sample Type	Location Code	Collection Date	Reason
OSLD	D-109-1, D-201-1 D-201-2	01/10/14	OSLDs found missing during quarterly exchange; collector placed new 1st quarter OSLDs. Note: Collector found D-109-1 on 01/17/14.
OSLD	D-106-1, D-113-1, D-203-1	03/28/14	OSLDs found missing during quarterly exchange; placed new 2nd quarter OSLDs. D-113-1 missing; D-106-1 and 203-1 had new utility poles placed; OSLDs gone
OSLD	D-203-1	06/27/14	OSLD found missing during quarterly exchange. Collector placed new 3rd quarter OSLD.
OSLD	D-116-2	01/09/15	OSLD found missing during quarterly exchange. Collector placed new quarterly OSLD.

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

No program changes in 2014.

IV. Results and Discussion

A. Aquatic Environment

1. Surface Water

Samples were composited or taken weekly and composited for analysis at three locations (D-21, D-52 and D-57). Of these

locations only D-21, located downstream, could be affected by Dresden's effluent releases. The following analyses were performed:

Gross Beta

Monthly composites from all locations were analyzed for concentrations of gross beta (Table C–I.1, Appendix C). Gross Beta was detected in all samples. The values ranged from 3.8 to 14.9 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). Two samples at indicator station D-21 were positive for tritium at a concentration of 233 and 1,050 pCi/L. Four samples at control station D-57 were positive for tritium. The values ranged from 535 to 1,280 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). Tritium was detected in eleven of sixteen samples. The concentrations ranged from 329 to 678 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 with the exception of the August D-23 sample for nuclides I-131, Ba-140, and La-140. This occurred is due to the laboratory not analyzing the sample at time of receipt.

3. Fish

Fish samples comprised of golden redhorse, smallmouth bass, 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 both locations. 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 both samples. The concentrations ranged from 129 to 211 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 fourteen locations on a weekly basis. The fourteen locations were separated into four groups: On-site samplers (D-01, D-02 and D-03), Near-field samplers within 3.1 miles of the site (D-04, D-07, D-45, D-53, D-56 and D-58), Far-field samplers between 5 and 10 km (3.1 and 6.2 miles) from the site (D-08, D-10, D-14 and D-55) and the Control sampler between 10 and 30 km (6.2 and 18.6 miles) 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 5 to 30 E-3 pCi/m^3 with a mean of 17 E-3 pCi/m^3. The results from the Near-Field locations ranged from 6 to 31 E-3 pCi/m^3 with a mean of 18 E-3 pCi/m^3. The results from the Far-Field locations ranged from 8 to 35 E-3 pCi/m^3 with a mean of 18 E–3 pCi/m^3. The results from the Control location ranged from 8 to 28 E-3 pCi/m^3 with a mean of 17 E-3 pCi/m^3. Comparison of the 2014 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 2014 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 and K-40 were detected at levels consistent with previous years. No anthropogenic nuclides were detected and all required LLDs were met. These samples were consistent with historical quarterly results. All

other nuclides were less than the MDC.

b. Airborne Iodine

Continuous air samples were collected from fourteen locations (D-01, D-02, D-03, D-04, D-07, D-08, D-10, D-12, D-14, D-45, D-53, D-55, D-56 and D-58) and analyzed weekly for I-131 (Table C–VI.1, Appendix C). All results were less than the MDC for I-131.

2. Terrestrial

a. Milk

There are no indicator locations within 10 kilometers of the station. Samples are typically collected from one control location (D-25) biweekly May through October and monthly November through April. The following analyses would be performed:

Iodine-131

Milk samples from the location are typically analyzed for concentrations of I-131 (Table C–VII.1, Appendix C). I-131 was not analyzed in 2014.

Gamma Spectrometry

Milk samples are typically analyzed for concentrations of gamma emitting nuclides (Table C–VII.2, Appendix C).

Naturally occurring K-40 activity is typically found in all samples. Gamma emitting nuclides were not analyzed in 2014.

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

Beginning in 2012, Exelon changed the type of dosimetry used for the Radiological Environmental Monitoring Program (REMP). Optically Stimulated Luminescent Dosimetry (OSLD) were deployed and Thermoluminescent Dosimetry (TLD) were discontinued. This change may result in a step change in readings, up or down, depending on site characteristics. The relative comparison to control locations remains valid. OSLD technology is different than that used in a TLD but has the same purpose (to measure direct radiation). Forty-six OSLD locations were established around the site. Results of OSLD measurements are listed in Tables C–IX.1 to C–IX.3, Appendix C.

Most OSLD measurements were below 30 mrem/quarter, with a range of 10.7 to 42.8 mrem/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-12-01and D-12-02) were comparable.

D. Land Use Survey

A Land Use Survey conducted on August 16, 2014 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 (6.2 miles) 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	-	-
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 is no errata data for 2014.

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.

In reviewing our environmental inter-laboratory crosscheck programs, we identified 1) duplication of efforts on some matrices and isotopes and 2) that we are performing crosscheck samples on some matrices and isotopes that we do not perform for clients. Since the DOE MAPEP is designed to evaluate the ability of analytical facilities to correctly analyze for radiological constituents representative of those at DOE sites, the needed changes were made to the MAPEP program. Therefore, the following isotopes were removed from the MAPEP program:

Soil – gamma – will be provided by Analytics twice per year, starting in 2015. For 2014, one soil gamma is provided by MAPEP, the 2nd soil gamma is provided by Analytics.

AP – gamma – is currently provided by Analytics.

Water – gamma, H-3, Sr-90, uranium, gross alpha and gross beta currently provided by ERA.

MAPEP evaluates non-reported (NR) analyses as failed if they were reported in the previous series.

For the TBE laboratory, 163 out of 169 analyses performed met the specified acceptance criteria. Six analyses (Ni-63, K-40 and I-131 in water, and two Sr-90s and one Gross Alpha in AP samples) did not meet the specified acceptance criteria for the following reasons:

1. Teledyne Brown Engineering's MAPEP March 2014 Ni-63 in water result of 32.7 ± 1.69 Bq/L was overlooked when reporting the data

but would have passed the acceptance range of 23.9 – 44.2 Bq/L. NCR 14-04

2. Teledyne Brown Engineering's MAPEP March 2014 K-40 in water result of 1.63 ± 2.49 Bq/L was overlooked when reporting the data but would have passed the false positive test. NCR 14-04

3. Teledyne Brown Engineering's ERA November 2014 I-131 in water result of 15.8 pCi/L was lower than the known value of 20.3 pCi/L, failing below the lower acceptance limit of 16.8. The result was evaluated as failed with a found to known ratio of 0.778. No cause could be found for the slightly low result. All ERA I-131 evaluations since 2004 have been acceptable. NCR 14-08

4. Teledyne Brown Engineering's MAPEP March 2014 Sr-90 in AP result of 0.822 Bq/sample was lower than the known value of 1.18 Bq/sample, falling below the lower acceptance limit of 0.83 Bq/sample. The rerun result was still low, but fell within the lower acceptance range of 0.836. The rerun result was statistically the same number as the original result. No cause could be found for the slightly low results. NCR 14-04

5. Teledyne Brown Engineering's MAPEP September 2014 Sr-90 in AP result of 0.310 Bq/sample was lower than the known value of 0.703 Bq/sample. The gravimetric yield of 117% was very high (we normally see yields of 60% to 70%) and could account for the low activity. NCR 14-09

6. Teledyne Brown Engineering's MAPEP September 2014 Gr-Alpha in AP result of 0.153 Bq/sample was lower than the known value of 0.53 Bq/sample. The AP sample was counted on the wrong side. The AP was flipped over and recounted with acceptable results. NCR 14-09

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APPENDIX A

RADIOLOGICAL ENVIRONMENTAL MONITORING REPORT SUMMARY

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TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR DRESDEN NUCLEAR POWER STATION, 2014

NAME OF FACILITY: DRESDEN **DOCKET NUMBER: 50-010** **50-237 & 50-249 2014**
LOCATION OF FACILITY: MORRIS IL **REPORTING PERIOD: ANNUAL**

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	36	4	9.4 (12/12) (6.2/14.9)	7 (24/24) (3.8/12.4)	9.4 (12/12) (6.2/14.9)	D-21 INDICATOR IL RIVER AT EJ&E BRIDGE 1.4 MILES WNW OF SITE	0
	H-3	12	2000	642 (2/4) (233/1050)	836 (4/8) (535/1280)	836 (4/4) (535/1280)	D-57 CONTROL KANKAKEE RIVER AT WILL ROAD(CONTROL) 2.0 MILES SE OF SITE	0
	GAMMA	36						
	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
	NB-95		15	<LLD	<LLD	-		0
	ZR-95		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)

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SURFACE WATER (PCI/LITER)	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
GROUND WATER (PCI/LITER)	H-3	16	2000	476 (11/16) (329/678)	NA	476 (11/12) (329/678)	D-23 INDICATOR THORSEN WELL 0.7 MILES S OF SITE	0
	GAMMA MN-54	16	15	<LLD	NA	-		0
	CO-58		15	<LLD	NA	-		0
	FE-59		30	<LLD	NA	-		0

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GROUND WATER (PCI/LITER)	CO-60		15	<LLD	NA	-		0
	ZN-65		30	<LLD	NA	-		0
	NB-95		15	<LLD	NA	-		0
	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

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FISH (PCI/KG WET)	GAMMA	8						
	MN-54		130	<LLD	<LLD	-		0
	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
	CS-137		150	<LLD	<LLD	-		0

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FISH (PCI/KG WET)	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
	ZN-65		NA	<LLD	NA	-		0
	NB-95		NA	<LLD	NA	-		0
	ZR-95		NA	<LLD	NA	-		0

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SEDIMENT (PCI/KG DRY)	CS-134		150	<LLD	NA	-		0
	CS-137		180	170 (2/2) (129/211)	NA	170 (2/2) (129/211)	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
AIR PARTICULATE (E-3 PCI/CU.METER)	GR-B	702	10	18 (648/650) (5/35)	17 (52/52) (8/28)	19 (52/52) (6/31)	D-56 INDICATOR WILDFEATHER 1.7 MILES SE OF SITE	0
	GAMMA	55						
	MN-54		NA	<LLD	<LLD	-		0
	CO-58		NA	<LLD	<LLD	-		0
	FE-59		NA	<LLD	<LLD	-		0
	CO-60		NA	<LLD	<LLD	-		0

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AIR PARTICULATE (E-3 PCI/CU.METER)	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
	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

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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
	NB-95		NA	<LLD	<LLD	-		0
	ZR-95		NA	<LLD	<LLD	-		0
	I-131		60	<LLD	<LLD	-		0
	CS-134		60	<LLD	<LLD	-		0

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

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)	CS-137		80	<LLD	<LLD	-		0
	BA-140		NA	<LLD	<LLD	-		0
	LA-140		NA	<LLD	<LLD	-		0
DIRECT RADIATION (MILLIREM/QTR.)	OSLD-QUARTERLY	363	NA	30.3 (355/355) (10.7/42.8)	28.8 (8/8) (23/34.7)	35.2 (4/4) (28.4/40.5)	D-110-4 INDICATOR 0.9 MILES SSW	0

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

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APPENDIX B

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

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TABLE B-1: Radiological Environmental Monitoring Program - Sampling Locations, Distance and Direction, Dresden Nuclear Power Station, 2014

Location	Location Description	Distance & Direction From Site
A. Surface Water		
D-21	Illinois River at EJ&E Bridge (indicator)	1.4 miles WNW
D-52	DesPlaines River at Will Road, Upstream (control)	1.1 miles ESE
D-57	Kankakee River at Will Road (control)	2.0 miles SE
B. Ground/Well Water		
D-23	Thorsen Well, Dresden Road (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)	11.4 miles SW
D. Air Particulates / Air Iodine		
D-01	Onsite Station 1 (indicator)	0.8 miles NW
D-02	Onsite Station 2 (indicator)	0.3 miles NNE
D-03	Onsite Station 3 (indicator)	0.4 miles S
D-04	Collins Road, on Station property(indicator)	0.8 miles W
D-07	Clay Products, Dresden Road (indicator)	2.6 miles S
D-08	Jugtown Road, Prairie Parks (indicator)	3.8 miles SW
D-10	Goose Lake Road, Goose Lake Village (indicator)	3.5 miles SSW
D-12	Quarry Road, Lisbon (control)	10.5 miles NW
D-14	Center Street, Channahon (indicator)	3.7 miles NE
D-45	McKinley Woods Road, Channahon (indicator)	1.7 miles ENE
D-53	Will Road, Hollyhock (indicator)	2.1 miles SSE
D-55	Ridge Road, Minooka (indicator)	4.3 miles N
D-56	Will Road, Wildfeather (indicator)	1.7 miles SE
D-58	Will Road, Marina (indicator)	1.1 miles ESE
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	Illinois River at Dresden Lock and Dam, Downstream (indicator)	0.8 miles NW
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, 2014

Location	Location Description	Distance & Direction From Site
H. Environmental Dosimetry - OSLD		
Inner Ring		
D-58-1 and -2		1.1 miles ESE
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 Locations		
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, on Station property	0.8 miles W
D-07-1 and -2	Clay Products, Dresden Road	2.6 miles S
D-08-1 and -2	Jugtown Road, Prairie Parks	3.8 miles SW
D-10-1 and -2	Goose Lake Road, Goose Lake Village	3.5 miles SSW
D-14-1 and -2	Center Street, Channahon	3.7 miles NE
D-45-1 and -2	McKinley Woods Road, Channahon	1.7 miles ENE
D-53-1 and -2	Will Road, Hollyhock	2.1 miles SSE
D-55-1 and -2	Ridge Road, Minooka	4.3 miles N
D-56-1 and -2	Will Road, Wildfeather	1.7 miles SE
D-58-1 and -2	Will Road, Marina	1.1 miles ESE
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, 2014

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, 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, 2014

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
OSLD	Optically Stimulated Luminescence Dosimetry	Quarterly OSLDs comprised of two Al_2O_3:C Landauer Incorporated elements.	EIML-SPM-1, Environmental Incorporated Midwest Laboratory Sampling Procedures Manual	2 dosimeters at each location	Landauer Incorporated

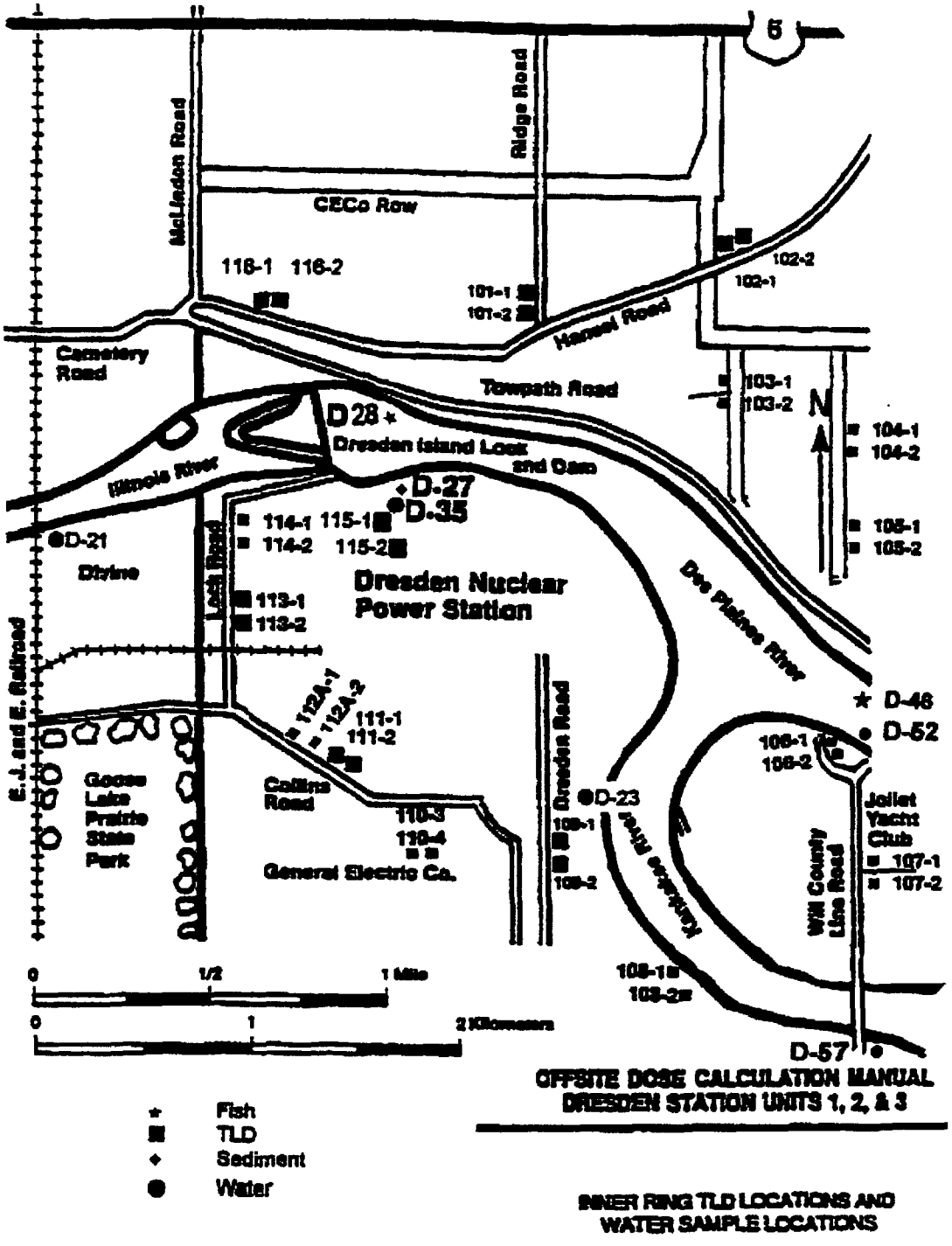

Figure B-1
Dresden Station Inner Ring OSLD Locations, Fish, Water, and Sediment Location, 2014

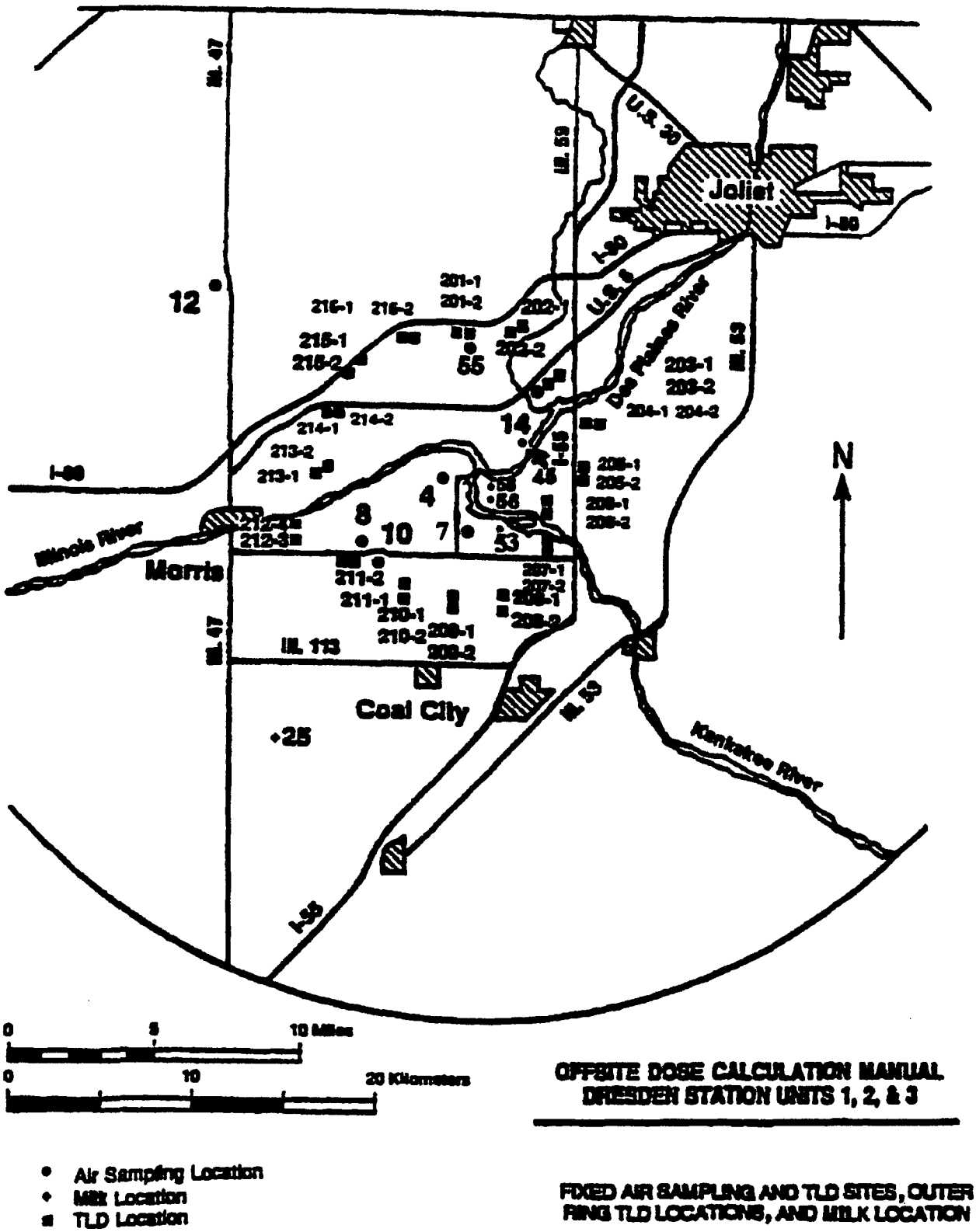

Figure B-2
Dresden Station Fixed Air Sampling and
OSLD Sites, Outer Ring OSLD Locations and Milk Location, 2014

APPENDIX C

DATA TABLES AND FIGURES
PRIMARY LABORATORY

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Table C-I.1 **CONCENTRATIONS OF GROSS BETA IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	D-21	D-52	D-57
01/03/14 - 01/31/14	6.5 ± 1.7	3.8 ± 1.4	6.7 ± 1.7
02/07/14 - 02/28/14	9.4 ± 1.6	12.4 ± 2.0	5.0 ± 1.5
03/07/14 - 03/28/14	6.6 ± 2.2	9.2 ± 2.7	4.3 ± 2.0
04/04/14 - 04/25/14	8.5 ± 2.5	8.2 ± 2.5	4.5 ± 2.0
05/02/14 - 05/30/14	10.7 ± 2.9	6.1 ± 2.3	5.8 ± 2.4
06/06/14 - 06/27/14	14.9 ± 3.2	8.0 ± 2.4	5.3 ± 1.8
07/04/14 - 07/25/14	7.0 ± 2.6	6.5 ± 2.6	4.9 ± 2.4
08/01/14 - 08/29/14	7.6 ± 2.4	5.2 ± 2.3	4.7 ± 2.1
09/05/14 - 09/26/14	14.5 ± 3.3	12.0 ± 3.1	6.4 ± 2.3
10/03/14 - 10/31/14	8.4 ± 2.7	7.4 ± 2.6	4.8 ± 2.3
11/07/14 - 11/28/14	12.2 ± 2.6	8.9 ± 2.7	9.9 ± 2.4
12/05/14 - 12/26/14	6.2 ± 2.1	12.3 ± 2.6	6.7 ± 2.1
MEAN	9.4 ± 6.1	8.3 ± 5.6	5.7 ± 3.1

