Docket No: 50-454
50-455

BYRON NUCLEAR GENERATING STATION
UNITS 1 and 2

Annual Radiological
Environmental Operating Report

1 January Through 31 December 2008

Prepared By

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Table Of Contents

Appendices

I. Summary and Conclusions

This report on the Radiological Environmental Monitoring Program conducted for the Byron Nuclear Generating Station (BNGS) by Exelon covers the period 1 January 2008 through 31 December 2008. During that time period, 1,432 analyses were performed on 1,290 samples. In assessing all the data gathered for this report and comparing these results with preoperational data, it was concluded that the operation of BNGS had no adverse radiological impact on the environment.

Surface water samples were analyzed for concentrations of gross beta, tritium and gamma emitting nuclides. Ground water samples were analyzed for concentrations of tritium and gamma emitting nuclides. Gross beta activities detected were consistent with those detected in previous years.

Fish (commercially and/or recreationally important species) and sediment samples were analyzed for concentrations of gamma emitting nuclides. Cesium-137 activity was found at both sediment locations and was consistent with data from previous years. No plant produced fission or activation products were found in fish or sediment.

Air particulate samples were analyzed for concentrations of gross beta and gamma emitting nuclides. No fission or activation products were detected.

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

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

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

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

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II. Introduction

Byron Station, a two-unit PWR station, is located about two miles east of the Rock River and approximately three miles southwest of Byron in Ogle County, Illinois. The reactors are designed to have capacities of 1280 and 1254 MW gross, respectively. Unit One loaded fuel in November 1984 and went on line February 2, 1985. Unit Two went on line January 9, 1987. The station has been designed to keep releases to the environment at levels below those specified in the regulations.

This report covers those analyses performed by Teledyne Brown Engineering (TBE) and Global Dosimetry on samples collected during the period 1 January 2008 through 31 December 2008.

A. Objective of the 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 BNGS REMP were collected for Exelon Nuclear by Environmental Inc. (Midwest Labs). This section describes the general

collection methods used by Environmental Inc. to obtain environmental samples for the BNGS REMP in 2008. Sample locations and descriptions can be found in Table B–1 and Figures B–1 through B–4, Appendix B.

Aquatic Environment

The aquatic environment was evaluated by performing radiological analyses on samples of surface water, well water, fish, and sediment. Two gallon water samples were collected weekly from two surface water locations (BY-12 and BY-29 [Control location]) and quarterly from six well water locations (BY-14-1, BY-18, BY-32, BY-35, BY-36 and BY-37). All samples were collected in new unused plastic bottles, which were rinsed with source water prior to collection. Fish samples comprising the flesh of channel catfish, river carpsucker, smallmouth bass and common carp were collected semiannually at two locations, BY-29 (control) and BY-31. Sediment samples composed of recently deposited substrate were collected at two locations semiannually, BY-12 and BY-34.

Atmospheric Environment

The atmospheric environment was evaluated by performing radiological analyses on samples of air particulate, airborne iodine, and milk. Airborne iodine and particulate samples were collected and analyzed weekly at eight locations (BY-01, BY-04, BY-06, BY-08, BY-21, BY-22, BY-23, and BY-24). The control location was BY-08. Airborne iodine and particulate samples were obtained at each location, using a vacuum pump with charcoal and glass fiber filters attached. The pumps were run continuously and sampled air at the rate of approximately one cubic foot per minute. The air filters and air iodine samples were replaced weekly and sent to the laboratory for analysis.

Milk samples were collected biweekly at three locations (BY-20-1, BY-26-1 and BY-30-1) from May through October, and monthly from November through April. The control location was BY-26-1. All samples were collected