Table C-I.2 **CONCENTRATIONS OF TRITIUM IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	D-21	D-52	D-57
01/03/14 - 03/28/14	1050 ± 163	< 171	1280 ± 183
04/04/14 - 06/27/14	< 189	< 187	634 ± 150
07/04/14 - 09/26/14	233 ± 127	< 186	896 ± 167
10/03/14 - 12/26/14	< 188	< 183	535 ± 146
MEAN	642 ± 1155	-	836 ± 665

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

Table C-I.3 **CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	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	12/27/13 - 01/31/14	< 3	< 4	< 8	< 4	< 7	< 4	< 6	< 10	< 4	< 4	< 23	< 7
	01/31/14 - 02/28/14	< 4	< 4	< 8	< 4	< 9	< 4	< 7	< 10	< 4	< 4	< 22	< 8
	02/28/14 - 03/28/14	< 4	< 4	< 9	< 5	< 8	< 4	< 7	< 10	< 4	< 5	< 26	< 8
	03/28/14 - 04/25/14	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 7	< 2	< 2	< 14	< 4
	04/25/14 - 05/30/14	< 4	< 6	< 14	< 5	< 9	< 6	< 9	< 13	< 5	< 7	< 39	< 12
	05/30/14 - 06/27/14	< 7	< 5	< 13	< 9	< 13	< 6	< 12	< 12	< 7	< 7	< 32	< 8
	06/27/14 - 07/25/14	< 3	< 3	< 7	< 4	< 6	< 4	< 7	< 10	< 3	< 3	< 21	< 5
	07/25/14 - 08/29/14	< 5	< 5	< 12	< 5	< 12	< 6	< 10	< 15	< 5	< 6	< 30	< 11
	08/29/14 - 09/26/14	< 3	< 4	< 7	< 4	< 7	< 4	< 7	< 11	< 3	< 4	< 24	< 7
	09/26/14 - 10/31/14	< 5	< 5	< 12	< 6	< 13	< 7	< 10	< 15	< 5	< 5	< 34	< 13
	10/31/14 - 11/28/14	< 3	< 3	< 7	< 4	< 5	< 3	< 5	< 11	< 3	< 3	< 22	< 5
	11/28/14 - 12/26/14	< 4	< 4	< 8	< 4	< 6	< 4	< 7	< 12	< 4	< 4	< 24	< 9
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
D-52	01/03/14 - 01/31/14	< 3	< 3	< 7	< 3	< 6	< 3	< 5	< 8	< 3	< 3	< 20	< 6
	02/07/14 - 02/28/14	< 3	< 3	< 7	< 3	< 6	< 4	< 6	< 9	< 3	< 4	< 19	< 7
	03/07/14 - 03/28/14	< 4	< 4	< 6	< 4	< 7	< 4	< 7	< 10	< 3	< 4	< 19	< 6
	04/04/14 - 04/25/14	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 7	< 2	< 2	< 15	< 4
	05/02/14 - 05/30/14	< 5	< 6	< 11	< 6	< 10	< 6	< 9	< 12	< 4	< 5	< 29	< 9
	06/06/14 - 06/27/14	< 7	< 6	< 13	< 5	< 13	< 7	< 15	< 13	< 7	< 7	< 36	< 11
	07/04/14 - 07/25/14	< 2	< 2	< 3	< 4	< 3	< 3	< 3	< 7	< 2	< 2	< 13	< 3
	08/01/14 - 08/29/14	< 4	< 4	< 9	< 4	< 7	< 4	< 7	< 12	< 3	< 4	< 26	< 7
	09/05/14 - 09/26/14	< 5	< 5	< 10	< 4	< 11	< 6	< 11	< 15	< 5	< 5	< 29	< 9
	10/03/14 - 10/31/14	< 4	< 5	< 11	< 4	< 10	< 5	< 8	< 15	< 4	< 5	< 35	< 10
	11/07/14 - 11/28/14	< 4	< 3	< 8	< 4	< 8	< 4	< 8	< 12	< 4	< 4	< 29	< 9
	12/05/14 - 12/26/14	< 4	< 4	< 8	< 4	< 7	< 4	< 7	< 11	< 3	< 4	< 23	< 7
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

Table C-I.3 **CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	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-57	12/27/13 - 01/31/14	< 4	< 4	< 9	< 4	< 8	< 5	< 7	< 11	< 4	< 4	< 25	< 7
	01/31/14 - 02/28/14	< 6	< 6	< 12	< 5	< 13	< 6	< 10	< 15	< 7	< 6	< 34	< 9
	02/28/14 - 03/28/14	< 5	< 5	< 11	< 4	< 9	< 5	< 10	< 12	< 5	< 5	< 31	< 8
	03/28/14 - 04/25/14	< 2	< 2	< 6	< 2	< 5	< 2	< 4	< 6	< 2	< 2	< 14	< 5
	04/25/14 - 05/30/14	< 6	< 5	< 13	< 6	< 11	< 5	< 9	< 13	< 4	< 5	< 25	< 9
	05/30/14 - 06/27/14	< 8	< 7	< 15	< 8	< 13	< 6	< 11	< 10	< 7	< 6	< 27	< 9
	06/27/14 - 07/25/14	< 5	< 5	< 10	< 5	< 10	< 5	< 8	< 11	< 5	< 5	< 25	< 7
	07/25/14 - 08/29/14	< 4	< 5	< 9	< 5	< 8	< 5	< 8	< 14	< 4	< 5	< 29	< 8
	08/29/14 - 09/26/14	< 4	< 4	< 9	< 3	< 9	< 4	< 8	< 13	< 4	< 4	< 25	< 8
	09/26/14 - 10/31/14	< 4	< 4	< 8	< 3	< 7	< 4	< 7	< 13	< 5	< 4	< 30	< 6
	10/31/14 - 11/28/14	< 3	< 3	< 7	< 3	< 6	< 4	< 6	< 11	< 3	< 3	< 23	< 7
	11/28/14 - 12/26/14	< 6	< 6	< 8	< 4	< 12	< 6	< 10	< 13	< 5	< 6	< 27	< 14
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

Table C-II.1 **CONCENTRATIONS OF TRITIUM IN GROUND WATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	D-23	D-35
01/17/14 - 01/17/14	< 183 (1)	< 165
02/14/14 - 02/14/14	329 ± 119	
03/14/14 - 03/14/14	470 ± 141	
04/11/14 - 04/11/14	390 ± 123	< 164
05/09/14 - 05/09/14	595 ± 141	
06/13/14 - 06/13/14	495 ± 148	
07/11/14 - 07/11/14	426 ± 130	< 174
08/08/14 - 08/08/14	333 ± 119	
09/12/14 - 09/12/14	551 ± 146	
10/10/14 - 10/10/14	443 ± 142	< 168
11/14/14 - 11/14/14	678 ± 149	
12/12/14 - 12/12/14	522 ± 146	
MEAN	476 ± 216	-

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

Tables C-II.2 **CONCENTRATIONS OF GAMMA EMITTERS IN GROUND WATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	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	01/17/14 - 01/17/14 (1)	< 5	< 5	< 10	< 6	< 13	< 7	< 10	< 14	< 6	< 6	< 36	< 9
	02/14/14 - 02/14/14	< 3	< 3	< 6	< 3	< 7	< 3	< 5	< 8	< 3	< 3	< 20	< 5
	03/14/14 - 03/14/14	< 5	< 6	< 13	< 5	< 11	< 6	< 9	< 13	< 5	< 6	< 32	< 11
	04/11/14 - 04/11/14	< 3	< 3	< 6	< 3	< 6	< 4	< 6	< 8	< 3	< 3	< 19	< 5
	05/09/14 - 05/09/14	< 3	< 4	< 8	< 4	< 7	< 4	< 5	< 10	< 3	< 4	< 23	< 8
	06/13/14 - 06/13/14	< 7	< 6	< 12	< 7	< 16	< 8	< 12	< 11	< 6	< 6	< 32	< 13
	07/11/14 - 07/11/14	< 7	< 7	< 13	< 7	< 5	< 7	< 8	< 12	< 7	< 5	< 29	< 12
	08/08/14 - 08/08/14 (1)	< 1	< 4	< 28	< 0.4	< 2	< 5	< 8	-	< 0.5	< 0.4	-	-
	09/12/14 - 09/12/14	< 4	< 3	< 7	< 3	< 7	< 5	< 7	< 11	< 4	< 4	< 24	< 8
	10/10/14 - 10/10/14	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 9	< 2	< 2	< 16	< 4
	11/14/14 - 11/14/14	< 8	< 8	< 21	< 9	< 13	< 8	< 13	< 13	< 8	< 9	< 40	< 14
	12/12/14 - 12/12/14	< 4	< 4	< 9	< 4	< 6	< 4	< 7	< 8	< 4	< 4	< 22	< 6
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
D-35	01/10/14 - 01/10/14	< 1	< 1	< 2	< 1	< 1	< 1	< 1	< 7	< 1	< 1	< 9	< 2
	04/11/14 - 04/11/14	< 4	< 4	< 8	< 4	< 7	< 4	< 8	< 10	< 4	< 4	< 25	< 7
	07/11/14 - 07/11/14	< 7	< 8	< 15	< 8	< 13	< 9	< 14	< 12	< 8	< 8	< 34	< 13
	10/10/14 - 10/10/14	< 1	< 2	< 4	< 2	< 3	< 2	< 3	< 8	< 2	< 2	< 14	< 5
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

Table C-III.1 **CONCENTRATIONS OF GAMMA EMITTERS IN FISH SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

SITE	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												
Freshwater Drum	05/22/14	< 71	< 57	< 179	< 70	< 131	< 83	< 118	< 63	< 73	< 645	< 208
Largemouth Bass	05/22/14	< 74	< 65	< 145	< 62	< 142	< 88	< 146	< 66	< 79	< 729	< 211
Common Carp	10/07/14	< 49	< 51	< 103	< 46	< 100	< 53	< 89	< 45	< 44	< 386	< 129
Golden Redhorse	10/07/14	< 52	< 47	< 124	< 49	< 126	< 61	< 111	< 52	< 56	< 361	< 122
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-46												
Common Carp	05/21/14	< 50	< 66	< 119	< 54	< 122	< 62	< 101	< 46	< 56	< 548	< 131
Freshwater Drum	05/22/14	< 78	< 83	< 192	< 72	< 144	< 86	< 172	< 77	< 72	< 745	< 214
Largemouth Bass	10/07/14	< 43	< 44	< 102	< 31	< 105	< 58	< 87	< 45	< 56	< 328	< 120
Smallmouth Buffalo	10/07/14	< 38	< 49	< 99	< 51	< 103	< 44	< 85	< 39	< 40	< 329	< 120
	MEAN	-	-	-	-	-	-	-	-	-	-	-

Table C-IV.1 **CONCENTRATIONS OF GAMMA EMITTERS IN SEDIMENT SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PC/KG DRY ± 2 SIGMA

SITE	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	05/30/14	< 70	< 94	< 168	< 100	< 158	< 73	< 143	< 66	129 ± 86	< 400	< 104
	10/03/14	< 119	< 109	< 290	< 139	< 245	< 140	< 182	< 98	211 ± 109	< 1029	< 307
	MEAN	-	-	-	-	-	-	-	-	170 ± 116	-	-

Table C-V.1 **CONCENTRATIONS OF GROSS BETA IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

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	D-58
01/03/14 - 01/10/14	29 ± 5	27 ± 5	(1)	28 ± 5	26 ± 5	21 ± 4	23 ± 4	29 ± 5	23 ± 4
01/10/14 - 01/17/14	23 ± 5	17 ± 4	(1)	25 ± 5	22 ± 5	26 ± 5	22 ± 5	26 ± 5	23 ± 5
01/17/14 - 01/24/14	19 ± 4	(1)	(1)	21 ± 4	18 ± 4	20 ± 4	21 ± 4	20 ± 4	20 ± 4
01/24/14 - 01/31/14	15 ± 4	16 ± 2	(1) (1)	18 ± 4	17 ± 4	14 ± 4	15 ± 4	16 ± 4	14 ± 4
01/31/14 - 02/07/14	20 ± 5	20 ± 5	(1)	23 ± 5	21 ± 5	22 ± 5	24 ± 5	24 ± 5	19 ± 5
02/07/14 - 02/14/14	28 ± 5	24 ± 5	(1)	31 ± 5	27 ± 5	30 ± 5	31 ± 5	31 ± 5	30 ± 5
02/14/14 - 02/20/14	19 ± 5	18 ± 5	(1)	21 ± 5	24 ± 5	21 ± 5	18 ± 5	25 ± 5	24 ± 5
02/20/14 - 02/28/14	26 ± 5	22 ± 4	(1)	28 ± 5	23 ± 4	26 ± 5	23 ± 4	25 ± 5	24 ± 4
02/28/14 - 03/07/14	21 ± 5	21 ± 5	(1)	22 ± 5	20 ± 4	21 ± 5	19 ± 4	24 ± 5	23 ± 5
03/07/14 - 03/14/14	21 ± 5	21 ± 5	(1)	19 ± 5	20 ± 5	20 ± 5	18 ± 5	19 ± 5	21 ± 5
03/14/14 - 03/21/14	13 ± 4	8 ± 4	(1)	16 ± 4	14 ± 4	13 ± 4	11 ± 4	14 ± 4	15 ± 4
03/21/14 - 03/28/14	17 ± 4	13 ± 4	(1)	17 ± 4	13 ± 4	16 ± 4	14 ± 4	17 ± 4	14 ± 4
03/28/14 - 04/04/14	15 ± 4	12 ± 4	(1)	15 ± 4	13 ± 4	14 ± 4	18 ± 4	16 ± 4	13 ± 4
04/04/14 - 04/11/14	18 ± 5	12 ± 4	(1)	19 ± 5	17 ± 4	15 ± 4	15 ± 4	17 ± 5	15 ± 4
04/11/14 - 04/18/14	24 ± 5	16 ± 4	(1) (1)	18 ± 4	16 ± 4	16 ± 4	16 ± 4	(1) 19 ± 4	16 ± 4
04/18/14 - 04/25/14	13 ± 4	10 ± 4	(1)	13 ± 5	13 ± 4	10 ± 4	10 ± 5	(1) 14 ± 4	13 ± 4
04/25/14 - 05/02/14	6 ± 3	5 ± 3	(1)	9 ± 4	6 ± 3	8 ± 4	< 5	(1) 6 ± 3	8 ± 4
05/02/14 - 05/09/14	16 ± 4	13 ± 4	(1)	18 ± 4	13 ± 4	16 ± 4	13 ± 4	(1) 12 ± 4	11 ± 4
05/09/14 - 05/16/14	13 ± 4	8 ± 3	(1)	12 ± 4	10 ± 4	15 ± 4	11 ± 4	(1) 17 ± 4	11 ± 4
05/16/14 - 05/23/14	16 ± 4	12 ± 4	(1)	15 ± 4	14 ± 4	17 ± 4	11 ± 4	(1) 18 ± 4	13 ± 4
05/23/14 - 05/30/14	14 ± 4	12 ± 4	(1)	15 ± 4	16 ± 4	11 ± 4	17 ± 4	18 ± 4	13 ± 4
05/30/14 - 06/06/14	11 ± 4	14 ± 4	(1)	11 ± 4	15 ± 4	17 ± 4	11 ± 4	19 ± 4	11 ± 4
06/06/14 - 06/13/14	11 ± 4	14 ± 4	(1)	13 ± 4	13 ± 4	17 ± 4	13 ± 4	13 ± 4	13 ± 4
06/13/14 - 06/20/14	12 ± 4	14 ± 4	(1)	19 ± 4	14 ± 4	18 ± 4	14 ± 4	13 ± 4	15 ± 4
06/20/14 - 06/27/14	17 ± 4	15 ± 4	(1)	12 ± 4	13 ± 4	15 ± 4	15 ± 4	16 ± 4	11 ± 4
06/27/14 - 07/04/14	8 ± 5	(1) 9 ± 4	8 ± 4	12 ± 6	(1) 13 ± 4	10 ± 3	14 ± 4	9 ± 4	8 ± 3
07/04/14 - 07/11/14	11 ± 4	14 ± 4	14 ± 4	13 ± 4	13 ± 4	12 ± 4	14 ± 4	12 ± 4	15 ± 4
07/11/14 - 07/18/14	16 ± 4	14 ± 4	10 ± 4	13 ± 4	11 ± 4	14 ± 4	13 ± 4	12 ± 4	13 ± 4
07/18/14 - 07/25/14	22 ± 4	26 ± 5	27 ± 5	24 ± 4	27 ± 5	25 ± 4	25 ± 4	26 ± 4	25 ± 4
07/25/14 - 08/01/14	16 ± 4	17 ± 4	19 ± 4	21 ± 5	18 ± 4	16 ± 4	18 ± 4	18 ± 4	19 ± 5
08/01/14 - 08/08/14	21 ± 5	25 ± 5	24 ± 5	24 ± 5	23 ± 5	24 ± 5	24 ± 5	24 ± 5	20 ± 5
08/08/14 - 08/15/14	14 ± 4	17 ± 4	18 ± 4	16 ± 4	16 ± 4	14 ± 4	15 ± 4	14 ± 4	15 ± 4
08/15/14 - 08/22/14	19 ± 5	(1) 24 ± 5	(1) 18 ± 5	(1) 19 ± 5	(1) 22 ± 5	17 ± 5	21 ± 5	24 ± 5	18 ± 5
08/22/14 - 08/29/14	15 ± 4	16 ± 4	17 ± 4	16 ± 4	16 ± 4	16 ± 4	13 ± 4	20 ± 4	15 ± 4
08/29/14 - 09/05/14	21 ± 5	19 ± 5	21 ± 5	21 ± 5	23 ± 5	22 ± 5	20 ± 5	22 ± 5	19 ± 5
09/05/14 - 09/12/14	16 ± 4	21 ± 4	18 ± 4	14 ± 4	12 ± 4	17 ± 4	12 ± 4	18 ± 4	15 ± 4
09/12/14 - 09/19/14	17 ± 5	22 ± 5	16 ± 4	20 ± 5	19 ± 5	17 ± 5	18 ± 5	19 ± 5	18 ± 5
09/19/14 - 09/26/14	21 ± 4	21 ± 4	24 ± 5	26 ± 5	28 ± 5	24 ± 5	18 ± 4	22 ± 4	20 ± 4
09/26/14 - 10/03/14	17 ± 4	21 ± 4	19 ± 4	15 ± 4	20 ± 4	20 ± 4	21 ± 4	19 ± 4	18 ± 4
10/03/14 - 10/10/14	14 ± 4	21 ± 5	14 ± 4	15 ± 4	12 ± 4	16 ± 4	15 ± 4	14 ± 4	15 ± 4
10/10/14 - 10/17/14	13 ± 4	12 ± 4	10 ± 4	12 ± 4	11 ± 4	13 ± 4	8 ± 4	12 ± 4	11 ± 4
10/17/14 - 10/24/14	10 ± 4	13 ± 4	14 ± 4	11 ± 4	12 ± 4	14 ± 4	12 ± 4	12 ± 4	11 ± 4
10/24/14 - 10/31/14	15 ± 4	19 ± 4	17 ± 4	17 ± 4	15 ± 4	15 ± 4	19 ± 4	20 ± 5	17 ± 4
10/31/14 - 11/07/14	14 ± 4	14 ± 4	17 ± 4	16 ± 4	16 ± 4	14 ± 4	14 ± 4	21 ± 5	12 ± 4
11/07/14 - 11/14/14	12 ± 4	14 ± 4	10 ± 4	13 ± 4	13 ± 4	11 ± 4	12 ± 4	14 ± 4	13 ± 4
11/14/14 - 11/21/14	17 ± 4	18 ± 4	18 ± 4	21 ± 4	18 ± 4	18 ± 4	17 ± 4	24 ± 5	21 ± 5
11/21/14 - 11/28/14	23 ± 5	21 ± 5	21 ± 5	22 ± 5	25 ± 5	19 ± 4	22 ± 5	20 ± 4	19 ± 4
11/28/14 - 12/05/14	25 ± 5	24 ± 5	24 ± 5	24 ± 5	23 ± 5	23 ± 5	28 ± 5	22 ± 5	24 ± 5
12/05/14 - 12/12/14	30 ± 5	29 ± 5	25 ± 5	31 ± 5	25 ± 5	27 ± 5	23 ± 5	27 ± 5	29 ± 5
12/12/14 - 12/19/14	21 ± 4	23 ± 4	22 ± 4	25 ± 5	24 ± 5	19 ± 4	22 ± 4	26 ± 5	22 ± 4
12/19/14 - 12/26/14	20 ± 4	20 ± 4	22 ± 5	27 ± 5	22 ± 4	20 ± 4	19 ± 4	21 ± 4	23 ± 5
12/26/14 - 01/02/15	22 ± 4	25 ± 5	25 ± 5	23 ± 5	23 ± 5	22 ± 5	28 ± 5	20 ± 4	23 ± 5
MEAN	17 ± 10	17 ± 11	18 ± 10	19 ± 11	18 ± 11	18 ± 10	17 ± 11	19 ± 11	17 ± 10

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

Table C-V.1 **CONCENTRATIONS OF GROSS BETA IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

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

COLLECTION	GROUP III				GROUP IV
PERIOD	D-08	D-10	D-14	D-55	D-12
01/03/14 - 01/10/14	29 ± 5	29 ± 5	18 ± 4	27 ± 5	26 ± 5
01/10/14 - 01/17/14	18 ± 4	20 ± 4	21 ± 5	21 ± 5	23 ± 5
01/17/14 - 01/24/14	21 ± 4	19 ± 4	24 ± 5	17 ± 4	19 ± 4
01/24/14 - 01/31/14	13 ± 4	16 ± 4	16 ± 4	16 ± 4	14 ± 4
01/31/14 - 02/07/14	24 ± 5	22 ± 5	20 ± 5	23 ± 5	20 ± 5
02/07/14 - 02/14/14	35 ± 5	26 ± 5	27 ± 5	26 ± 5	28 ± 5
02/14/14 - 02/20/14	18 ± 5	17 ± 5	19 ± 5	24 ± 5	21 ± 5
02/20/14 - 02/28/14	19 ± 4	24 ± 4	24 ± 4	22 ± 4	24 ± 4
02/28/14 - 03/07/14	20 ± 5	20 ± 5	18 ± 4	22 ± 5	18 ± 4
03/07/14 - 03/14/14	22 ± 5	23 ± 5	18 ± 5	20 ± 5	12 ± 4
03/14/14 - 03/21/14	11 ± 4	13 ± 4	14 ± 4	12 ± 4	11 ± 4
03/21/14 - 03/28/14	17 ± 4	16 ± 4	13 ± 4	13 ± 4	15 ± 4
03/28/14 - 04/04/14	15 ± 4	14 ± 4	20 ± 5	17 ± 4	13 ± 4
04/04/14 - 04/11/14	15 ± 4	(1) 18 ± 5	20 ± 5	19 ± 5	15 ± 4
04/11/14 - 04/18/14	16 ± 4	19 ± 4	16 ± 4	19 ± 4	16 ± 4
04/18/14 - 04/25/14	11 ± 4	15 ± 4	13 ± 4	12 ± 4	12 ± 4
04/25/14 - 05/02/14	8 ± 4	11 ± 4	8 ± 4	< 5	8 ± 4
05/02/14 - 05/09/14	12 ± 4	14 ± 4	16 ± 4	13 ± 4	14 ± 4
05/09/14 - 05/16/14	10 ± 4	9 ± 4	8 ± 4	8 ± 4	8 ± 4
05/16/14 - 05/23/14	15 ± 4	19 ± 4	14 ± 4	13 ± 4	16 ± 4
05/23/14 - 05/30/14	13 ± 4	15 ± 4	14 ± 4	16 ± 4	13 ± 4
05/30/14 - 06/06/14	11 ± 4	15 ± 4	12 ± 4	14 ± 4	15 ± 4
06/06/14 - 06/13/14	12 ± 4	10 ± 4	12 ± 4	14 ± 4	12 ± 4
06/13/14 - 06/20/14	13 ± 4	17 ± 4	13 ± 4	16 ± 4	17 ± 4
06/20/14 - 06/27/14	19 ± 4	13 ± 4	9 ± 3	13 ± 4	14 ± 4
06/27/14 - 07/04/14	13 ± 4	9 ± 4	13 ± 4	15 ± 4	16 ± 5 (1)
07/04/14 - 07/11/14	20 ± 4	20 ± 5	13 ± 4	11 ± 4	17 ± 4
07/11/14 - 07/18/14	10 ± 4	12 ± 4	13 ± 4	11 ± 4	12 ± 4
07/18/14 - 07/25/14	20 ± 4	34 ± 6	25 ± 4	25 ± 4	27 ± 5
07/25/14 - 08/01/14	15 ± 4	21 ± 5	20 ± 4	19 ± 4	15 ± 4
08/01/14 - 08/08/14	25 ± 5	27 ± 5	24 ± 5	24 ± 5	23 ± 5
08/08/14 - 08/15/14	18 ± 4	16 ± 4	17 ± 4	15 ± 4	16 ± 4
08/15/14 - 08/22/14	19 ± 5	19 ± 5	20 ± 5	19 ± 5	22 ± 5
08/22/14 - 08/29/14	15 ± 4	16 ± 4	14 ± 3	17 ± 4	16 ± 4
08/29/14 - 09/05/14	22 ± 5	18 ± 5	23 ± 5	21 ± 5	21 ± 5
09/05/14 - 09/12/14	13 ± 4	19 ± 4	18 ± 4	17 ± 4	18 ± 4
09/12/14 - 09/19/14	13 ± 4	16 ± 5	22 ± 5	17 ± 5	23 ± 5
09/19/14 - 09/26/14	21 ± 4	24 ± 5	21 ± 4	23 ± 5	21 ± 4
09/26/14 - 10/03/14	17 ± 4	19 ± 4	24 ± 5	18 ± 4	24 ± 5
10/03/14 - 10/10/14	14 ± 4	18 ± 4	19 ± 4	16 ± 4	13 ± 4
10/10/14 - 10/17/14	10 ± 4	10 ± 4	16 ± 4	13 ± 4	9 ± 4
10/17/14 - 10/24/14	11 ± 4	26 ± 8	(1) 12 ± 4	12 ± 4	13 ± 4
10/24/14 - 10/31/14	20 ± 5	19 ± 5	15 ± 4	16 ± 4	17 ± 4
10/31/14 - 11/07/14	17 ± 4	15 ± 4	14 ± 4	14 ± 4	12 ± 4
11/07/14 - 11/14/14	14 ± 4	12 ± 4	11 ± 4	10 ± 4	11 ± 4
11/14/14 - 11/21/14	16 ± 4	20 ± 4	20 ± 4	22 ± 5	20 ± 4
11/21/14 - 11/28/14	21 ± 5	18 ± 4	20 ± 4	23 ± 5	21 ± 5
11/28/14 - 12/05/14	24 ± 5	23 ± 5	25 ± 5	22 ± 5	23 ± 5
12/05/14 - 12/12/14	29 ± 5	28 ± 5	28 ± 5	28 ± 5	27 ± 5
12/12/14 - 12/19/14	24 ± 5	23 ± 5	20 ± 4	23 ± 5	22 ± 4
12/19/14 - 12/26/14	21 ± 4	18 ± 4	22 ± 4	25 ± 5	21 ± 4
12/26/14 - 01/02/15	21 ± 4	22 ± 4	21 ± 4	18 ± 4	23 ± 5
MEAN	17 ± 11	18 ± 11	18 ± 10	18 ± 10	17 ± 10

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

Table C-V.2 **MONTHLY AND YEARLY MEAN VALUES OF GROSS BETA CONCENTRATIONS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

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

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
01/03/14 - 01/31/14	15	29	21 ± 11	01/03/14 - 01/31/14	14	29	21 ± 8	01/03/14 - 01/31/14	13	29	20 ± 10	01/03/14 - 01/31/14	14	26	21 ± 10
01/31/14 - 02/28/14	18	28	22 ± 7	01/31/14 - 02/28/14	18	31	25 ± 8	01/31/14 - 02/28/14	17	35	23 ± 9	01/31/14 - 02/28/14	20	28	23 ± 7
02/28/14 - 04/04/14	8	21	16 ± 9	02/28/14 - 04/04/14	11	24	17 ± 7	02/28/14 - 04/04/14	11	23	17 ± 7	02/28/14 - 04/04/14	11	18	14 ± 6
04/04/14 - 05/02/14	5	24	13 ± 12	04/04/14 - 05/02/14	6	19	13 ± 8	04/04/14 - 05/02/14	8	20	15 ± 8	04/04/14 - 05/02/14	8	16	13 ± 8
05/02/14 - 05/30/14	8	16	13 ± 5	05/02/14 - 05/30/14	10	18	14 ± 5	05/02/14 - 05/30/14	8	19	13 ± 6	05/02/14 - 05/30/14	8	16	13 ± 7
05/30/14 - 07/04/14	8	17	12 ± 6	05/30/14 - 07/04/14	8	19	13 ± 5	05/30/14 - 07/04/14	9	19	13 ± 5	05/30/14 - 07/04/14	12	17	15 ± 4
07/04/14 - 08/01/14	10	27	17 ± 11	07/04/14 - 08/01/14	11	27	17 ± 11	07/04/14 - 08/01/14	10	34	18 ± 13	07/04/14 - 08/01/14	12	27	18 ± 13
08/01/14 - 08/29/14	14	25	19 ± 7	08/01/14 - 08/29/14	13	24	19 ± 8	08/01/14 - 08/29/14	14	27	19 ± 8	08/01/14 - 08/29/14	16	23	19 ± 8
08/29/14 - 10/03/14	16	24	19 ± 5	08/29/14 - 10/03/14	12	28	19 ± 7	08/29/14 - 10/03/14	13	24	19 ± 7	08/29/14 - 10/03/14	18	24	21 ± 4
10/03/14 - 10/31/14	10	21	14 ± 7	10/03/14 - 10/31/14	8	20	14 ± 6	10/03/14 - 10/31/14	10	26	15 ± 9	10/03/14 - 10/31/14	9	17	13 ± 6
10/31/14 - 11/28/14	10	23	17 ± 8	10/31/14 - 11/28/14	11	25	17 ± 8	10/31/14 - 11/28/14	10	23	17 ± 8	10/31/14 - 11/28/14	11	21	16 ± 11
11/28/14 - 01/02/15	20	30	24 ± 6	11/28/14 - 01/02/15	19	31	24 ± 6	11/28/14 - 01/02/15	18	29	23 ± 6	11/28/14 - 01/02/15	21	27	23 ± 4
01/03/14 - 01/02/15	5	30	17 ± 10	01/03/14 - 01/02/15	6	31	18 ± 10	01/03/14 - 01/02/15	8	35	18 ± 10	01/03/14 - 01/02/15	8	28	17 ± 10

Table C-V.3 **CONCENTRATIONS OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

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

SITE	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	01/03/14 - 04/04/14	< 2	< 2	< 5	< 2	< 5	< 2	< 4	< 2	< 2	< 23	< 8
	04/04/14 - 07/04/14	< 4	< 4	< 11	< 2	< 7	< 4	< 6	< 3	< 2	< 79	< 21
	07/04/14 - 10/03/14	< 2	< 3	< 7	< 1	< 5	< 3	< 6	< 3	< 2	< 93	< 16
	10/03/14 - 01/02/15	< 3	< 4	< 12	< 4	< 10	< 5	< 8	< 4	< 3	< 59	< 24
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-02	01/03/14 - 04/04/14	< 2	< 3	< 6	< 2	< 5	< 2	< 4	< 2	< 2	< 27	< 7
	04/04/14 - 07/04/14	< 3	< 4	< 8	< 2	< 8	< 4	< 7	< 3	< 3	< 64	< 25
	07/04/14 - 10/03/14	< 3	< 3	< 7	< 2	< 6	< 4	< 6	< 2	< 2	< 80	< 34
	10/03/14 - 01/02/15	< 2	< 3	< 9	< 2	< 4	< 3	< 6	< 2	< 3	< 32	< 15
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-03	01/03/14 - 04/04/14	(1) -	-	-	-	-	-	-	-	-	-	-
	04/04/14 - 07/04/14	< 38	< 45	< 127	< 25	< 113	< 51	< 89	< 46	< 38	< 1092	< ##
	07/04/14 - 10/03/14	< 4	< 5	< 13	< 4	< 9	< 5	< 10	< 3	< 4	< 128	< 65
	10/03/14 - 01/02/15	< 2	< 3	< 9	< 2	< 7	< 3	< 6	< 2	< 3	< 41	< 21
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-04	01/03/14 - 04/04/14	< 3	< 4	< 11	< 4	< 7	< 5	< 7	< 3	< 3	< 44	< 22
	04/04/14 - 07/04/14	< 3	< 4	< 8	< 2	< 7	< 5	< 8	< 3	< 2	< 68	< 28
	07/04/14 - 10/03/14	< 2	< 3	< 8	< 2	< 6	< 4	< 7	< 3	< 2	< 96	< 32
	10/03/14 - 01/02/15	< 2	< 2	< 6	< 2	< 6	< 4	< 6	< 3	< 2	< 35	< 16
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-07	01/03/14 - 04/04/14	< 2	< 2	< 5	< 2	< 5	< 2	< 4	< 2	< 2	< 25	< 9
	04/04/14 - 07/04/14	< 4	< 3	< 10	< 4	< 6	< 4	< 6	< 3	< 3	< 80	< 25
	07/04/14 - 10/03/14	< 4	< 6	< 10	< 2	< 9	< 5	< 8	< 4	< 4	< 159	< 45
	10/03/14 - 01/02/15	< 4	< 6	< 9	< 4	< 9	< 3	< 7	< 4	< 4	< 73	< 21
	MEAN	-	-	-	-	-	-	-	-	-	-	-

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

Table C-V.3 **CONCENTRATIONS OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

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

SITE	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-08	01/03/14 - 04/04/14	< 2	< 2	< 7	< 3	< 5	< 3	< 5	< 2	< 2	< 27	< 7
	04/04/14 - 07/04/14	< 2	< 3	< 6	< 2	< 5	< 2	< 4	< 2	< 1	< 56	< 25
	07/04/14 - 10/03/14	< 2	< 3	< 6	< 2	< 5	< 3	< 6	< 2	< 2	< 85	< 26
	10/03/14 - 01/02/15	< 3	< 3	< 5	< 2	< 6	< 3	< 6	< 2	< 2	< 47	< 15
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-10	01/03/14 - 04/04/14	< 2	< 2	< 5	< 3	< 5	< 3	< 5	< 2	< 2	< 28	< 10
	04/04/14 - 07/04/14	< 2	< 3	< 8	< 3	< 7	< 4	< 5	< 3	< 2	< 65	< 22
	07/04/14 - 10/03/14	< 2	< 3	< 5	< 2	< 4	< 3	< 4	< 2	< 2	< 74	< 21
	10/03/14 - 01/02/15	< 3	< 5	< 12	< 4	< 9	< 4	< 9	< 3	< 4	< 56	< 27
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-12	01/03/14 - 04/04/14	< 3	< 4	< 10	< 3	< 9	< 4	< 8	< 3	< 3	< 42	< 24
	04/04/14 - 07/04/14	< 3	< 3	< 9	< 3	< 6	< 3	< 6	< 3	< 3	< 68	< 32
	07/04/14 - 10/03/14	< 3	< 3	< 9	< 2	< 7	< 4	< 6	< 3	< 2	< 118	< 32
	10/03/14 - 01/02/15	< 3	< 3	< 6	< 2	< 5	< 3	< 6	< 2	< 2	< 32	< 20
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-14	01/03/14 - 04/04/14	< 2	< 2	< 6	< 2	< 3	< 3	< 4	< 2	< 2	< 23	< 8
	04/04/14 - 07/04/14	< 3	< 3	< 8	< 3	< 7	< 4	< 5	< 2	< 2	< 84	< 25
	07/04/14 - 10/03/14	< 3	< 4	< 7	< 3	< 6	< 4	< 6	< 3	< 2	< 88	< 33
	10/03/14 - 01/02/15	< 2	< 2	< 6	< 2	< 4	< 1	< 4	< 2	< 2	< 34	< 12
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-45	01/03/14 - 04/04/14	< 2	< 3	< 6	< 2	< 5	< 3	< 4	< 3	< 2	< 32	< 12
	04/04/14 - 07/04/14	< 4	< 4	< 10	< 3	< 6	< 4	< 5	< 3	< 3	< 81	< 23
	07/04/14 - 10/03/14	< 2	< 4	< 10	< 2	< 6	< 4	< 6	< 2	< 2	< 81	< 37
	10/03/14 - 01/02/15	< 2	< 2	< 7	< 1	< 5	< 2	< 4	< 2	< 2	< 44	< 10
	MEAN	-	-	-	-	-	-	-	-	-	-	-

Table C-V.3 **CONCENTRATIONS OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

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

SITE	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-53	01/03/14 - 04/04/14	< 2	< 3	< 8	< 3	< 5	< 3	< 5	< 3	< 3	< 29	< 18
	04/04/14 - 07/04/14	< 2	< 3	< 7	< 3	< 5	< 3	< 5	< 2	< 2	< 59	< 25
	07/04/14 - 10/03/14	< 2	< 4	< 8	< 3	< 6	< 4	< 6	< 3	< 2	< 78	< 35
	10/03/14 - 01/02/15	< 3	< 4	< 9	< 3	< 6	< 4	< 7	< 3	< 3	< 57	< 14
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-55	01/03/14 - 04/04/14	< 3	< 3	< 7	< 2	< 6	< 3	< 5	< 2	< 2	< 27	< 10
	04/04/14 - 07/04/14	< 4	< 6	< 14	< 3	< 9	< 5	< 10	< 4	< 4	< 90	< 35
	07/04/14 - 10/03/14	< 4	< 5	< 11	< 5	< 11	< 5	< 10	< 3	< 4	< 133	< 58
	10/03/14 - 01/02/15	< 2	< 2	< 6	< 2	< 4	< 2	< 4	< 2	< 2	< 32	< 10
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-56	01/03/14 - 04/04/14	< 4	< 4	< 8	< 4	< 7	< 5	< 9	< 3	< 4	< 52	< 22
	04/04/14 - 07/04/14	< 3	< 3	< 10	< 3	< 7	< 4	< 6	< 3	< 2	< 77	< 20
	07/04/14 - 10/03/14	< 3	< 4	< 9	< 2	< 7	< 4	< 6	< 3	< 2	< 80	< 29
	10/03/14 - 01/02/15	< 2	< 3	< 6	< 4	< 4	< 3	< 4	< 2	< 2	< 41	< 15
	MEAN	-	-	-	-	-	-	-	-	-	-	-
D-58	01/03/14 - 04/04/14	< 2	< 2	< 6	< 3	< 4	< 2	< 3	< 2	< 2	< 24	< 9
	04/04/14 - 07/04/14	< 3	< 5	< 9	< 3	< 8	< 3	< 7	< 4	< 3	< 97	< 22
	07/04/14 - 10/03/14	< 4	< 5	< 13	< 3	< 8	< 6	< 11	< 4	< 3	< 148	< 50
	10/03/14 - 01/02/15	< 3	< 3	< 8	< 3	< 8	< 3	< 6	< 2	< 2	< 47	< 19
	MEAN	-	-	-	-	-	-	-	-	-	-	-

Table C-VI.1 **CONCENTRATIONS OF I-131 IN AIR IODINE SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

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	D-58
01/03/14 - 01/10/14	< 25	< 66	(1)	< 65	< 66	< 56	< 60	< 60	< 59
01/10/14 - 01/17/14	< 50	< 51	(1)	< 50	< 51	< 57	< 57	< 57	< 57
01/17/14 - 01/24/14	< 54	(1)	(1)	< 54	< 54	< 31	< 42	< 42	< 42
01/24/14 - 01/31/14	< 42	< 21 (1)	(1)	< 42	< 43	< 45	< 45	< 19	< 45
01/31/14 - 02/07/14	< 44	< 45	(1)	< 44	< 43	< 41	< 48	< 48	< 48
02/07/14 - 02/14/14	< 69	< 69	(1)	< 69	< 65	< 63	< 62	< 62	< 26
02/14/14 - 02/20/14	< 25	< 65	(1)	< 65	< 65	< 64	< 65	< 64	< 64
02/20/14 - 02/28/14	< 12	< 31	(1)	< 30	< 31	< 34	< 35	< 35	< 35
02/28/14 - 03/07/14	< 40	< 40	(1)	< 40	< 40	< 40	< 40	< 40	< 17
03/07/14 - 03/14/14	< 65	< 25	(1)	< 65	< 66	< 67	< 67	< 66	< 66
03/14/14 - 03/21/14	< 20	< 51	(1)	< 51	< 53	< 51	< 50	< 50	< 47
03/21/14 - 03/28/14	< 58	< 60	(1)	< 24	< 58	< 55	< 40	< 40	< 40
03/28/14 - 04/04/14	< 12	< 20	(1)	< 19	< 20	< 20	< 19	< 19	< 19
04/04/14 - 04/11/14	< 61	< 61	(1)	< 61	< 24	< 64	< 57	< 57	< 57
04/11/14 - 04/18/14	< 18	< 50 (1)	(1)	< 47	< 46	< 40	< 48 (1)	< 47	< 47
04/18/14 - 04/25/14	< 54	< 57	(1)	< 56	< 54	< 69	< 50 (1)	< 44	< 44
04/25/14 - 05/02/14	< 22	< 56	(1)	< 56	< 57	< 56	< 68 (1)	< 64	< 64
05/02/14 - 05/09/14	< 47	< 47	(1)	< 47	< 48	< 49	< 69 (1)	< 57	< 57
05/09/14 - 05/16/14	< 24	< 56	(1)	< 56	< 56	< 62	< 67 (1)	< 57	< 57
05/16/14 - 05/23/14	< 50	< 51	(1)	< 50	< 51	< 49	< 53 (1)	< 45	< 45
05/23/14 - 05/30/14	< 45	< 45	(1)	< 45	< 44	< 45	< 48	< 48	< 29
05/30/14 - 06/06/14	< 56	< 56	(1)	< 56	< 58	< 64	< 68	< 68	< 68
06/06/14 - 06/13/14	< 65	< 65	(1)	< 65	< 67	< 66	< 63	< 63	< 34
06/13/14 - 06/20/14	< 60	< 61	(1)	< 60	< 63	< 29	< 64	< 64	< 64
06/20/14 - 06/27/14	< 27	< 63	(1)	< 65	< 65	< 62	< 61	< 65	< 65
06/27/14 - 07/04/14	< 57 (1)	< 36	< 36	< 58 (1)	< 22	< 41	< 17	< 41	< 41
07/04/14 - 07/11/14	< 56	< 57	< 57	< 56	< 22	< 23	< 59	< 59	< 59
07/11/14 - 07/18/14	< 55	< 53	< 53	< 53	< 23	< 39	< 60	< 60	< 60
07/18/14 - 07/25/14	< 22	< 22	< 22	< 22	< 9	< 12	< 26	< 26	< 26
07/25/14 - 08/01/14	< 50	< 51	< 51	< 50	< 28	< 52	< 52	< 52	< 52
08/01/14 - 08/08/14	< 65	< 66	< 66	< 65	< 26	< 38	< 64	< 68	< 68
08/08/14 - 08/15/14	< 37	< 38	< 38	< 37	< 44	< 41	< 41	< 17	< 41
08/15/14 - 08/22/14	< 23 (1)	< 44 (1)	< 44 (1)	< 44 (1)	< 42	< 41	< 38	< 38	< 38
08/22/14 - 08/29/14	< 69	< 70	< 70	< 69	< 70	< 60	< 64	< 63	< 26
08/29/14 - 09/05/14	< 21	< 49	< 49	< 49	< 50	< 61	< 54	< 54	< 54
09/05/14 - 09/12/14	< 56	< 20	< 52	< 52	< 51	< 48	< 58	< 58	< 58
09/12/14 - 09/19/14	< 68	< 64	< 63	< 63	< 30	< 44	< 64	< 64	< 64
09/19/14 - 09/26/14	< 63	< 63	< 25	< 63	< 66	< 58	< 51	< 54	< 54
09/26/14 - 10/03/14	< 22	< 56	< 56	< 56	< 57	< 69	< 67	< 67	< 67
10/03/14 - 10/10/14	< 57	< 57	< 57	< 22	< 58	< 59	< 58	< 57	< 57
10/10/14 - 10/17/14	< 17	< 45	< 45	< 45	< 45	< 55	< 59	< 57	< 57
10/17/14 - 10/24/14	< 50	< 50	< 50	< 50	< 18	< 29	< 54	< 54	< 54
10/24/14 - 10/31/14	< 11	< 28	< 28	< 28	< 28	< 27	< 29	< 29	< 29
10/31/14 - 11/07/14	< 20	< 52	< 52	< 51	< 51	< 63	< 63	< 64	< 64
11/07/14 - 11/14/14	< 11	< 28	< 28	< 27	< 28	< 41	< 47	< 47	< 47
11/14/14 - 11/21/14	< 14	< 36	< 36	< 36	< 34	< 45	< 43	< 41	< 43
11/21/14 - 11/28/14	< 17	< 44	< 44	< 44	< 44	< 51	< 63	< 62	< 62
11/28/14 - 12/05/14	< 15	< 39	< 40	< 40	< 39	< 56	< 61	< 61	< 61
12/05/14 - 12/12/14	< 25	< 50	< 50	< 49	< 51	< 33	< 59	< 59	< 59
12/12/14 - 12/19/14	< 28	< 67	< 66	< 66	< 69	< 65	< 62	< 62	< 62
12/19/14 - 12/26/14	< 34	< 62	< 62	< 62	< 60	< 61	< 64	< 63	< 63
12/26/14 - 01/02/15	< 28	< 63	< 63	< 63	< 63	< 23	< 58	< 58	< 58
MEAN	-	-	-	-	-	-	-	-	-

(1) 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, 2014**

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

COLLECTION	GROUP III				GROUP IV
PERIOD	D-08	D-10	D-14	D-55	D-12
01/03/14 - 01/10/14	< 68	< 55	< 56	< 65	< 55
01/10/14 - 01/17/14	< 58	< 58	< 58	< 25	< 58
01/17/14 - 01/24/14	< 54	< 31	< 32	< 44	< 31
01/24/14 - 01/31/14	< 50	< 50	< 50	< 48	< 50
01/31/14 - 02/07/14	< 41	< 41	< 19	< 46	< 41
02/07/14 - 02/14/14	< 62	< 62	< 62	< 63	< 62
02/14/14 - 02/20/14	< 65	< 64	< 64	< 65	< 64
02/20/14 - 02/28/14	< 31	< 34	< 34	< 36	< 34
02/28/14 - 03/07/14	< 41	< 41	< 41	< 42	< 41
03/07/14 - 03/14/14	< 66	< 67	< 68	< 68	< 67
03/14/14 - 03/21/14	< 53	< 51	< 51	< 53	< 51
03/21/14 - 03/28/14	< 56	< 58	< 55	< 38	< 55
03/28/14 - 04/04/14	< 20	< 19	< 20	< 20	< 20
04/04/14 - 04/11/14	< 62 (1)	< 63	< 64	< 59	< 64
04/11/14 - 04/18/14	< 46	< 40	< 40	< 47	< 40
04/18/14 - 04/25/14	< 32	< 69	< 69	< 45	< 69
04/25/14 - 05/02/14	< 57	< 53	< 54	< 65	< 54
05/02/14 - 05/09/14	< 48	< 20	< 49	< 59	< 49
05/09/14 - 05/16/14	< 56	< 61	< 62	< 57	< 62
05/16/14 - 05/23/14	< 48	< 48	< 49	< 47	< 20
05/23/14 - 05/30/14	< 51	< 51	< 50	< 45	< 50
05/30/14 - 06/06/14	< 63	< 62	< 27	< 58	< 64
06/06/14 - 06/13/14	< 60	< 60	< 60	< 66	< 60
06/13/14 - 06/20/14	< 62	< 62	< 63	< 68	< 63
06/20/14 - 06/27/14	< 66	< 25	< 62	< 66	< 62
06/27/14 - 07/04/14	< 41	< 41	< 41	< 41	< 53 (1)
07/04/14 - 07/11/14	< 50	< 54	< 54	< 61	< 54
07/11/14 - 07/18/14	< 65	< 68	< 66	< 60	< 66
07/18/14 - 07/25/14	< 28	< 34	< 28	< 27	< 28
07/25/14 - 08/01/14	< 52	< 52	< 53	< 23	< 53
08/01/14 - 08/08/14	< 69	< 69	< 68	< 70	< 70
08/08/14 - 08/15/14	< 44	< 44	< 24	< 41	< 44
08/15/14 - 08/22/14	< 14	< 41	< 41	< 39	< 41
08/22/14 - 08/29/14	< 67	< 67	< 36	< 60	< 66
08/29/14 - 09/05/14	< 37	< 59	< 61	< 58	< 60
09/05/14 - 09/12/14	< 20	< 49	< 48	< 55	< 48
09/12/14 - 09/19/14	< 62	< 62	< 64	< 68	< 63
09/19/14 - 09/26/14	< 24	< 58	< 58	< 58	< 58
09/26/14 - 10/03/14	< 29	< 69	< 69	< 69	< 69
10/03/14 - 10/10/14	< 25	< 59	< 59	< 59	< 59
10/10/14 - 10/17/14	< 24	< 56	< 56	< 59	< 56
10/17/14 - 10/24/14	< 44	< 61 (1)	< 44	< 54	< 44
10/24/14 - 10/31/14	< 11	< 27	< 27	< 31	< 27
10/31/14 - 11/07/14	< 26	< 63	< 63	< 63	< 63
11/07/14 - 11/14/14	< 17	< 41	< 43	< 48	< 41
11/14/14 - 11/21/14	< 45	< 19	< 45	< 44	< 45
11/21/14 - 11/28/14	< 23	< 54	< 54	< 63	< 54
11/28/14 - 12/05/14	< 55	< 55	< 54	< 62	< 22
12/05/14 - 12/12/14	< 63	< 61	< 63	< 61	< 63
12/12/14 - 12/19/14	< 64	< 64	< 25	< 65	< 64
12/19/14 - 12/26/14	< 21	< 61	< 61	< 63	< 61
12/26/14 - 01/02/15	< 66	< 66	< 62	< 58	< 66
MEAN	-	-	-	-	-

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

Table C-VII.1 **CONCENTRATIONS OF I-131 IN MILK SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	FARM D-25

(1) Samples were not available in 2014

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

Table C-VII.2 **CONCENTRATIONS OF GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140

(1) Samples were not available in 2014

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

Table C-VIII.1 **CONCENTRATIONS OF GAMMA EMITTERS IN VEGETATION SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

SITE	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-CONTROL													
Beets	09/20/14	< 11	< 11	< 29	< 11	< 25	< 10	< 20	< 24	< 8	< 11	< 53	< 17
Cabbage	09/20/14	< 13	< 16	< 29	< 12	< 29	< 16	< 27	< 33	< 12	< 14	< 85	< 19
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
D-QUAD 1													
	09/19/14	< 17	< 16	< 39	< 16	< 39	< 16	< 26	< 44	< 12	< 16	< 103	< 22
Kale	09/19/14	< 17	< 18	< 39	< 16	< 38	< 19	< 28	< 48	< 15	< 17	< 106	< 30
Turnips													
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
D-QUAD 2													
Cabbage	09/20/14	< 14	< 13	< 34	< 13	< 31	< 15	< 26	< 32	< 12	< 14	< 80	< 18
Potatoes	09/20/14	< 9	< 10	< 23	< 9	< 23	< 11	< 20	< 26	< 9	< 11	< 63	< 13
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
D-QUAD 3													
Cabbage	09/20/14	< 12	< 14	< 26	< 11	< 24	< 16	< 24	< 39	< 12	< 13	< 87	< 20
Sweet potatoes	09/20/14	< 10	< 10	< 22	< 11	< 22	< 11	< 20	< 27	< 9	< 9	< 61	< 13
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
D-QUAD 4													
Turnip greens	09/20/14	< 13	< 14	< 35	< 15	< 35	< 15	< 26	< 44	< 14	< 16	< 91	< 22
Turnips	09/20/14	< 12	< 11	< 30	< 13	< 31	< 11	< 20	< 30	< 10	< 12	< 67	< 15
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

Table C-IX.1 QUARTERLY OSLD RESULTS FOR DRESDEN NUCLEAR POWER STATION, 2014

RESULTS IN UNITS OF MREM/QUARTER ± 2 STANDARD DEVIATIONS

STATION CODE	MEAN ± 2 S.D.	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC
D-01-1	31.4 ± 11.8	22.8	35.5	35.1	32.1
D-01-2	31.4 ± 9.9	24.3	33.9	35.5	32.0
D-02-1	31.9 ± 4.6	28.5	33.5	33.2	32.2
D-02-2	32.1 ± 10.2	24.8	35.2	35.9	32.6
D-03-1	28.0 ± 8.2	22.6	29.4	32.4	27.5
D-03-2	28.0 ± 7.1	24.8	27.6	33.0	26.4
D-04-1	31.0 ± 8.6	24.7	33.6	33.8	31.9
D-04-2	30.0 ± 10.0	22.9	33.4	33.7	29.9
D-07-1	31.0 ± 10.3	24.1	35.6	34.2	30.2
D-07-2	29.9 ± 7.7	24.8	33.6	31.9	29.3
D-08-1	29.7 ± 8.7	23.3	31.4	33.0	31.2
D-08-2	31.9 ± 8.8	26.0	33.3	36.5	31.7
D-10-1	31.1 ± 9.0	24.7	32.9	35.1	31.7
D-10-2	30.4 ± 10.4	23.4	33.1	35.3	29.6
D-12-1	29.5 ± 9.3	23.6	31.0	34.7	28.7
D-12-2	28.2 ± 8.0	23.0	29.7	32.4	27.5
D-14-1	27.6 ± 6.3	23.2	28.7	30.6	27.7
D-14-2	30.5 ± 7.7	24.9	32.2	33.5	31.5
D-45-1	32.5 ± 8.5	26.5	32.6	35.9	35.1
D-45-2	33.5 ± 11.2	25.2	35.5	37.4	35.8
D-53-1	27.6 ± 10.5	22.4	29.3	34.2	24.5
D-53-2	27.7 ± 8.5	22.3	26.7	29.4	32.3
D-55-1	31.7 ± 17.3	21.7	30.8	42.8	31.4
D-55-2	30.5 ± 13.1	22.7	32.0	38.4	28.8
D-56-1	27.1 ± 5.5	23.7	29.3	29.3	25.9
D-56-2	26.5 ± 8.2	21.0	29.0	30.2	25.9
D-58-1	28.2 ± 11.1	21.5	30.3	34.5	26.3
D-58-2	26.9 ± 5.9	23.4	28.1	30.2	25.7
D-101-1	31.4 ± 10.2	24.3	32.9	36.5	31.7
D-101-2	30.7 ± 7.3	26.2	32.5	34.6	29.6
D-102-1	32.9 ± 10.3	25.7	33.9	38.0	34.0
D-102-2	32.3 ± 9.6	25.1	33.9	35.0	35.1
D-103-1	29.9 ± 6.8	24.8	31.4	31.9	31.3
D-103-2	29.2 ± 7.1	25.8	31.2	33.2	26.6
D-104-1	30.8 ± 7.4	26.0	31.7	35.0	30.6
D-104-2	31.3 ± 10.5	23.9	33.5	36.1	31.8
D-105-1	29.7 ± 12.3	20.8	31.0	35.0	31.9
D-105-2	31.5 ± 7.7	26.2	33.9	34.7	31.0
D-106-1	29.7 ± 2.8	(1)	29.3	31.2	28.5
D-106-2	27.9 ± 8.2	22.5	28.3	32.5	28.1
D-107-1	27.8 ± 7.1	23.1	29.9	31.1	27.0
D-107-2	27.5 ± 8.2	22.4	28.8	32.2	26.6
D-108-1	31.9 ± 11.3	24.5	33.9	38.0	31.2
D-108-2	30.4 ± 7.2	25.3	31.7	33.8	30.8
D-109-1	30.0 ± 6.6	26.1	32.6	32.9	28.5
D-109-2	30.2 ± 12.8	21.0	31.8	35.9	31.9
D-110-3	34.8 ± 8.6	28.6	36.3	38.6	35.7
D-110-4	35.2 ± 10.1	28.4	35.4	40.5	36.5
D-111-1	33.5 ± 11.3	25.1	35.2	36.9	36.7

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

Table C-IX.1 QUARTERLY OSLD RESULTS FOR DRESDEN NUCLEAR POWER STATION, 2014

RESULTS IN UNITS OF MREM/QUARTER ± 2 STANDARD DEVIATIONS

STATION CODE	MEAN ± 2 S.D.	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC
D-111-2	30.2 ± 11.7	21.9	33.4	35.1	30.4
D-113-1	29.5 ± 3.6	(1)	29.5	31.3	27.7
D-113-2	29.7 ± 9.8	23.4	31.8	34.8	28.6
D-114-1	28.6 ± 7.2	23.4	29.8	31.6	29.6
D-114-2	28.0 ± 8.8	21.9	29.9	32.2	28.0
D-115-1	30.6 ± 8.0	25.0	31.8	34.5	31.0
D-115-2	32.3 ± 10.5	25.1	34.7	37.3	32.0
D-116-1	34.5 ± 7.5	30.0	35.4	39.0	33.6
D-116-2	32.8 ± 10.4	27.1	34.2	37.2	(1)
D-201-1	34.1 ± 11.2	28.2	37.7	40.0	30.6
D-201-2	34.5 ± 8.4	28.3	37.4	36.7	35.4
D-202-1	31.5 ± 8.2	25.7	34.2	34.5	31.6
D-202-2	30.5 ± 8.8	24.4	31.8	34.8	31.0
D-203-1	31.2 ± 1.6	(1)	(1)	31.7	30.6
D-203-2	29.5 ± 4.9	26.4	31.1	31.8	28.8
D-204-1	29.0 ± 8.0	23.1	30.5	32.1	30.2
D-204-2	28.0 ± 7.0	23.0	29.2	31.2	28.7
D-205-1	28.1 ± 9.4	21.7	31.5	31.7	27.4
D-205-2	29.5 ± 9.2	22.6	31.9	31.9	31.7
D-206-1	30.9 ± 9.0	25.0	33.2	35.3	30.0
D-206-2	30.2 ± 7.9	25.4	34.0	32.7	28.5
D-207-1	29.1 ± 6.0	25.7	29.9	32.8	27.9
D-207-2	29.0 ± 7.4	23.6	30.5	31.9	30.1
D-208-1	26.8 ± 9.1	20.5	29.6	30.6	26.3
D-208-2	27.3 ± 4.0	25.6	29.1	28.9	25.5
D-209-1	22.9 ± 17.5	22.5	10.7	29.9	28.5
D-209-2	32.4 ± 12.8	41.7	30.2	30.7	27.1
D-210-1	29.3 ± 7.6	23.6	30.7	31.9	30.9
D-210-2	30.4 ± 8.5	26.1	30.6	36.1	28.6
D-211-1	32.8 ± 11.8	24.6	38.0	35.9	32.6
D-211-2	30.8 ± 10.0	24.0	31.4	36.0	31.6
D-212-3	28.1 ± 8.1	22.8	32.6	29.2	27.9
D-212-4	28.2 ± 7.1	23.5	29.4	32.0	27.7
D-213-1	27.0 ± 7.4	21.8	29.7	29.6	27.0
D-213-2	27.2 ± 6.5	22.6	28.7	30.1	27.2
D-214-1	33.2 ± 5.7	28.9	35.1	34.5	34.1
D-214-2	32.5 ± 10.6	24.8	34.8	36.8	33.6
D-215-1	33.9 ± 9.9	26.8	35.8	38.2	34.8
D-215-2	32.3 ± 9.5	25.4	34.3	36.2	33.3
D-216-1	31.5 ± 14.4	22.2	33.6	39.5	30.6
D-216-2	34.0 ± 3.7	31.3	34.6	35.4	34.8
D-112A-1	29.3 ± 8.1	24.4	30.1	34.2	28.4
D-112A-2	30.1 ± 9.6	23.3	32.3	34.3	30.6

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-IX.2 MEAN QUARTERLY OSLD RESULTS FOR THE INNER RING, OUTER RING, OTHER AND CONTROL LOCATIONS FOR DRESDEN NUCLEAR POWER STATION, 2014

RESULTS IN UNITS OF MREM/QUARTER ± 2 STANDARD DEVIATION OF THE STATION DATA

COLLECTION PERIOD	INNER RING ± 2 S.D.	OUTER RING	OTHER	CONTROL
JAN-MAR	24.6 ± 4.4	25.2 ± 7.7	24.0 ± 3.3	23.3 ± 0.8
APR-JUN	32.1 ± 4.4	31.7 ± 9.4	32.0 ± 5.2	30.4 ± 1.8
JUL-SEP	34.7 ± 5.1	33.5 ± 6.0	34.2 ± 6.0	33.6 ± 3.3
OCT-DEC	30.5 ± 5.9	30.1 ± 5.4	30.3 ± 5.7	28.1 ± 1.7

TABLE C-IX.3 SUMMARY OF THE AMBIENT DOSIMETRY PROGRAM FOR DRESDEN NUCLEAR POWER STATION, 2014

RESULTS IN UNITS OF MREM/QUARTER

LOCATION	SAMPLES ANALYZED	PERIOD MINIMUM	PERIOD MAXIMUM	PERIOD MEAN ± 2 S.D.
INNER RING	133	20.8	40.5	30.6 ± 8.9
OUTER RING	126	10.7	41.7	30.1 ± 9.5
OTHER	96	21.0	42.8	30.1 ± 9.2
CONTROL	8	23.0	34.7	28.8 ± 8.1

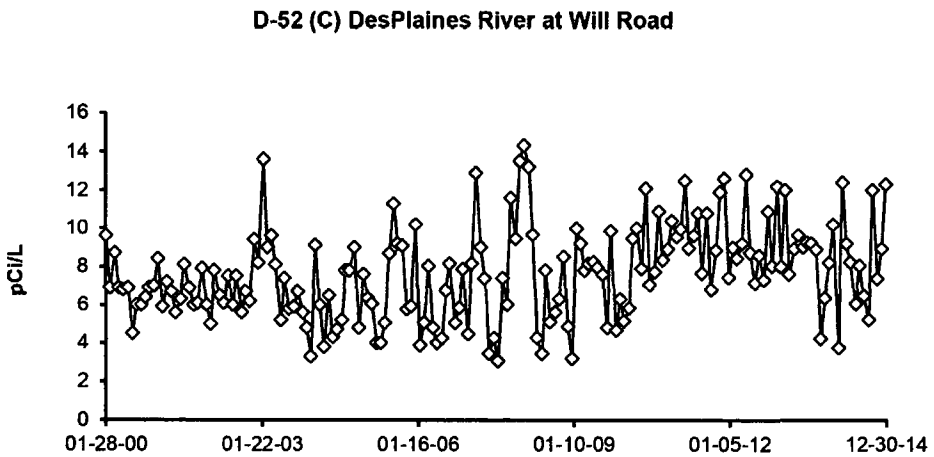
INNER RING STATIONS - D-101-1, D-101-2, D-102-1, D-102-2, D-103-1, D-103-2, D-104-1, D-104-2, D-105-1, D-105-2, D-106-1, D-106-2, D-107-1, D-107-2, D-108-1, D-108-2, D-109-1, D-109-2, D-110-3, D-110-4, D-111-1, D-111-2, D-112A-1, D-112A-2, D-113-1, D-113-2, D-114-1, D-114-2, D-115-1, D-115-2, D-116-1, D-116-2, D-58-1, D-58-2

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-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

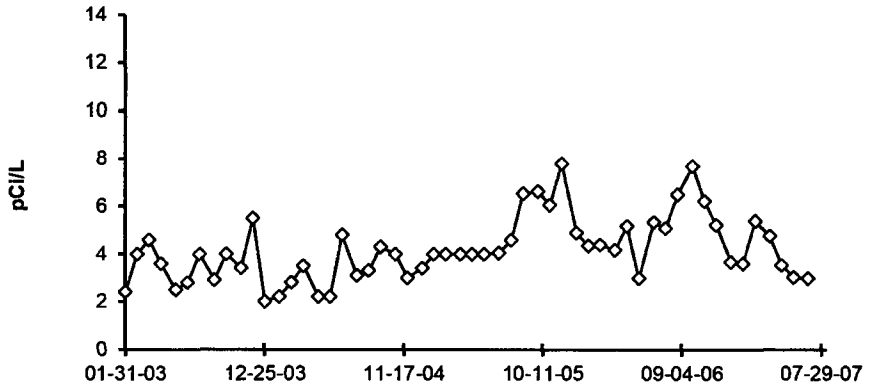
FIGURE C-1
SURFACE WATER - GROSS BETA - STATION
D-52 (C) COLLECTED IN THE VICINITY OF DNPS, 2000 - 2014



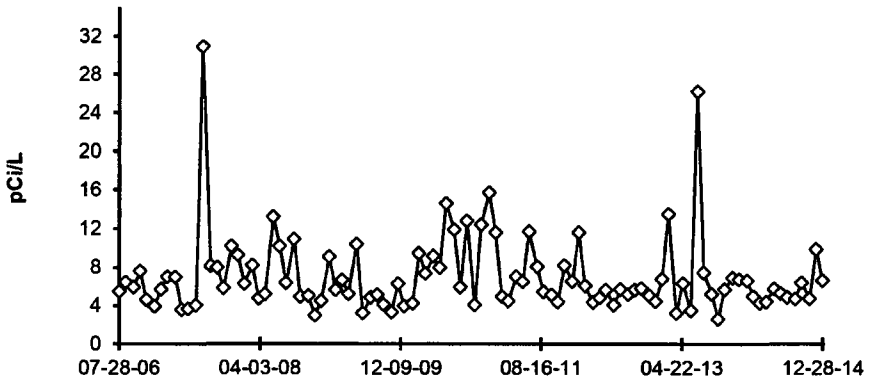
DUE TO VENDOR CHANGE IN 2005, < VALUES ARE LLD VALUES JANUARY THROUGH JUNE 2005 AND MDC VALUES AFTER JULY 2005

FIGURE C-2
SURFACE WATER - GROSS BETA - STATION D-54 (C) and D-57 (C) COLLECTED IN THE VICINITY OF DNPS, 2003 - 2014

D-54 (C) Kankakee River



D-57 (C) Kankakee River at Will Road

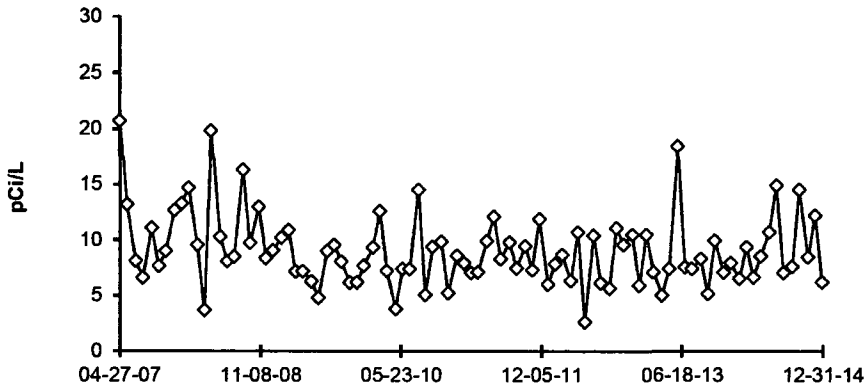


DUE TO VENDOR CHANGE IN 2005, < VALUES ARE LLD VALUES JANUARY THROUGH JUNE 2005 AND MDC VALUES AFTER JULY 2005

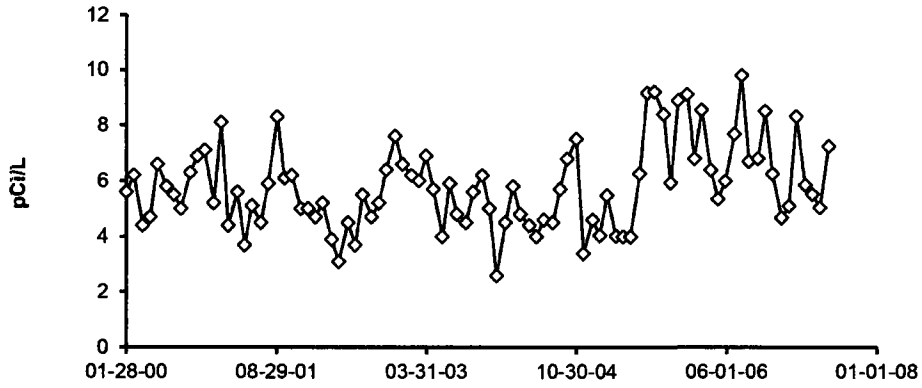
D-54 LOCATION REMOVED FROM PROGRAM JUNE 28, 2007 AND REPLACED WITH D-57

FIGURE C-3
SURFACE WATER - GROSS BETA - STATIONS D-21 and D-51
COLLECTED IN THE VICINITY OF DNPS, 2000 - 2014

D-21 Illinois River at EJ&E Bridge



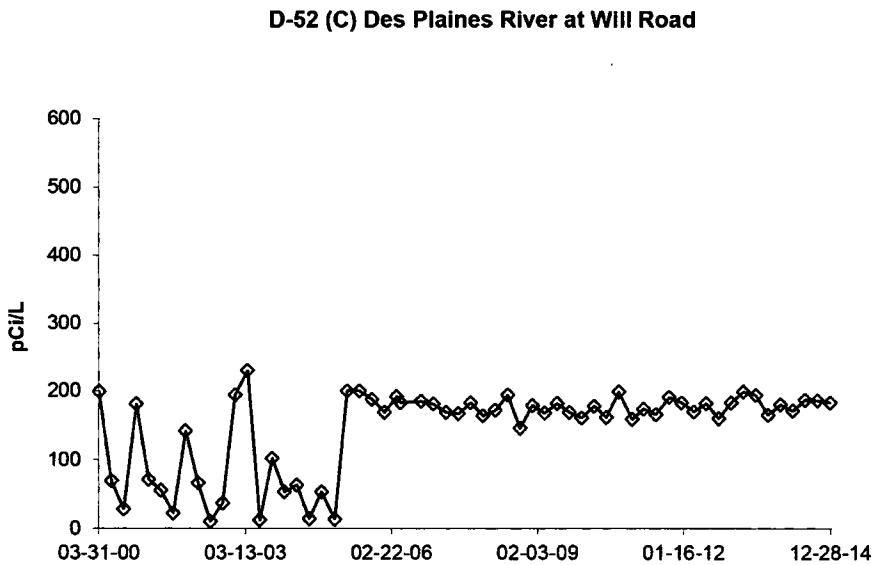
D-51 Dresden Lock & Dam



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

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

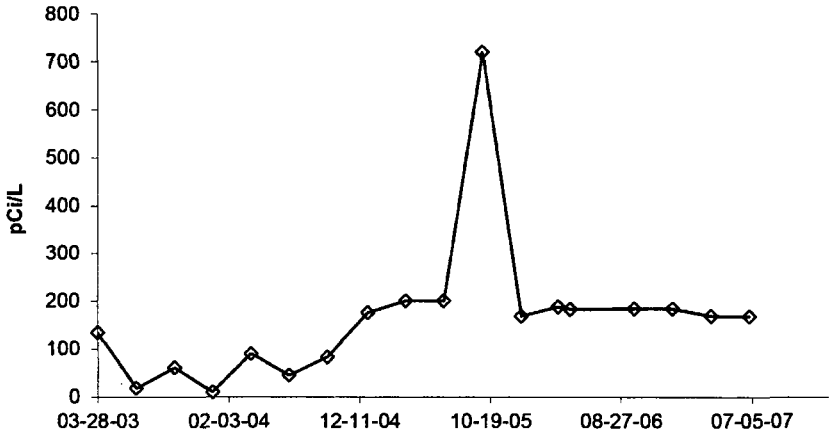
FIGURE C-4
SURFACE WATER - TRITIUM - STATION
D-52 (C) COLLECTED IN THE VICINITY OF DNPS, 2000 - 2014



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

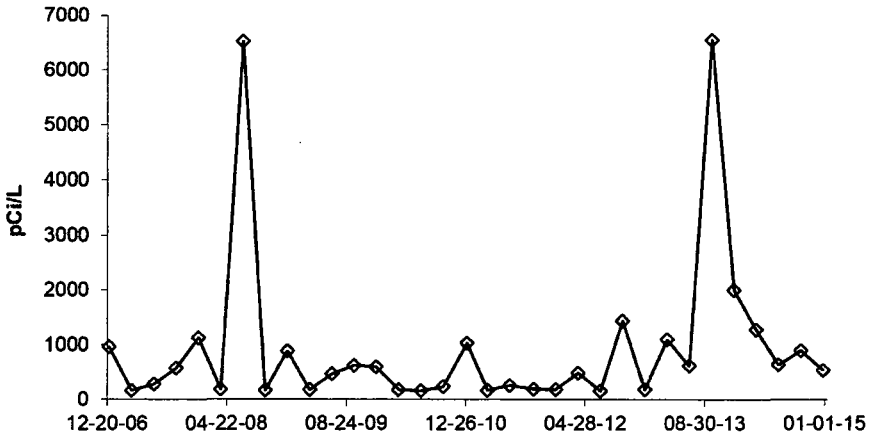
FIGURE C-5
SURFACE WATER - TRITIUM - STATION D-54 (C) AND D-57 (C) COLLECTED IN THE VICINITY OF DNPS, 2003 - 2014

D-54 (C) Kankakee River



Location shared with Braidwood Station (BD-10).

D-57 (C) Kankakee River at Will Road

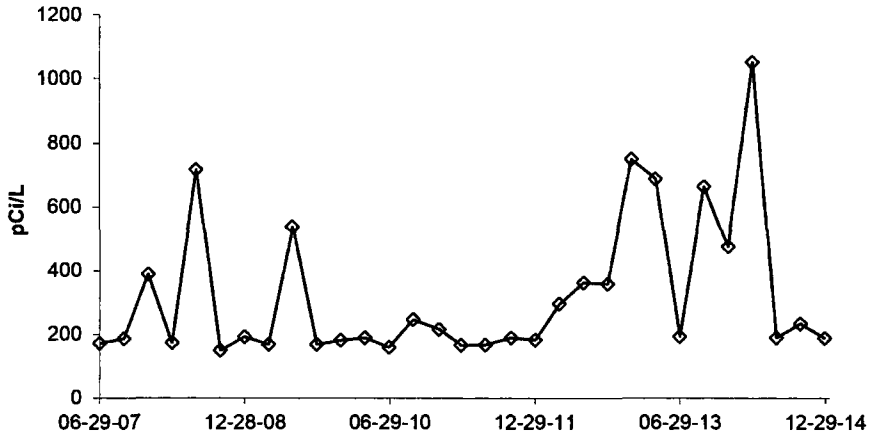


DUE TO VENDOR CHANGE IN 2005, < VALUES ARE LLD VALUES JANUARY THROUGH JUNE 2005 AND MDC VALUES AFTER JULY 2005

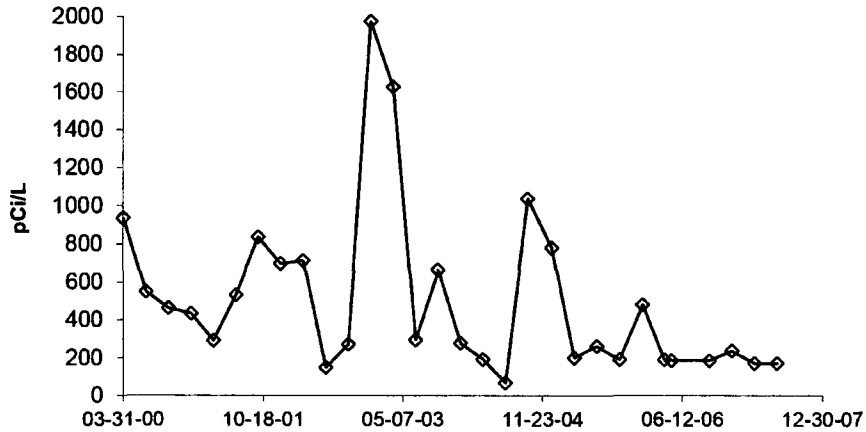
D-57 NEW STATION JULY 24, 2006. REPLACED D-54 ON JUNE 28, 2007

FIGURE C-6
SURFACE WATER - TRITIUM - STATIONS D-21 and D-51
COLLECTED IN THE VICINITY OF DNPS, 2000 - 2014

D-21 Illinois River at EJ&E Bridge



D-51 Dresden Lock & Dam

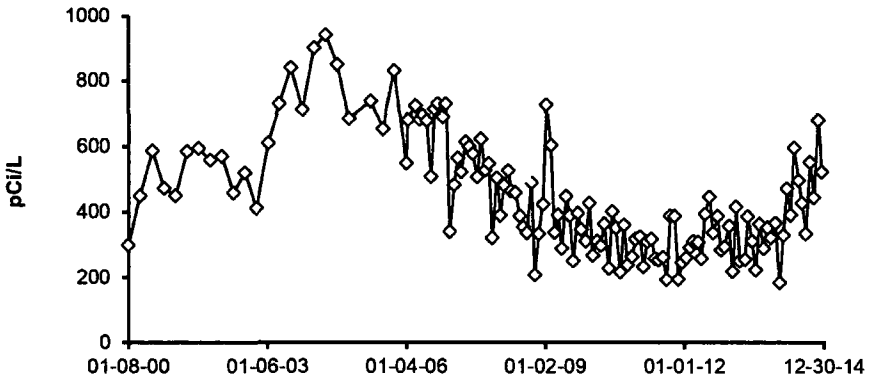


D-21 REPLACED D-51 JUNE 29, 2007

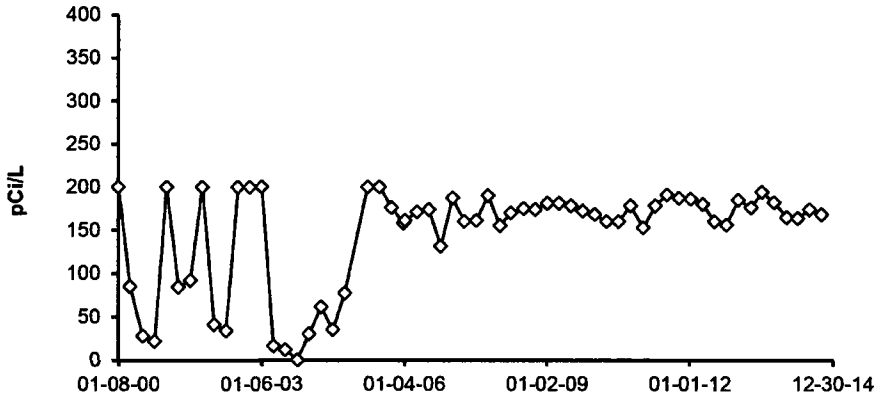
D-51 LOCATION REMOVED FROM PROGRAM JUNE 29, 2007 AND REPLACED WITH D-21

FIGURE C-7
GROUND WATER - TRITIUM - STATIONS D-23 and D-35 COLLECTED IN THE VICINITY OF DNPS, 2000 - 2014

D-23 Thorsen Well



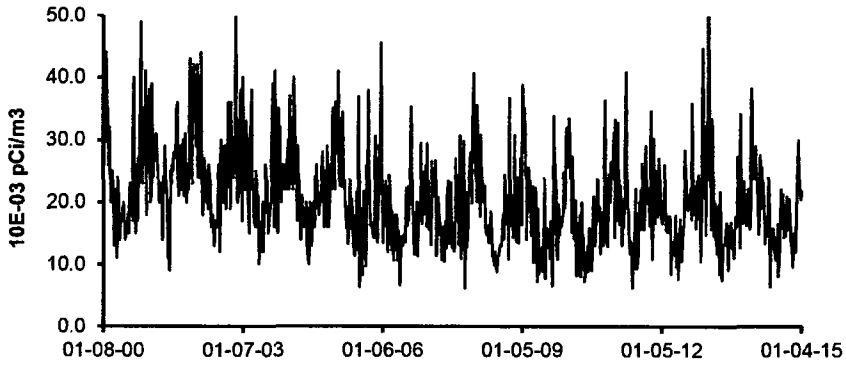
D-35 Dresden Lock and Dam



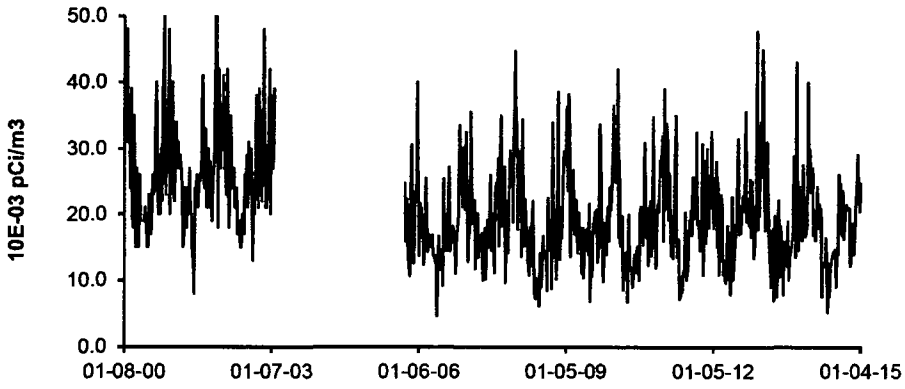
DUE TO VENDOR CHANGE IN 2005, < VALUES ARE LLD VALUES JANUARY THROUGH JUNE 2005 AND MDC VALUES AFTER JULY 2005

FIGURE C-8
AIR PARTICULATES - GROSS BETA - STATIONS D-01 and D-02 COLLECTED IN THE VICINITY OF DNPS, 2000 - 2014

D-01 Onsite Station 1



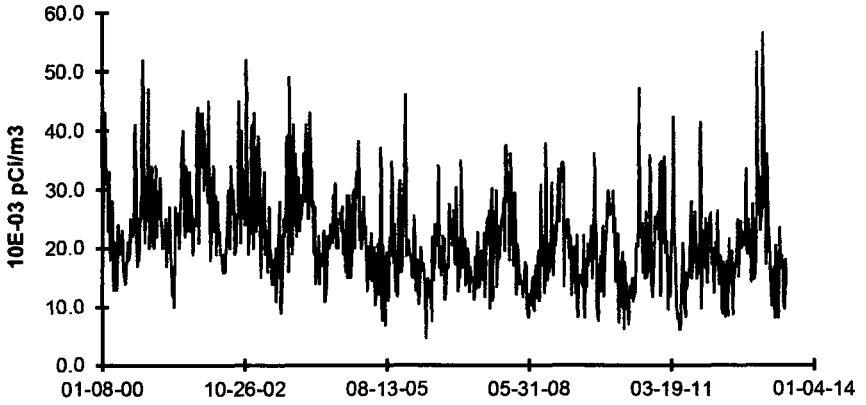
D-02 Onsite Station 2



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

FIGURE C-9
AIR PARTICULATES - GROSS BETA - STATIONS D-03 and D-04 COLLECTED IN THE VICINITY OF DNPS, 2000 - 2014

D-03 Onsite Station 3



D-04 Collins Road on Station Property

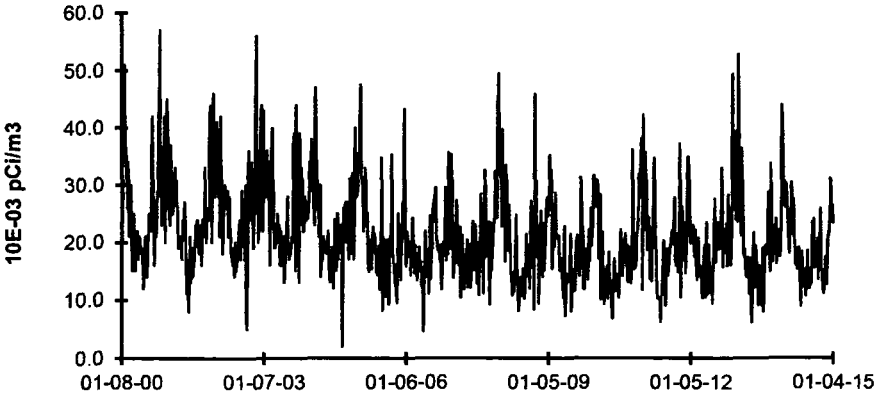
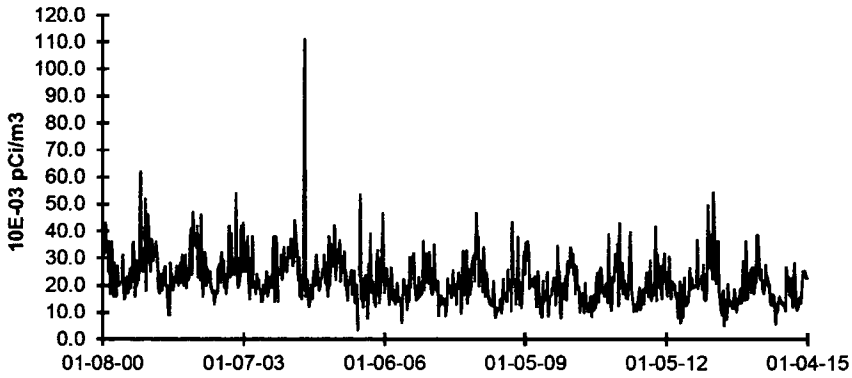


FIGURE C-10
AIR PARTICULATES - GROSS BETA - STATIONS D-07 and D-12 (C) COLLECTED IN THE VICINITY OF DNPS, 2000 - 2014

D-07 Clay Products, Dresden Road



D-12 (C), Quarry Road, Lisbon

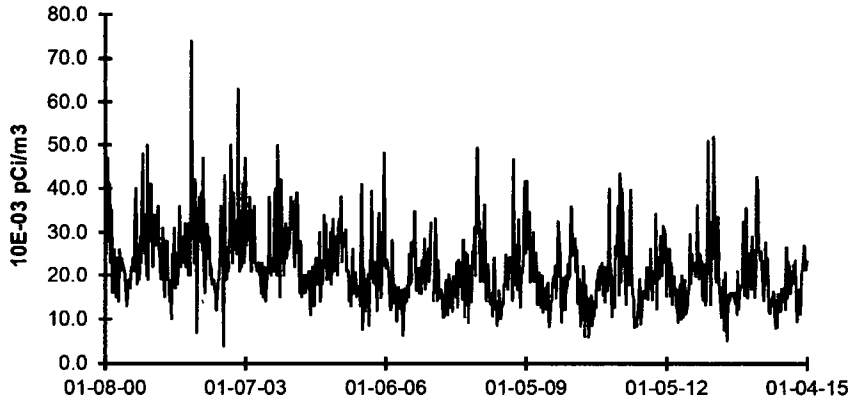
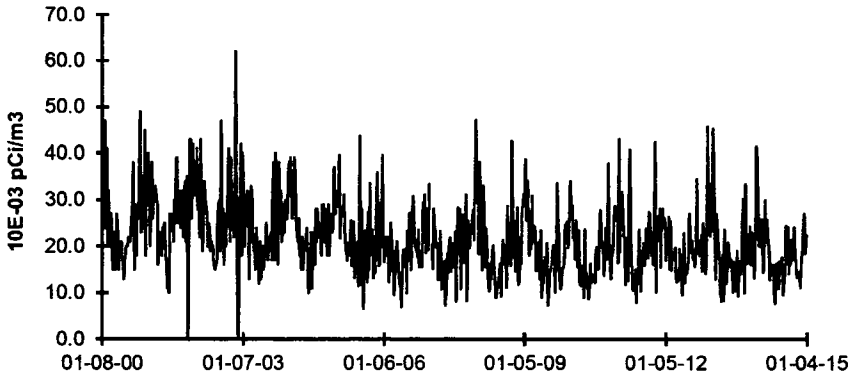


FIGURE C-11
AIR PARTICULATES - GROSS BETA - STATIONS D-45 and D-53 COLLECTED IN THE VICINITY OF DNPS, 2000 - 2014

D-45 McKinley Woods Road, Channahon



D-53 Will Road, Hollyhock

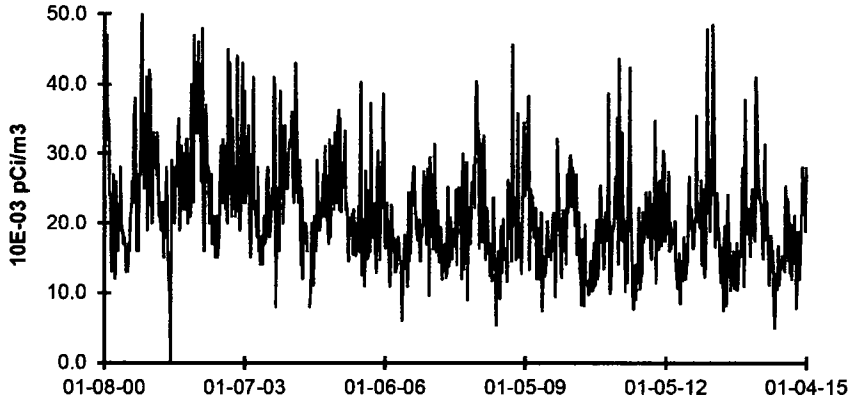
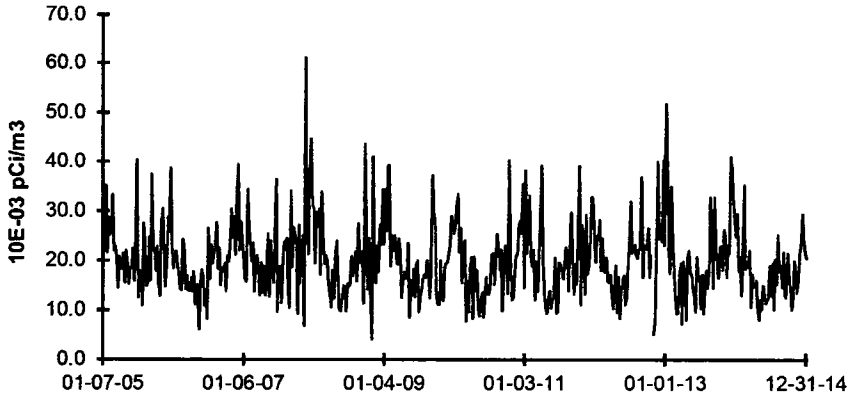


FIGURE C-12
AIR PARTICULATES - GROSS BETA - STATIONS D-08 and D-10 COLLECTED IN THE VICINITY OF DNPS, 2005 - 2014

D-08 Jugtown Road, Prairie Parks



D-10 Goose Lake Road, Goose Lake Village

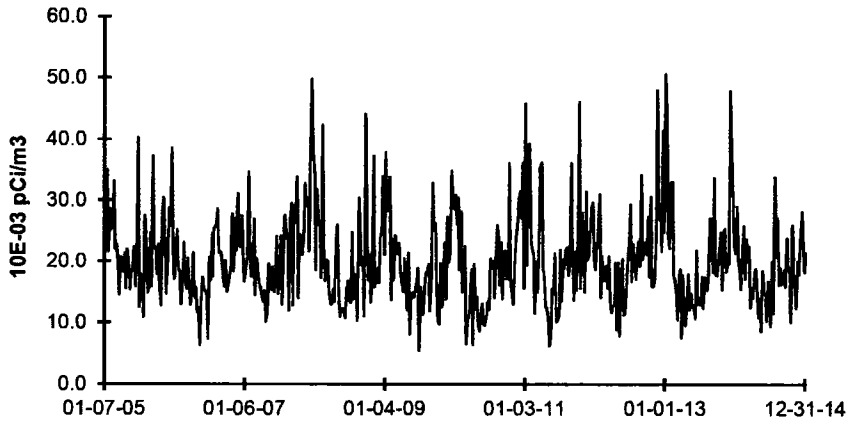
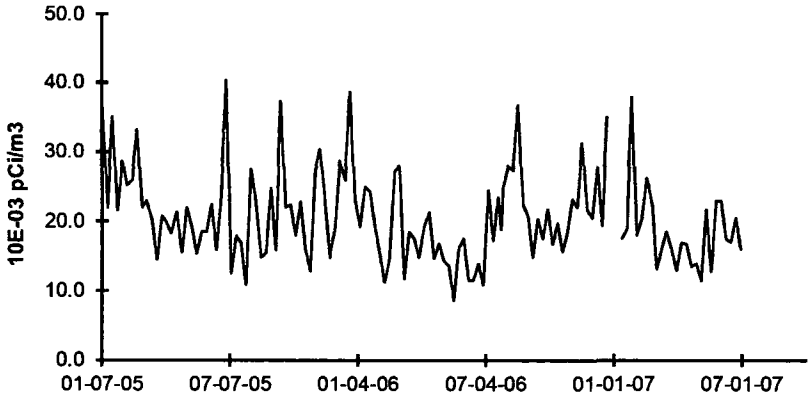
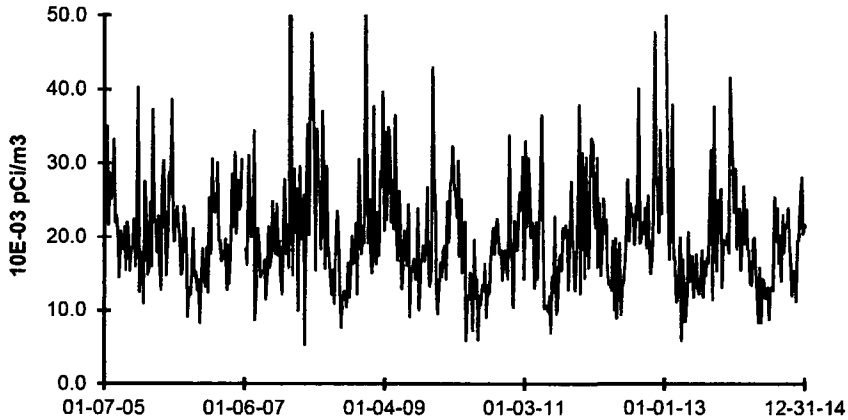


FIGURE C-13
AIR PARTICULATES - GROSS BETA - STATIONS D-13 and D-14 COLLECTED IN THE VICINITY OF DNPS, 2005 - 2014

D-13 Minooka



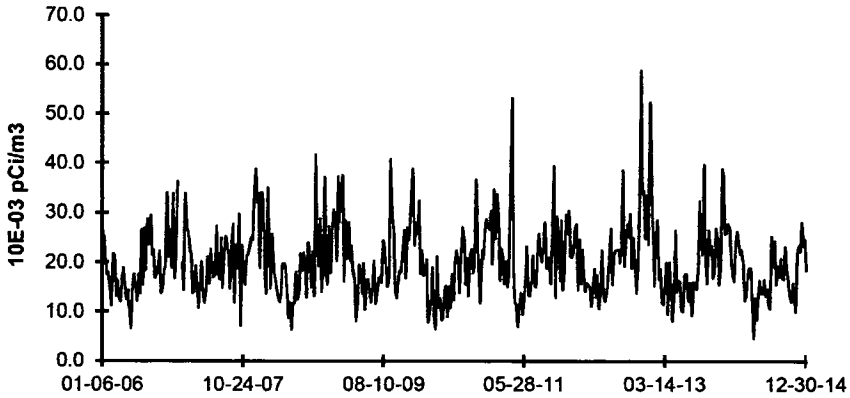
D-14 Center Street, Channahon



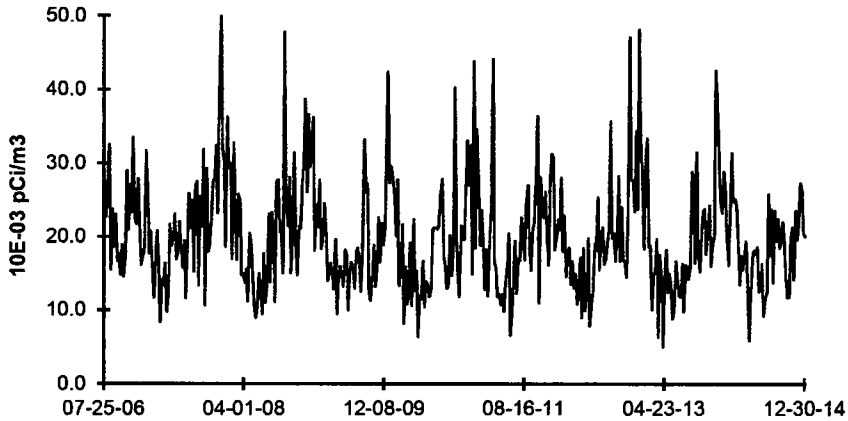
D-13 TAKEN OUT OF SERVICE JUNE 29, 2007 AND REPLACED WITH D-55

FIGURE C-14
AIR PARTICULATES - GROSS BETA - STATIONS D-55 and D-56 COLLECTED IN THE VICINITY OF DNPS, 2006-2014

D-55 Ridge Road, Minooka



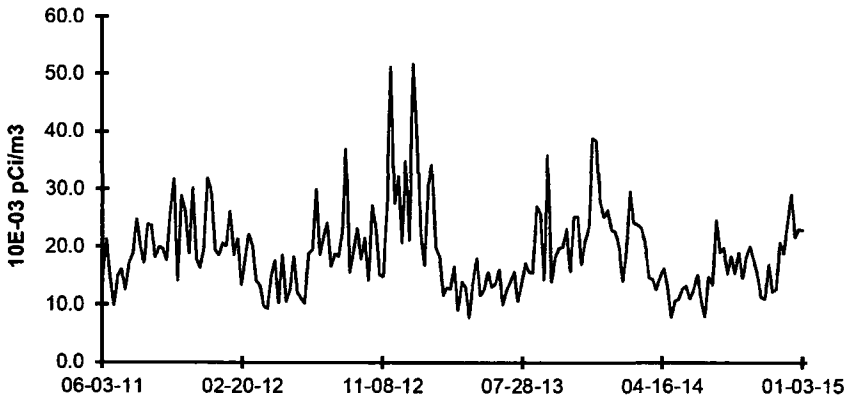
D-56 Will Road, Wildfeather



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

FIGURE C-15
AIR PARTICULATES - GROSS BETA - STATION D-58
COLLECTED IN THE VICINITY OF DNPS, 2011-2014

D-58 Will Road Marina



D-58 NEW STATION IN MAY OF 2011

APPENDIX D

INTER-LABORATORY COMPARISON PROGRAM

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TABLE D-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING, 2014
(PAGE 1 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
March 2014	E10854	Milk	Sr-89	pCi/L	95.1	91.7	1.04	A
			Sr-90	pCi/L	10.9	15.1	0.72	W
	E10855	Milk	I-131	pCi/L	96.6	98.5	0.98	A
			Ce-141	pCi/L	112	119	0.94	A
			Cr-51	pCi/L	449	491	0.91	A
			Cs-134	pCi/L	186	210	0.89	A
			Cs-137	pCi/L	250	253	0.99	A
			Co-58	pCi/L	248	268	0.93	A
			Mn-54	pCi/L	292	297	0.98	A
			Fe-59	pCi/L	230	219	1.05	A
			Zn-65	pCi/L	312	323	0.97	A
			Co-60	pCi/L	321	337	0.95	A
	E10857	AP	Ce-141	pCi	53.0	53.9	0.98	A
			Cr-51	pCi	232	223	1.04	A
			Cs-134	pCi	100	95.3	1.05	A
			Cs-137	pCi	122	115	1.06	A
			Co-58	pCi	122	121	1.01	A
			Mn-54	pCi	135	135	1.00	A
			Fe-59	pCi	111	99.3	1.12	A
			Zn-65	pCi	140	147	0.95	A
			Co-60	pCi	187	153	1.22	W
	E10856	Charcoal	I-131	pCi	74.1	76.4	0.97	A
	E10858	Water	Fe-55	pCi/L	2090	1760	1.19	A
June 2014	E10913	Milk	Sr-89	pCi/L	85.9	91.3	0.94	A
			Sr-90	pCi/L	13.8	14.5	0.95	A
	E10914	Milk	I-131	pCi/L	86.5	90.9	0.95	A
			Ce-141	pCi/L	111	124	0.90	A
			Cr-51	pCi/L	255	253	1.01	A
			Cs-134	pCi/L	147	162	0.91	A
			Cs-137	pCi/L	123	120	1.03	A
			Co-58	pCi/L	105	112	0.94	A
			Mn-54	pCi/L	155	156	0.99	A
			Fe-59	pCi/L	106	102	1.04	A
			Zn-65	pCi/L	251	252	1.00	A
			Co-60	pCi/L	218	224	0.97	A
	E10916	AP	Ce-141	pCi	95.1	92.6	1.03	A
			Cr-51	pCi	215	190	1.13	A
			Cs-134	pCi	122	122	1.00	A
			Cs-137	pCi	95.1	89.8	1.06	A
			Co-58	pCi	88.7	84.1	1.05	A
			Mn-54	pCi	115	116	0.99	A
			Fe-59	pCi	72.6	76.7	0.95	A
			Zn-65	pCi	193	189	1.02	A
			Co-60	pCi	179	168	1.07	A
	E10915	Charcoal	I-131	pCi	85.6	85.2	1.00	A
	E10917	Water	Fe-55	pCi/L	1680	1810	0.93	A

TABLE D-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING, 2014
(PAGE 2 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
September 2014	E10946	Milk	Sr-89	pCi/L	90.7	96.9	0.94	A
			Sr-90	pCi/L	14.0	16.4	0.85	A
	E10947	Milk	I-131	pCi/L	92.0	97.6	0.94	A
			Ce-141	pCi/L	117	126	0.93	A
			Cr-51	pCi/L	281	288	0.98	A
			Cs-134	pCi/L	141	158	0.89	A
			Cs-137	pCi/L	186	193	0.96	A
			Co-58	pCi/L	137	143	0.96	A
			Mn-54	pCi/L	138	142	0.97	A
			Fe-59	pCi/L	162	158	1.03	A
			Zn-65	pCi/L	75.2	73.0	1.03	A
			Co-60	pCi/L	286	297	0.96	A
	E10949	AP	Ce-141	pCi	97.8	82.1	1.19	A
			Cr-51	pCi	212	188	1.13	A
			Cs-134	pCi	106	103	1.03	A
			Cs-137	pCi	131	126	1.04	A
			Co-58	pCi	85.7	93.0	0.92	A
			Mn-54	pCi	92.8	92.3	1.01	A
			Fe-59	pCi	113	103	1.10	A
			Zn-65	pCi	53.2	47.5	1.12	A
			Co-60	pCi	202	193	1.05	A
	E10948	Charcoal	I-131	pCi	83.9	89.8	0.93	A
	E10950	Water	Fe-55	pCi/L	2010	1720	1.17	A
	E10951	Soil	Ce-141	pCi/g	0.208	0.186	1.12	A
			Cr-51	pCi/g	0.398	0.425	0.94	A
			Cs-134	pCi/g	0.216	0.233	0.93	A
			Cs-137	pCi/g	0.398	0.365	1.09	A
			Co-58	pCi/g	0.197	0.211	0.93	A
			Mn-54	pCi/g	0.242	0.209	1.16	A
			Fe-59	pCi/g	0.238	0.233	1.02	A
			Zn-65	pCi/g	0.117	0.108	1.08	A
			Co-60	pCi/g	0.447	0.438	1.02	A
December 2014	E11078	Milk	Sr-89	pCi/L	85.7	95.7	0.90	A
			Sr-90	pCi/L	12.9	15.6	0.83	A
	E11079	Milk	I-131	pCi/L	85.9	95.1	0.90	A
			Ce-141	pCi/L	205	219	0.94	A
			Cr-51	pCi/L	402	406	0.99	A
			Cs-134	pCi/L	156	164	0.95	A
			Cs-137	pCi/L	194	198	0.98	A
			Co-58	pCi/L	122	130	0.94	A
			Mn-54	pCi/L	220	225	0.98	A
			Fe-59	pCi/L	183	175	1.05	A
			Zn-65	pCi/L	287	297	0.97	A
			Co-60	pCi/L	224	235	0.95	A

TABLE D-1 **ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM**
TELEDYNE BROWN ENGINEERING, 2014
(PAGE 3 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
December 2014	E11081	AP	Ce-141	pCi	96.4	102	0.95	A
			Cr-51	pCi	171	190	0.90	A
			Cs-134	pCi	73.1	76.9	0.95	A
			Cs-137	pCi	99.0	92.6	1.07	A
			Co-58	pCi	57.5	60.8	0.95	A
			Mn-54	pCi	107	105	1.02	A
			Fe-59	pCi	74.2	81.6	0.91	A
			Zn-65	pCi	144	139	1.04	A
			Co-60	pCi	114	110	1.04	A
	E11080	Charcoal	I-131	pCi	93.5	98.2	0.95	A
	E11082	Water	Fe-55	pCi/L	1760	1970	0.89	A

(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, 2014
(PAGE 1 OF 1)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Acceptance Limits	Evaluation (c)
May 2014	RAD-97	Water	Sr-89	pCi/L	38.25	36.7	27.5 - 43.6	A
			Sr-90	pCi/L	24.65	26.5	19.2 - 30.9	A
			Ba-133	pCi/L	89.1	87.9	74.0 - 96.7	A
			Cs-134	pCi/L	45.55	44.3	35.5 - 48.7	A
			Cs-137	pCi/L	91.15	89.1	80.2 - 101	A
			Co-60	pCi/L	65.10	64.2	57.8 - 73.1	A
			Zn-65	pCi/L	244	235	212 - 275	A
			Gr-A	pCi/L	45.65	61.0	31.9 - 75.8	A
			Gr-B	pCi/L	27.95	33.0	21.4 - 40.7	A
			I-131	pCi/L	23.75	25.7	21.3 - 30.3	A
			U-Nat	pCi/L	9.61	10.2	7.95 - 11.8	A
			H-3	pCi/L	8435	8770	7610 - 9650	A
	MRAD-20	Filter	Gr-A	pCi/filter	28.0	46.0	15.4 - 71.4	A
November 2014	RAD-99	Water	Sr-89	pCi/L	30.4	31.4	22.8 - 38.1	A
			Sr-90	pCi/L	18.6	21.8	15.6 - 25.7	A
			Ba-133	pCi/L	46.8	49.1	40.3 - 54.5	A
			Cs-134	pCi/L	88.0	89.8	73.7 - 98.8	A
			Cs-137	pCi/L	99.0	98.8	88.9 - 111	A
			Co-60	pCi/L	92.5	92.1	82.9 - 104	A
			Zn-65	pCi/L	325	310	279 - 362	A
			Gr-A	pCi/L	29.9	37.6	19.4 - 48.1	A
			Gr-B	pCi/L	27.5	27.4	17.3 - 35.3	A
			I-131	pCi/L	15.8	20.3	16.8 - 24.4	N (1)
			U-Nat	pCi/L	5.74	5.80	4.34 - 6.96	A
			H-3	pCi/L	6255	6880	5940 - 7570	A
	MRAD-21	Filter	Gr-A	pCi/filter	27.3	36.9	12.4 - 57.3	A

*(1) The **Iodine-131** was evaluated as failed with a ratio of 0.778. No cause could be found for the slighly low activity. TBE would evaluate this as acceptablie with warning. A rerun was not possible due to I-131 decay. All ERA Iodine-131 evaluations since 2004 have been acceptable. NCR 14-08*

(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, 2014
(PAGE 1 OF 2)

Month/Year	Identification Number	Media	Nuclide*	Units	Reported Value (a)	Known Value (b)	Acceptance Range	Evaluation (c)
March 2014	14-MaW30	Water	Am-241	Bq/L	0.764	0.720	0.504 - 0.936	A
			Cs-134	Bq/L	20.7	23.1	16.2 - 30 0	A
			Cs-137	Bq/L	28.0	28.9	20.2 - 37.6	A
			Co-57	Bq/L	26.5	27.5	19.3 - 35.8	A
			Co-60	Bq/L	15.6	16.0	11.2 - 20.8	A
			H-3**	Bq/L	NR	321	225 - 417	N (3)
			Mn-54	Bq/L	13.5	13.9	9.7 - 18.1	A
			Ni-63	Bq/L	NR	34.0	23.8 - 44.2	N (3)
			Pu-238	Bq/L	0.911	0.828	0.580 - 1.076	
			Pu-239/240	Bq/L	0.751	0.676	0.473 - 0.879	
			K-40	Bq/L	NR		(1)	N (3)
			Sr-90**	Bq/L	NR	8.51	5.96 - 11.06	N (3)
			U-234/233**	Bq/L	NR	0.225	0.158 - 0.293	N (3)
			U-238**	Bq/L	NR	1.45	1.02 - 1.89	N (3)
			Zn-65	Bq/L	-0.201		(1)	A
	14-MaS30	Soil	Cs-134	Bq/kg	2.02		(1)	A
			Cs-137	Bq/kg	1300	1238	867 - 1609	A
			Co-57	Bq/kg	1069	966	676 - 1256	A
			Co-60	Bq/kg	1.32	1.22	(2)	A
			Mn-54	Bq/kg	1510	1430	1001 - 1859	A
			K-40	Bq/kg	669	622	435 - 809	A
			Sr-90	Bq/kg	4.14		(1)	A
			Zn-65	Bq/kg	763	695	487 - 904	A
	14-RdF30	AP	Cs-134**	Bq/sample	NR	1.91	1.34 - 2.48	N (3)
			Cs-137**	Bq/sample	NR	1.76	1.23 - 2.29	N (3)
			Co-57**	Bq/sample	NR		(1)	N (3)
			Co-60**	Bq/sample	NR	1.39	0.97 - 1.81	N (3)
			Mn-54**	Bq/sample	NR		(1)	N (3)
			Sr-90	Bq/sample	0.8220	1.18	0.83 - 1.53	N (3)
			Zn-65**	Bq/sample	NR		(1)	N (3)
	14-GrF30	AP	Gr-A	Bq/sample	0.606	1.77	0.53 - 3.01	A
			Gr-B	Bq/sample	0.7507	0.77	0.39 - 1.16	A
	14-RdV30	Vegetation	Cs-134	Bq/sample	5.96	6.04	4.23 - 7.85	A
			Cs-137	Bq/sample	5.06	4.74	3.32 - 6.16	A
			Co-57	Bq/sample	11.8	10.1	7.1 - 13.1	A
			Co-60	Bq/sample	7.34	6.93	4.85 - 9.01	A
			Mn-54	Bq/sample	8.95	8.62	6.03 - 11.21	A
			Sr-90	Bq/sample	1.23	1.46	1.02 - 1.90	A
			Zn-65	Bq/sample	8.91	7.86	5.50 - 10.22	A

TABLE D-3 **DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)**
TELEDYNE BROWN ENGINEERING, 2014
(PAGE 2 OF 2)

Month/Year	Identification Number	Media	Nuclide*	Units	Reported Value (a)	Known Value (b)	Acceptance Range	Evaluation (c)
September 2014	14-MaW31	Water	Am-241	Bq/L	0.705	0.88	0.62 - 1.14	A
			Cs-134***	Bq/L	NR		(1)	N (4)
			Cs-137***	Bq/L	NR	18.4	12.9 - 23.9	N (4)
			Co-57***	Bq/L	NR	24.7	17.3 - 32.1	N (4)
			Co-60***	Bq/L	NR	12.4	8.7 - 16.1	N (4)
			Mn-54***	Bq/L	NR	14.0	9.8 - 18.2	N (4)
			Ni-63	Bq/L	24.07	24.6	17.2 - 32.0	A
			Pu-238	Bq/L	0.591	0.618	0.433 - 0.803	A
			Pu-239/240	Bq/L	0.0153	0.0048	(2)	A
			K-40***	Bq/L	NR	161	113 - 209	N (4)
			Zn-65***	Bq/L	NR	10.9	7.6 - 14.2	N (4)
	14-MaS31	Soil	Cs-134***	Bq/kg	NR	622	435 - 809	N (4)
			Cs-137***	Bq/kg	NR		(1)	N (4)
			Co-57***	Bq/kg	NR	1116	781 - 1451	N (4)
			Co-60***	Bq/kg	NR	779	545 - 1013	N (4)
			Mn-54***	Bq/kg	NR	1009	706 - 1312	N (4)
			K-40***	Bq/kg	NR	824	577 - 1071	N (4)
			Sr-90	Bq/kg	694	858	601 - 1115	A
			Zn-65***	Bq/kg	NR	541	379 - 703	N (3)
	14-RdF31	AP	Sr-90	Bq/sample	0.310	0.703	0.492 - 0.914	N (4)
	14-GrF31	AP	Gr-A	Bq/sample	0.153	0.53	0.16 - 0.90	N (4)
			Gr-B	Bq/sample	0.977	1.06	0.53 - 1.59	A
September 2014	14-RdV31	Vegetation	Cs-134	Bq/sample	7.31	7.38	5.17 - 9.59	A
			Cs-137	Bq/sample	8.93	8.14	5.70 - 10.58	A
			Co-57	Bq/sample	10.8	9.2	6.4 - 12.0	A
			Co-60	Bq/sample	6.31	6.11	4.28 - 7.94	A
			Mn-54	Bq/sample	7.76	7.10	4.97 - 9.23	A
			Sr-90	Bq/sample	0.738	0.85	0.60 - 1.11	A
			Zn-65	Bq/sample	7.16	6.42	4.49 - 8.35	A

* The MAPEP cross check isotope list has been reduced due to duplication of effort or analysis not being performed for clients.

** Starting 3Q14, these nuclides will no longer be part of the TBE cross check program due to duplication of effort or analysis not being performed for clients. MAPEP evaluates non-reported analyses as failed if they were reported in the previous series.

*** All future gamma cross check samples for these isotopes will be provided by Analytics.

(1) False positive test.

(2) Sensitivity evaluation

*(3) **Water, Ni-63** overlooked when reporting, but the result of 32.7 +- 1.69 would have passed the acceptance criteria. NCR 14-04*
*__Water__, the non-detected **K-40** was overlooked when reporting, but would have passed the false positive test. NCR 14-04*
__AP, Sr-90__ rerun was within the low range of the acceptqance criteria. The original and rerun results were statistically the same. No cause could be identified for the slightly low Sr-90 activity. NCR 14-04
For non reported (NR) analyses, MAPEP evaluates as failed if they were reported in the previous series. NCR 14-04

*(4) **AP, Sr-90** gravimetric yield was very high at 117%. Could indicate larger than normal amounts of calcium in the AP. A second fuming HNO_3 separation would be required to remove the excess calcium; The Gross Alpha AP was counted on the wrong side. NCR 14-09*
__AP, Gr-Beta__ was counted on the wrong side. When flipped over and recounted the results were acceptable. NCR 14-09
For non reported (NR) analyses, MAPEP evaluates as failed if they were reported in the previous series. NCR 14-09

(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.

APPENDIX E

ERRATA DATA

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There is no errata data for 2014.

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APPENDIX F

ANNUAL RADIOLOGICAL GROUNDWATER PROTECTION PROGRAM REPORT (ARGPPR)

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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 2014

Prepared By

Teledyne Brown Engineering
Environmental Services

ExelonGeneration.

Dresden Nuclear Power Station
Morris, IL 60450

May 2015

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Table A-1 — Radiological Groundwater Protection Program - Sampling Locations, Distance and Direction, Dresden Nuclear Power Station, 2014

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

ARGPPR Appendix B — Data Tables

Tables

Table B-I.1 — Concentrations of Tritium, Strontium, Gross Alpha and Gross Beta in Groundwater Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2014.

Table B-I.2 — Concentrations of Gamma Emitters in Groundwater Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2014.

Table B-I.3 — Concentrations of Hard-To-Detects in Groundwater Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2014.

Table B-II.1 — Concentrations of Tritium in Surface Water Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2014.

Table B-II.2 — Concentrations of Gamma Emitters in Surface Water Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2014.

Table B-III.1 — Concentrations of Tritium in Precipitation Water Samples Collected in the Vicinity of Dresden Nuclear Power Station, 2014.

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 (PA).

The Dresden power plant has experienced leaks from underground lines and spills from systems containing radioactive water over its 50 year history. These incidents have created a number of areas of localized contamination within the PA. The liquid scintillation analyses of groundwater in many of these areas show measurable concentrations of tritium (H-3).

Dresden participated in a fleetwide hydrogeologic investigation in during the summer of 2006 in an effort to characterize groundwater movement at each site. This investigation also compiled a list of the historic spills and leaks as well as a detailed analysis on groundwater hydrology for Dresden Nuclear Generation Station. 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.

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 PA. Samples taken from domestic water supply 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 has 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 98 sampling points in the RGPP:

Dresden has 47 developed groundwater monitoring wells within the Protected Area (PA). 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 30 developed groundwater monitoring wells outside the PA the majority of which form a ring just within the perimeter of the property.

Dresden has 11 surface water monitoring locations on the owner-controlled area sampled as part of the Dresden RGPP.

Dresden has 4 precipitation water monitoring locations sampled as part of the Dresden RGPP. An additional 8 locations were studied in 2011 through 2012, but only 4 locations are currently permanently a part of the RGPP program.

Dresden has 6 sentinel wells. These wells are not constructured to code or developed to a standard. The majority of these wells are idle and only used for qualitative troubleshooting.

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 determined by the well detection category in accordance with site document EN-DR-408-4160, Dresden RGPP Reference Material. During 2014, there were 674 analyses that were performed on 256 samples from 98 sampling points.

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. These wells are categorized as idle wells and are used only for troubleshooting purposes.

Dresden has two basic storm water runoff sewer systems within the P.A: one storm-system routes to the east, then north and discharges into the Unit 1 intake canal, the second storm-system routes to the west, then north, through a large Oil/Water 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 Station RGPP has eleven RGPP surface water sampling points to monitor these systems.

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 site-specific RGPP is to provide indication of short-term changes to groundwater tritium concentrations within the PA.

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.

3. 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 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 89 developed groundwater wells and surface water sample points in the RGPP.

1. Sample Collection

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

<u>Groundwater and Surface Water</u>

Water samples are collected in accordance with the schedule delineated in the Dresden site-specific RGPP 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 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 2014.

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.

3. Concentrations of tritium in groundwater, surface water and precipitation water.

4. Concentrations of gross alpha and gross beta in groundwater.

5. Concentrations of Am-241 in groundwater.

6. Concentrations of Cm-242 and Cm-243/244 in groundwater.

7. Concentrations of Pu-238 and Pu-239/240 in groundwater.

8. Concentrations of U-233/234, U-235 and U-238 in groundwater.

9. Concentrations of Fe-55 in groundwater.

10. Concentrations of Ni-63 in groundwater.

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. Lower Limit of Detection and Minimum Detectable Concentration

   The Lower Limit of Detection (LLD) is the minimum sensitivity value that must be achieved routinely by the analytical parameter.

2. Laboratory Measurements Uncertainty

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

   Statistically, the exact value of a measurement is expressed as a range with a stated level of confidence. The convention is to report results with a 95% level of confidence. The uncertainty comes from calibration standards, sample volume or weight measurements, sampling uncertainty and other factors. Exelon

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

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

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

For groundwater and surface water 14 nuclides, 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 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 food stuffs. 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 worldwide from 1960 to 2006. RadNet provides tritium precipitation concentration data for samples collected at stations throughout 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-site wells throughout the year in accordance with Dresden's RGPP. Analytical results and anomalies are discussed below.

Tritium

Routine sampling and analysis, performed per CY-DR-120-5200, Radiological Monitoring of Sewage and Wastewater Effluent, identified elevated tritium concentration in the Sewage Treatment Plant (STP) effluent. IR 1669137 was written and an investigation was performed. Subsequently, elevated tritium concentration found in the monitoring well MD-11 near the 2/3 Condensate Storage Tanks (CSTs) indicated a possible tank leak. Using the corrective action programs and the guidance of CY-DR-170-2020, Abnormal Radiological Release, further

actions were taken to locate the source of elevated tritium. The investigation determined the leak into the ground was from the 2/3 B CST, with infiltration into the STP system via a breach in a nearby sanitary sewer line. Repairs were made to the CST and STP line, a sampling and analysis plan was initiated, and routine monitoring continues at the CST area and at the STP. Tritium concentration in the STP effluent has trended down indicating that the leak has been repaired. Overall, tritium concentrations are decreasing near the CST, as well as across the Station. Tritium concentrations in MW-DN-124S and MW-DN-124I continue to be closely monitored for the existing plume in this area. Wells that exceed the United States Environmental Agency (USEPA) drinking water standard (and the Nuclear Regulatory Commission Reporting Limit) of 20,000 pCi/L are located onsite and are not available as a drinking water source (Table B-I.1, Appendix B).

Strontium

Samples were collected and analyzed for strontium-89 and strontium-90 activity (Table B-I.1, Appendix B). Strontium-89 was not detected in any of the samples. Strontium-90 was detected at locations DSP-108, MW-DN-105S, MW-DN-108I. The concentrations ranged from 0.7 to 1.1 pCi/L.

Gross Alpha and Gross Beta (dissolved and suspended)

Gross Alpha and Gross Beta analyses in the dissolved and suspended fractions were performed on groundwater samples during the second quarter of 2014 (Table B-I.1, Appendix B). Gross Alpha (dissolved) was detected at three groundwater locations. The concentrations ranged from 1.6 to 6.0 pCi/L. Gross Alpha (suspended) was detected at one groundwater location at a concentration of 2.5 pCi/L. Gross Beta (dissolved) was detected at 28 of the groundwater locations. The concentrations ranged from 2.3 to 34.1 pCi/L. Gross Beta (suspended) was not detected at any of the groundwater locations. The concentrations of Gross Alpha and Gross Beta, which are slightly above detectable levels, are considered to be background and are not the result of plant effluents.

Gamma Emitters

Naturally-occurring K-40 was detected in three samples. No other gamma emitting nuclides were detected (Table B-I.2, Appendix B).

Hard-To-Detects

Hard-To-Detect analyses were performed on two groundwater locations to establish background levels. The analyses included Fe-55, Ni-63, Am-241, Cm-242, Cm-243/244, Pu-238, Pu-239/240, U-233/234, U-235 and U-238. The isotope U-233/234 and U-238 was detected at one of the two groundwater monitoring locations. The concentration of U-234 was 0.68 pCi/L and the concentration U-238 was 0.61 pCi/L (Table B-I.3, Appendix B). The concentrations detected are considered background. All other hard-to-detect nuclides were not detected at concentrations greater than their respective MDCs.

B. Surface Water Results

Surface Water

Samples were collected from eleven surface water locations throughout the year in accordance with the station radiological groundwater protection program. Analytical results and anomalies are discussed below.

Tritium

Samples from all locations were analyzed for tritium activity (Table B-II.1, Appendix B). Tritium values ranged from the detection limit to 1,020 pCi/l. The measurable concentrations of tritium are from an upstream source.

Strontium

Samples were not analyzed for strontium activity (Table B-II.1. Appendix B).

Gross Alpha and Gross Beta (dissolved and suspended)

Samples were not analyzed for Gross Alpha and Gross Beta in 2014.

Gamma Emitters

No gamma emitting nuclides were detected (Table B-II.2, Appendix B).

Hard-To-Detects

Samples were not analyzed for Hard-To-Detect analyses in 2014.

C. Precipitation Water Results

Precipitation Water

Samples were collected from 4 precipitation water locations throughout the year in accordance with the station radiological groundwater protection program. Analytical results and anomalies are discussed below.

Tritium

Samples from 4 locations were analyzed for tritium activity (Table B-III.1, Appendix B). Tritium was not detected in any samples.

D. Drinking Water Well Survey

No drinking water well surveys were conducted in 2014.

E. Summary of Results – Inter-Laboratory Comparison Program

Inter-Laboratory Comparison Program results for TBE are presented in the AREOR.

F. Leaks, Spills, and Releases

During 2014 a leak at the 2/3 B CST infiltrated the STP influent piping, resulting in an abnormal release of tritium through the STP effluent. Prior to the CST leak there were no indications of contaminated site leakage into groundwater. Early detection monitoring of the sewage treatment plant effluent and pulling additional samples from the CST area helped find the CST leak.

G. Trends

Overall, tritium concentrations are decreasing near the source of the CST tritium release as well as across the Station. The Station continued to implement the tritium monitoring plan with weekly/monthly sampling of a

subset of shallow and intermediate aquifer wells, sewage treatment plant water, and storm sewer water. In November 2014 the sample frequency for several wells, showing no indication of being affected by the CST release, were reduced from monthly to quarterly because there was no evidence indicating the plume was migrating in those directions. An elevated concentration persists in the area of the CST.

H. Investigations

An investigation was performed into elevated tritium at the STP effluent which identified elevated tritium concentration in well MD-11 near the 2/3 CSTs. The investigation determined the leak into the ground was from the 2/3 B CST, with infiltration into the STP system via a breach in a nearby sanitary sewer line.

I. Actions Taken

1. Compensatory Actions

Repairs were made to the CST and STP line, a sampling and analysis plan was initiated, and increased routine monitoring continues at the CST area and at the STP.

2. Actions to Recover/Reverse Plumes

Remediation options are being pursued to lower tritium levels in the localized area of the 2/3 CSTs.

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APPENDIX A

LOCATION DISTANCE

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TABLE A-1: Radiological Groundwater Protection Program - Sampling Locations, Dresden Nuclear Power Station, 2014

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	Monitoring Well	25 feet south of the south edge of the Employee Parking lot
DSP-157-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	Monitoring Well	53 feet west of the Kankakee River; 33 feet west of the cinder track
DSP-158-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	Monitoring Well	250 feet west of the Thorsen house; 450 ft south of the plant access gate
DSP-159-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
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

TABLE A-1: Radiological Groundwater Protection Program - Sampling Locations, Dresden Nuclear Power Station, 2014

Site	Site Type	Location
MW-DN-122-I	Monitoring Well	150 feet north of Collins Road; northeast of the G.E. Fuel Storage Facility
MW-DN-122-S	Monitoring Well	150 feet north of Collins 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
MW-DN-125-S	Monitoring Well	40 feet east of 2/3 B CST
MW-DN-126-S	Monitoring Well	15 feet south of fence around Unit 2/3 A CST and B CST (outside of fence)
MW-DN-127-S	Monitoring Well	20 feet south of Unit 3 HRSS
MW-DN-134-S	Monitoring Well	20-ft North of Mausoleum Building
MW-DN-135-S	Monitoring Well	20-ft East of Mausoleum Building
MW-DN-136-S	Monitoring Well	14.5-ft South of Mausoleum Building
MW-DN-137-S	Monitoring Well	20-ft West of Mausoleum Building
MW-DN-140-S	Monitoring Well	East of MW-DN-104S at SW corner outside of 2/3 crib house
MW-DN-141-S	Monitoring Well	North of 'A' Waste Tank next to 2/3 main chimney
MW-DN-MD-11	Monitoring Well	Piping located between Condensate Storage Tanks.
DSP-131	Surface Water	Storm water – 35 ft NE of the Unit 2/3 heating boiler 150,000 gallon diesel fuel storage tank. 15 ft W of the hot canal fence – underneath Security Block
DSP-132	Surface Water	Storm water – 150 ft NE of the Unit 1 Sphere. The sewer is in the middle of the road with a solid cover (no slots). There are two other sewers in the vicinity with solid covers on them, but both have the word "SANITARY" on the cover. The sewer is 66 ft SE of the Unit 1 diesel fuel transfer shed.
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
FW-1	Precipitation	40 feet southwest of Unit 2/3 Off-gas Filter Building access door; north end of guardrail
FW-2	Precipitation	50 feet East of Chem Feed Trailer
FW-3	Precipitation	South of Stock Truck Bay rollup door
FW-4	Precipitation	Southeast corner of Unit 3 RB Interlock
FW-5	Precipitation	East of Unit 2/3 Intake Ross barrier
FW-6	Precipitation	North of Unit 1 Chimney
FW-7	Precipitation	Southeast of Unit 2 TB Trackway
FW-8	Precipitation	Southwest corner of 2/3 CST on fence
FW-9	Precipitation	South of MUDS Building on Security fence
FW-10	Precipitation	At the fence at the northwest corner of the SBO Building
FW-11	Precipitation	30 feet east of the east wall of the EM shop; at the stanchion for RGPP well DSP-105
FW-12	Precipitation	60 feet southeast of the southwest corner of the Admin Building; on the security fence

ARGPPR APPENDIX B

DATA TABLES

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TABLE B-I.1 **CONCENTRATIONS OF TRITIUM, STRONTIUM, GROSS ALPHA, AND GROSS BETA IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE		H-3	Sr-89	Sr-90	Gr-A (Dis)	Gr-A (Sus)	Gr-B (Dis)	Gr-B (Sus)
CBE	11/24/14		< 149	< 3.3	< 0.7				
CBG	11/24/14		609 ± 126	< 3.3	< 0.6				
DSP-105	03/11/14		< 155						
DSP-105	06/02/14		< 182	< 2.4	< 0.7	< 3.1	< 0.6	7.2 ± 2.0	< 2.8
DSP-105	08/29/14		< 161						
DSP-105	11/05/14		< 156						
DSP-106	03/11/14		1940 ± 239						
DSP-106	06/02/14		1840 ± 247	< 2.0	< 0.7	< 2.8	< 0.6	4.3 ± 1.8	< 2.8
DSP-106	08/29/14		1810 ± 228						
DSP-106	11/05/14		1720 ± 220						
DSP-107	03/10/14		2200 ± 267						
DSP-107	06/02/14		2280 ± 286	< 2.0	< 0.6	< 3.0	< 0.6	9.3 ± 2.0	< 2.8
DSP-107	08/29/14		2200 ± 265						
DSP-107	11/05/14		2000 ± 246						
DSP-108	03/10/14		647 ± 133						
DSP-108	06/02/14		525 ± 138	< 2.2	1.1 ± 0.5	< 12.4	< 0.6	28.1 ± 3.3	< 2.8
DSP-108	08/29/14		407 ± 121						
DSP-108	11/05/14		420 ± 119						
DSP-122	03/05/14		785 ± 150						
DSP-122	05/29/14		682 ± 156						
DSP-122	08/27/14		733 ± 136						
DSP-122	11/04/14		804 ± 140						
DSP-123	03/10/14		1740 ± 221						
DSP-123	05/30/14		1530 ± 211	< 3.8	< 0.7	< 2.5	< 1.9	14.1 ± 2.4	< 2.5
DSP-123	08/28/14		1240 ± 174						
DSP-123	11/04/14		1430 ± 193						
DSP-124	03/28/14		1060 ± 163						
DSP-124	06/04/14		1450 ± 209						
DSP-124	08/26/14		3280 ± 369						
DSP-124	11/10/14		4330 ± 474						
DSP-125	03/27/14		< 167						
DSP-125	05/27/14	Original	48200 ± 4440	< 4.3	< 0.6	< 6.8	< 1.9	34.1 ± 6.6	< 2.5
DSP-125	05/27/14	Reanalysis	48500 ± 4850						
DSP-125	05/27/14	Recount	51300 ± 5170						
DSP-125	08/25/14		19500 ± 1980						
DSP-125	11/05/14		13500 ± 1390						
DSP-125	11/24/14		11500 ± 1190	< 3.6	< 0.5				
DSP-126	06/09/14		< 187						
DSP-131	03/27/14		175 ± 112						
DSP-131	06/02/14		403 ± 132						
DSP-131	08/25/14		< 159						
DSP-131	11/10/14		636 ± 134						
DSP-131	11/24/14		789 ± 137	< 4.8	< 0.8				
DSP-132	03/27/14		< 171						
DSP-132	05/30/14	Original	52000 ± 4640						
DSP-132	05/30/14	Reanalysis	51600 ± 4540						
DSP-132	05/30/14	Recount	45300 ± 4300						
DSP-132	08/25/14		3120 ± 355						
DSP-132	11/10/14		1750 ± 222						
DSP-132	11/24/14	Original	416 ± 116	< 3.5	< 0.5				
DSP-132	11/24/14	Recount	357 ± 138						
DSP-147	06/09/14		< 183						
DSP-148	03/31/14		237 ± 131						
DSP-148	06/10/14		< 184						
DSP-148	09/04/14		311 ± 113						
DSP-148	11/11/14		258 ± 122						
DSP-149R	03/31/14		316 ± 136						
DSP-149R	06/10/14		429 ± 141						
DSP-149R	09/04/14		458 ± 121						

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM, STRONTIUM, GROSS ALPHA, AND GROSS BETA IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE		H-3	Sr-89	Sr-90	Gr-A (Dis)	Gr-A (Sus)	Gr-B (Dis)	Gr-B (Sus)
DSP-149R	11/11/14		459 ± 135						
DSP-150	03/11/14		< 163						
DSP-150	06/02/14		< 183						
DSP-150	08/28/14		< 157						
DSP-150	11/05/14		< 173						
DSP-151	03/11/14		< 165						
DSP-151	06/02/14		< 187						
DSP-151	08/29/14		< 157						
DSP-151	11/05/14		< 173						
DSP-154	06/09/14		< 185						
DSP-156	03/31/14		333 ± 139						
DSP-156	06/10/14		< 186						
DSP-156	09/04/14		273 ± 111						
DSP-156	11/11/14		224 ± 123						
DSP-157I	06/09/14		< 185						
DSP-157S	06/09/14		< 187						
DSP-159I	06/10/14		325 ± 135						
DSP-159S	06/10/14		< 186						
MD-11	11/24/14	Original	1310000 ± 125000	< 2.9	< 0.5				
MD-11	11/24/14	Reanalysis	1350000 ± 125000						
MD-11	11/24/14	Recount	1450000 ± 140000						
MW-DN-101I	03/10/14		690 ± 134						
MW-DN-101I	05/30/14		868 ± 166	< 4.6	< 0.6	< 2.3	< 1.2	12.9 ± 2.2	< 2.7
MW-DN-101I	08/28/14		641 ± 130						
MW-DN-101I	11/04/14		800 ± 153						
MW-DN-101S	03/10/14		< 160						
MW-DN-101S	05/30/14		< 192	< 4.4	< 0.5	6.0 ± 2.8	< 1.2	12.7 ± 2.4	< 2.7
MW-DN-101S	08/28/14		< 156						
MW-DN-101S	11/04/14		< 173						
MW-DN-102I	03/27/14		< 160						
MW-DN-102I	06/04/14		< 174	< 2.7	< 0.6	< 3.0	< 0.6	< 6.0	< 2.8
MW-DN-102I	08/26/14		< 160						
MW-DN-102I	11/10/14		< 190						
MW-DN-102S	03/27/14		< 191						
MW-DN-102S	06/04/14		< 184	< 2.2	< 0.8	< 19.9	< 0.6	21.4 ± 7.4	< 2.8
MW-DN-102S	08/26/14		< 157						
MW-DN-102S	11/10/14		< 193						
MW-DN-103I	06/09/14		< 184						
MW-DN-103S	06/09/14		< 184						
MW-DN-104S	03/05/14		< 181						
MW-DN-104S	05/29/14		< 192						
MW-DN-104S	08/27/14		< 163						
MW-DN-104S	11/04/14		< 192						
MW-DN-105S	03/11/14		< 164	< 3.6	< 0.9				
MW-DN-105S	06/02/14		< 182	< 2.3	1.0 ± 0.2				
MW-DN-105S	08/29/14		< 165	< 6.2	< 0.8				
MW-DN-105S	11/05/14		< 193	< 3.1	< 1.0				
MW-DN-106S	06/10/14		< 186						
MW-DN-107S	03/27/14		< 190						
MW-DN-107S	06/04/14		< 182						
MW-DN-107S	08/26/14		2120 ± 261						
MW-DN-107S	11/05/14		1420 ± 203						
MW-DN-108I	03/28/14		< 176						
MW-DN-108I	05/30/14		< 157	< 4.8	0.7 ± 0.4	< 1.7	< 1.2	22.6 ± 2.4	< 2.7
MW-DN-108I	08/28/14		< 162						
MW-DN-108I	11/04/14		< 191						
MW-DN-109I	03/05/14		< 181						
MW-DN-109I	05/29/14		< 194	< 4.6	< 0.8	< 0.9	< 1.2	2.5 ± 1.2	< 2.7
MW-DN-109I	08/27/14		< 162						

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM, STRONTIUM, GROSS ALPHA, AND GROSS BETA IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE		H-3	Sr-89	Sr-90	Gr-A (Dis)	Gr-A (Sus)	Gr-B (Dis)	Gr-B (Sus)
MW-DN-109I	11/04/14		< 189						
MW-DN-109S	03/05/14		< 181						
MW-DN-109S	05/29/14		< 192	< 3.7	< 0.6	< 4.0	< 1.2	12.0 ± 4.6	< 2.7
MW-DN-109S	08/27/14		< 161						
MW-DN-109S	11/04/14		< 196						
MW-DN-110I	03/05/14		< 181						
MW-DN-110I	05/29/14		< 192						
MW-DN-110I	08/27/14		< 160						
MW-DN-110I	11/04/14		< 192						
MW-DN-110S	03/05/14		< 181						
MW-DN-110S	05/29/14		< 192						
MW-DN-110S	08/27/14		< 165						
MW-DN-110S	11/04/14		< 195						
MW-DN-111S	03/28/14		323 ± 136						
MW-DN-111S	06/04/14		< 182						
MW-DN-111S	08/26/14		< 164						
MW-DN-111S	11/10/14		< 194						
MW-DN-112I	03/05/14		< 181						
MW-DN-112I	05/29/14		< 195						
MW-DN-112I	08/27/14		< 163						
MW-DN-112I	11/04/14		< 197						
MW-DN-112S	03/05/14		< 183						
MW-DN-112S	05/29/14		< 188						
MW-DN-112S	08/27/14		< 166						
MW-DN-112S	11/04/14		< 192						
MW-DN-113I	03/31/14		< 184						
MW-DN-113I	06/04/14		< 183	< 2.2	< 0.7	< 1.5	< 1.2	3.3 ± 1.7	< 2.7
MW-DN-113I	08/27/14		< 162						
MW-DN-113I	11/10/14		< 196						
MW-DN-113S	03/27/14		< 188						
MW-DN-113S	06/04/14		< 182	< 2.4	< 0.7	< 2.1	2.5 ± 1.4	7.6 ± 2.1	< 2.6
MW-DN-113S	08/27/14		< 167						
MW-DN-113S	11/10/14		< 192						
MW-DN-114I	03/27/14		6080 ± 653						
MW-DN-114I	06/04/14	Original	< 183						
MW-DN-114I	06/04/14	Reanalysis	170 ± 106						
MW-DN-114I	06/04/14	Recount	< 194						
MW-DN-114I	08/25/14		5690 ± 611						
MW-DN-114I	11/05/14		4980 ± 547						
MW-DN-114S	03/27/14		< 188						
MW-DN-114S	06/04/14		< 183						
MW-DN-114S	08/25/14		< 164						
MW-DN-114S	11/05/14		< 192						
MW-DN-115I	03/11/14		322 ± 117						
MW-DN-115I	06/02/14		273 ± 124						
MW-DN-115I	08/25/14		271 ± 115						
MW-DN-115I	11/05/14		379 ± 117						
MW-DN-115S	03/11/14		< 179						
MW-DN-115S	06/02/14		< 178						
MW-DN-115S	08/25/14		< 163						
MW-DN-115S	11/05/14		< 184						
MW-DN-116I	03/10/14		735 ± 139						
MW-DN-116I	05/30/14		205 ± 129	< 5.2	< 0.7	< 3.0	< 1.2	20.7 ± 2.6	< 2.7
MW-DN-116I	08/28/14		306 ± 119						
MW-DN-116I	11/04/14		358 ± 116						
MW-DN-116S	03/10/14		229 ± 109						
MW-DN-116S	05/30/14		< 192	< 5.9	< 0.6	< 1.2	< 1.2	2.3 ± 1.3	< 2.7
MW-DN-116S	08/28/14		195 ± 111						
MW-DN-116S	11/04/14		307 ± 115						

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM, STRONTIUM, GROSS ALPHA, AND GROSS BETA IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE		H-3	Sr-89	Sr-90	Gr-A (Dis)	Gr-A (Sus)	Gr-B (Dis)	Gr-B (Sus)
MW-DN-118S	03/10/14		391 ± 122						
MW-DN-118S	06/02/14		440 ± 129	< 2.3	< 0.7	< 1.8	< 1.8	7.0 ± 1.8	< 2.6
MW-DN-118S	08/29/14		386 ± 122						
MW-DN-118S	11/05/14		394 ± 120						
MW-DN-119I	03/10/14		< 178						
MW-DN-119I	05/30/14		< 191	< 4.9	< 0.8	< 2.4	< 2.8	20.2 ± 2.5	< 3.7
MW-DN-119I	08/28/14		< 180						
MW-DN-119I	11/04/14		264 ± 113						
MW-DN-119S	03/10/14		< 178						
MW-DN-119S	05/30/14		< 190	< 4.4	< 0.5	< 4.2	< 1.2	16.8 ± 2.7	< 2.7
MW-DN-119S	08/28/14		< 180						
MW-DN-119S	11/04/14		< 161						
MW-DN-122I	06/10/14		< 192						
MW-DN-122S	06/10/14		< 194						
MW-DN-124I	03/28/14	Original	19200 ± 1960						
MW-DN-124I	03/28/14	Reanalysis	16200 ± 1660						
MW-DN-124I	03/28/14	Recount	16600 ± 1710						
MW-DN-124I	06/04/14		36700 ± 3720	< 2.8	< 0.7	< 10.0	< 1.2	8.2 ± 2.4	< 2.7
MW-DN-124I	08/26/14		40300 ± 3990						
MW-DN-124I	11/10/14		34300 ± 3460						
MW-DN-124S	03/28/14	Original	42200 ± 4160						
MW-DN-124S	03/28/14	Reanalysis	35700 ± 3600						
MW-DN-124S	03/28/14	Recount	38000 ± 3850						
MW-DN-124S	06/04/14		13500 ± 1400	< 2.5	< 0.7	< 4.7	< 1.2	12.6 ± 4.5	< 2.7
MW-DN-124S	08/26/14		11500 ± 1180						
MW-DN-124S	11/10/14		9570 ± 995						
MW-DN-125S	03/28/14		< 182						
MW-DN-125S	06/04/14		< 171	< 2.3	< 0.6	< 4.8	< 1.2	< 6.6	< 2.7
MW-DN-125S	08/26/14		< 177						
MW-DN-125S	11/10/14		< 160						
MW-DN-126S	03/27/14		882 ± 164						
MW-DN-126S	06/04/14	Original	29700 ± 3020	< 2.2	< 0.8	< 13.1	< 1.2	5.4 ± 2.4	< 2.7
MW-DN-126S	06/04/14	Reanalysis	35600 ± 3590						
MW-DN-126S	06/04/14	Recount	36900 ± 3720						
MW-DN-126S	08/26/14		12400 ± 1280						
MW-DN-126S	11/10/14	Original	45900 ± 4140						
MW-DN-126S	11/10/14	Reanalysis	45300 ± 4570						
MW-DN-126S	11/10/14	Recount	48800 ± 4880						
MW-DN-126S	11/25/14		19200 ± 1950	< 3.4	< 0.6				
MW-DN-127S	03/27/14		447 ± 143						
MW-DN-127S	06/04/14		301 ± 128	< 2.5	< 0.8	< 5.3	< 1.2	13.9 ± 5.0	< 2.7
MW-DN-127S	08/26/14		591 ± 144						
MW-DN-127S	11/05/14	Original	1160 ± 178						
MW-DN-127S	11/05/14	Reanalysis	979 ± 157						
MW-DN-127S	11/05/14	Recount	1010 ± 171						
MW-DN-134S	03/11/14		< 186						
MW-DN-134S	06/09/14		< 194	< 3.8	< 0.8	3.7 ± 1.7	< 0.7	6.1 ± 1.3	< 1.7
MW-DN-134S	09/04/14		< 151						
MW-DN-134S	11/03/14		< 151						
MW-DN-135S	03/11/14		< 177						
MW-DN-135S	06/09/14		< 193	< 3.9	< 0.6	1.6 ± 1.0	< 0.7	6.4 ± 1.2	< 1.7
MW-DN-135S	09/04/14		< 148						
MW-DN-135S	11/03/14		< 183						
MW-DN-136S	03/11/14		< 183						
MW-DN-136S	06/09/14		< 196	< 3.0	< 0.5	< 4.5	< 0.7	11.5 ± 4.2	< 1.7
MW-DN-136S	09/04/14		< 147						
MW-DN-136S	11/03/14		< 149						
MW-DN-137S	03/11/14		< 177						
MW-DN-137S	06/09/14		< 197	< 3.2	< 0.4	< 4.9	< 1.1	8.7 ± 4.4	< 2.8

TABLE B-I.1 **CONCENTRATIONS OF TRITIUM, STRONTIUM, GROSS ALPHA, AND GROSS BETA IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE		H-3	Sr-89	Sr-90	Gr-A (Dis)	Gr-A (Sus)	Gr-B (Dis)	Gr-B (Sus)
MW-DN-137S	09/04/14		< 155						
MW-DN-137S	11/03/14		< 151						
MW-DN-140S	03/05/14		898 ± 157						
MW-DN-140S	05/29/14	Original	1290 ± 189						
MW-DN-140S	05/29/14	Recount	1240 ± 185						
MW-DN-140S	08/27/14		1190 ± 175						
MW-DN-140S	11/04/14		837 ± 136						
MW-DN-141S	03/05/14		949 ± 160						
MW-DN-141S	05/29/14	Original	1630 ± 221	< 5.6	< 0.6	< 2.1	< 1.2	30.5 ± 2.7	< 2.7
MW-DN-141S	05/29/14	Recount	1700 ± 228						
MW-DN-141S	08/27/14		778 ± 155						
MW-DN-141S	11/04/14		928 ± 145						
U1 INTAKE	11/24/14		484 ± 120	< 5.2	< 0.8				

TABLE B-I.2 **CONCENTRATIONS OF GAMMA EMITTERS IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	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
CBE	11/24/14	< 38	< 33	< 3	< 3	< 9	< 4	< 8	< 4	< 7	< 14	< 3	< 4	< 29	< 9
CBG	11/24/14	< 33	< 32	< 3	< 4	< 8	< 3	< 7	< 4	< 7	< 14	< 3	< 3	< 28	< 8
DSP-105	03/11/14	< 12	< 12	< 1	< 1	< 3	< 1	< 3	< 1	< 2	< 4	< 1	< 1	< 8	< 3
DSP-105	06/02/14	< 30	< 21	< 2	< 3	< 6	< 2	< 5	< 3	< 6	< 11	< 3	< 3	< 23	< 5
DSP-105	08/29/14	< 60	< 61	< 6	< 7	< 15	< 6	< 16	< 8	< 14	< 15	< 7	< 7	< 39	< 12
DSP-105	11/05/14	< 31	< 25	< 3	< 3	< 7	< 3	< 6	< 3	< 6	< 12	< 3	< 3	< 24	< 8
DSP-106	03/11/14	< 17	< 31	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 6	< 2	< 2	< 13	< 4
DSP-106	06/02/14	< 46	< 80	< 4	< 5	< 10	< 5	< 8	< 5	< 9	< 13	< 4	< 4	< 32	< 7
DSP-106	08/29/14	< 47	< 47	< 4	< 5	< 13	< 5	< 10	< 6	< 10	< 15	< 5	< 6	< 31	< 10
DSP-106	11/05/14	< 27	< 34	< 3	< 3	< 7	< 3	< 5	< 3	< 5	< 11	< 2	< 3	< 21	< 8
DSP-107	03/10/14	< 20	< 38	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 7	< 2	< 2	< 15	< 5
DSP-107	06/02/14	< 37	< 71	< 5	< 4	< 10	< 5	< 7	< 4	< 7	< 14	< 4	< 4	< 28	< 11
DSP-107	08/29/14	< 35	< 35	< 3	< 4	< 10	< 3	< 6	< 4	< 7	< 10	< 4	< 3	< 21	< 7
DSP-107	11/05/14	< 29	< 66	< 3	< 3	< 7	< 3	< 6	< 4	< 6	< 15	< 3	< 3	< 28	< 8
DSP-108	03/10/14	< 19	< 46	< 2	< 2	< 4	< 2	< 4	< 2	< 3	< 6	< 2	< 2	< 13	< 5
DSP-108	06/02/14	< 43	< 75	< 4	< 4	< 8	< 3	< 7	< 4	< 7	< 14	< 3	< 4	< 29	< 8
DSP-108	08/29/14	< 44	< 85	< 6	< 6	< 14	< 6	< 11	< 6	< 13	< 15	< 5	< 5	< 39	< 15
DSP-108	11/05/14	< 30	< 56	< 3	< 3	< 8	< 3	< 6	< 3	< 5	< 14	< 3	< 3	< 27	< 8
DSP-123	03/10/14	< 17	< 33	< 2	< 2	< 4	< 2	< 4	< 2	< 3	< 6	< 2	< 2	< 13	< 4
DSP-123	05/30/14	< 56	< 111	< 7	< 7	< 15	< 7	< 14	< 8	< 11	< 14	< 6	< 6	< 32	< 12
DSP-123	08/28/14	< 41	< 84	< 5	< 5	< 11	< 6	< 8	< 4	< 6	< 15	< 4	< 5	< 29	< 8
DSP-123	11/04/14	< 29	< 56	< 3	< 3	< 8	< 3	< 6	< 4	< 7	< 14	< 3	< 3	< 29	< 9
DSP-125	05/27/14	< 45	< 77	< 4	< 5	< 11	< 4	< 8	< 6	< 8	< 13	< 5	< 5	< 29	< 10
DSP-125	11/24/14	< 35	< 68	< 4	< 4	< 9	< 4	< 8	< 4	< 8	< 15	< 3	< 4	< 28	< 10
DSP-126	06/09/14	< 13	< 12	< 1	< 1	< 3	< 1	< 3	< 1	< 3	< 5	< 1	< 1	< 10	< 3
DSP-131	06/02/14	< 41	< 104	< 4	< 4	< 10	< 4	< 8	< 4	< 7	< 14	< 4	< 5	< 31	< 12
DSP-131	11/24/14	< 32	< 32	< 4	< 4	< 8	< 3	< 6	< 4	< 7	< 13	< 3	< 3	< 27	< 9
DSP-132	05/30/14	< 53	< 123	< 4	< 6	< 11	< 7	< 9	< 6	< 11	< 15	< 5	< 7	< 33	< 8
DSP-132	11/24/14	< 32	< 63	< 3	< 3	< 8	< 3	< 7	< 4	< 6	< 13	< 3	< 4	< 26	< 7
DSP-147	06/09/14	< 17	40 ± 23	< 2	< 2	< 4	< 2	< 4	< 2	< 3	< 7	< 2	< 2	< 14	< 4
DSP-154	06/09/14	< 21	< 41	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 8	< 2	< 2	< 17	< 5
DSP-157I	06/09/14	< 19	< 19	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 7	< 2	< 2	< 15	< 5
DSP-157S	06/09/14	< 16	< 31	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 6	< 2	< 2	< 12	< 4
DSP-159I	06/10/14	< 22	< 24	< 2	< 3	< 6	< 2	< 5	< 3	< 5	< 8	< 2	< 2	< 16	< 5
DSP-159S	06/10/14	< 18	< 35	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 6	< 2	< 2	< 13	< 4
MD-11	11/24/14	< 31	< 75	< 3	< 3	< 7	< 3	< 6	< 3	< 6	< 13	< 3	< 3	< 23	< 8
MW-DN-101I	03/10/14	< 18	< 14	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 6	< 2	< 2	< 14	< 4
MW-DN-101I	05/30/14	< 56	< 38	< 5	< 6	< 11	< 8	< 10	< 6	< 10	< 13	< 7	< 7	< 41	< 12
MW-DN-101I	08/28/14	< 46	< 98	< 5	< 4	< 11	< 4	< 10	< 6	< 10	< 14	< 5	< 4	< 33	< 10
MW-DN-101I	11/04/14	< 27	< 61	< 3	< 3	< 7	< 3	< 5	< 3	< 6	< 14	< 2	< 3	< 27	< 9
MW-DN-101S	03/10/14	< 18	39 ± 24	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 7	< 2	< 2	< 14	< 4
MW-DN-101S	05/30/14	< 41	< 50	< 4	< 5	< 9	< 7	< 8	< 4	< 9	< 10	< 5	< 4	< 19	< 9

TABLE B-I.2 **CONCENTRATIONS OF GAMMA EMITTERS IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	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
MW-DN-101S	08/28/14	< 49	< 55	< 4	< 4	< 11	< 4	< 10	< 5	< 7	< 14	< 5	< 5	< 33	< 11
MW-DN-101S	11/04/14	< 27	< 20	< 2	< 3	< 6	< 3	< 5	< 3	< 5	< 14	< 2	< 2	< 25	< 6
MW-DN-102I	06/04/14	< 50	< 106	< 4	< 5	< 12	< 5	< 10	< 5	< 9	< 14	< 4	< 5	< 32	< 11
MW-DN-102S	06/04/14	< 49	< 105	< 5	< 6	< 12	< 5	< 10	< 6	< 9	< 14	< 4	< 6	< 34	< 12
MW-DN-103I	06/09/14	< 21	< 17	< 2	< 2	< 4	< 2	< 4	< 2	< 4	< 8	< 2	< 2	< 16	< 5
MW-DN-103S	06/09/14	< 17	< 15	< 2	< 2	< 4	< 2	< 4	< 2	< 4	< 7	< 2	< 2	< 14	< 4
MW-DN-106S	06/10/14	< 16	< 31	< 2	< 2	< 4	< 2	< 4	< 2	< 3	< 6	< 2	< 2	< 12	< 4
MW-DN-108I	03/28/14	< 49	< 53	< 5	< 6	< 11	< 4	< 11	< 6	< 10	< 15	< 5	< 6	< 35	< 12
MW-DN-108I	05/30/14	< 61	< 137	< 6	< 7	< 14	< 5	< 13	< 7	< 10	< 14	< 6	< 7	< 40	< 11
MW-DN-108I	08/28/14	< 52	< 41	< 4	< 6	< 14	< 4	< 11	< 5	< 12	< 14	< 6	< 6	< 34	< 12
MW-DN-108I	11/04/14	< 26	< 36	< 2	< 3	< 6	< 3	< 6	< 3	< 5	< 15	< 3	< 3	< 25	< 8
MW-DN-109I	05/29/14	< 50	< 101	< 5	< 7	< 11	< 6	< 9	< 6	< 10	< 13	< 5	< 6	< 32	< 6
MW-DN-109S	05/29/14	< 54	< 97	< 5	< 6	< 11	< 9	< 10	< 6	< 10	< 12	< 6	< 5	< 35	< 13
MW-DN-113I	06/04/14	< 33	< 78	< 3	< 3	< 7	< 3	< 6	< 3	< 6	< 10	< 3	< 3	< 23	< 6
MW-DN-113S	06/04/14	< 48	< 35	< 4	< 4	< 9	< 4	< 8	< 4	< 8	< 13	< 4	< 5	< 31	< 8
MW-DN-116I	03/10/14	< 10	< 10	< 1	< 1	< 2	< 1	< 2	< 1	< 2	< 4	< 1	< 1	< 9	< 2
MW-DN-116I	05/30/14	< 53	< 103	< 6	< 6	< 9	< 6	< 10	< 6	< 9	< 13	< 5	< 6	< 34	< 8
MW-DN-116I	08/28/14	< 40	< 57	< 6	< 5	< 11	< 4	< 9	< 5	< 10	< 15	< 5	< 6	< 30	< 10
MW-DN-116I	11/04/14	< 28	< 23	< 3	< 3	< 7	< 3	< 5	< 3	< 5	< 15	< 2	< 3	< 28	< 9
MW-DN-116S	03/10/14	< 17	< 15	< 2	< 2	< 4	< 2	< 4	< 2	< 3	< 6	< 2	< 2	< 13	< 4
MW-DN-116S	05/30/14	< 54	< 107	< 5	< 5	< 13	< 7	< 11	< 5	< 11	< 14	< 5	< 7	< 35	< 7
MW-DN-116S	08/28/14	< 36	< 117	< 3	< 4	< 8	< 5	< 8	< 4	< 7	< 13	< 3	< 4	< 30	< 10
MW-DN-116S	11/04/14	< 25	< 42	< 3	< 3	< 7	< 3	< 5	< 3	< 5	< 13	< 2	< 2	< 26	< 9
MW-DN-118S	03/10/14	< 16	< 32	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 6	< 2	< 2	< 12	< 4
MW-DN-118S	06/02/14	< 37	< 33	< 3	< 4	< 8	< 3	< 7	< 4	< 7	< 13	< 4	< 4	< 26	< 8
MW-DN-118S	08/29/14	< 55	< 45	< 6	< 6	< 10	< 5	< 10	< 6	< 11	< 15	< 5	< 6	< 36	< 10
MW-DN-118S	11/05/14	< 19	< 31	< 2	< 2	< 5	< 2	< 3	< 2	< 4	< 10	< 2	< 2	< 17	< 6
MW-DN-119I	05/30/14	< 64	< 48	< 6	< 6	< 13	< 6	< 12	< 7	< 12	< 15	< 6	< 7	< 35	< 7
MW-DN-119S	05/30/14	< 56	< 44	< 6	< 6	< 11	< 8	< 9	< 6	< 9	< 14	< 6	< 6	< 35	< 10
MW-DN-122I	06/10/14	< 21	49 ± 23	< 2	< 2	< 5	< 2	< 5	< 2	< 4	< 8	< 2	< 2	< 16	< 5
MW-DN-122S	06/10/14	< 20	< 36	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 8	< 2	< 2	< 16	< 4
MW-DN-124I	06/04/14	< 41	< 57	< 5	< 4	< 13	< 2	< 9	< 5	< 6	< 11	< 5	< 5	< 30	< 14
MW-DN-124I	11/10/14	< 26	< 22	< 3	< 3	< 6	< 2	< 5	< 3	< 5	< 7	< 2	< 3	< 15	< 5
MW-DN-124S	06/04/14	< 42	< 45	< 4	< 4	< 10	< 3	< 9	< 5	< 8	< 13	< 4	< 4	< 29	< 8
MW-DN-124S	11/10/14	< 30	< 64	< 3	< 3	< 7	< 3	< 6	< 3	< 6	< 8	< 3	< 3	< 19	< 6
MW-DN-125S	06/04/14	< 44	< 99	< 5	< 5	< 10	< 5	< 10	< 4	< 8	< 14	< 4	< 4	< 32	< 13
MW-DN-126S	06/04/14	< 27	< 84	< 4	< 3	< 6	< 3	< 6	< 2	< 5	< 10	< 3	< 3	< 27	< 8
MW-DN-126S	11/25/14	< 22	< 18	< 3	< 3	< 4	< 5	< 6	< 3	< 4	< 9	< 2	< 2	< 18	< 7
MW-DN-127S	06/04/14	< 31	< 35	< 3	< 4	< 8	< 4	< 6	< 3	< 6	< 11	< 3	< 3	< 24	< 8
MW-DN-134S	06/09/14	< 13	< 10	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 6	< 1	< 1	< 11	< 4
MW-DN-135S	06/09/14	< 20	< 16	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 9	< 2	< 2	< 17	< 5
MW-DN-136S	06/09/14	< 20	< 17	< 2	< 2	< 4	< 2	< 4	< 2	< 4	< 9	< 2	< 2	< 16	< 5

TABLE B-I.2 **CONCENTRATIONS OF GAMMA EMITTERS IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	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
MW-DN-137S	06/09/14	< 16	< 32	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 7	< 1	< 2	< 13	< 4
MW-DN-141S	05/29/14	< 37	< 41	< 4	< 4	< 10	< 5	< 7	< 6	< 7	< 11	< 4	< 4	< 27	< 10
U1 INTAKE	11/24/14	< 21	< 22	< 2	< 2	< 4	< 2	< 4	< 2	< 4	< 9	< 2	< 2	< 17	< 5

TABLE B-I.3 **CONCENTRATIONS OF HARD TO DETECTS IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	Am-241	Cm-242	Cm-243/244	Pu-238	Pu-239/240	U-234	U-235	U-238	Fe-55	Ni-63
CBE	11/24/14	< 0.09	< 0.09	< 0.09	< 0.15	< 0.10	< 0.02	< 0.02	< 0.02	< 185	< 4.2
CBG	11/24/14	< 0.16	< 0.04	< 0.04	< 0.11	< 0.11	< 0.07	< 0.06	< 0.07	< 82	< 4.5
DSP-125	11/24/14	< 0.06	< 0.07	< 0.03	< 0.17	< 0.15	< 0.06	< 0.04	< 0.03	< 153	< 4.2
DSP-131	11/24/14	< 0.13	< 0.09	< 0.05	< 0.05	< 0.05	< 0.06	< 0.05	< 0.04	< 186	< 4.1
DSP-132	11/24/14	< 0.13	< 0.06	< 0.14	< 0.16	< 0.17	< 0.04	< 0.06	< 0.04	< 155	< 3.8
MD-11	11/24/14	< 0.09	< 0.02	< 0.02	< 0.17	< 0.10	< 0.05	< 0.02	< 0.02	< 164	< 4.6
MW-DN-124I	06/04/14	< 0.11	< 0.05	< 0.08	< 0.09	< 0.09	< 0.14	< 0.13	< 0.19	< 141	< 4.0
MW-DN-124S	06/04/14	< 0.09	< 0.08	< 0.06	< 0.08	< 0.09	< 0.19	< 0.13	< 0.15	< 154	< 3.8
MW-DN-126S	11/25/14	< 0.07	< 0.03	< 0.07	< 0.03	< 0.08	< 0.07	< 0.06	< 0.05	< 121	< 3.9
U1 INTAKE	11/24/14	< 0.02	< 0.08	< 0.04	< 0.13	< 0.09	0.68 ± 0.20	< 0.02	0.61 ± 0.18	< 103	< 4.3

TABLE B-II.1 **CONCENTRATIONS OF TRITIUM IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3
SW-DN-101	03/11/14	< 180
SW-DN-101	06/10/14	343 ± 141
SW-DN-101	09/04/14	< 150
SW-DN-101	11/11/14	< 151
SW-DN-102	03/11/14	772 ± 154
SW-DN-102	06/10/14	963 ± 171
SW-DN-102	09/04/14	< 150
SW-DN-102	11/11/14	338 ± 132
SW-DN-103	03/11/14	889 ± 161
SW-DN-103	06/10/14	950 ± 170
SW-DN-103	09/04/14	< 152
SW-DN-103	11/11/14	408 ± 115
SW-DN-104	03/11/14	1150 ± 174
SW-DN-104	06/09/14	871 ± 167
SW-DN-104	09/04/14	< 152
SW-DN-104	11/11/14	352 ± 111
SW-DN-105	03/11/14	628 ± 146
SW-DN-105	06/09/14	885 ± 168
SW-DN-105	09/04/14	< 150
SW-DN-105	11/11/14	295 ± 110
SW-DN-106	03/11/14	722 ± 153
SW-DN-106	06/09/14	1020 ± 174
SW-DN-106	09/04/14	< 150
SW-DN-106	11/11/14	363 ± 114

TABLE B-II.2 **CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	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	06/10/14	< 22	< 44	< 2	< 2	< 5	< 2	< 5	< 2	< 4	< 8	< 2	< 2	< 18	< 6
SW-DN-102	06/10/14	< 19	< 16	< 2	< 2	< 4	< 2	< 4	< 2	< 4	< 7	< 2	< 2	< 15	< 5
SW-DN-103	06/10/14	< 18	< 16	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 7	< 2	< 2	< 15	< 4
SW-DN-104	06/09/14	< 17	< 30	< 2	< 2	< 4	< 2	< 4	< 2	< 3	< 6	< 2	< 2	< 12	< 4
SW-DN-105	06/09/14	< 20	< 41	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 7	< 2	< 2	< 15	< 5
SW-DN-106	06/09/14	< 20	< 47	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 7	< 2	< 2	< 16	< 5

TABLE B-III.1 **CONCENTRATIONS OF TRITIUM IN PRECIPITATION WATER SAMPLES COLLECTED IN THE VICINITY OF DRESDEN NUCLEAR POWER STATION, 2014**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION DATE	H-3
FW-1	05/29/14	< 194
FW-10	05/30/14	< 191
FW-11	05/30/14	< 194
FW-12	05/30/14	< 196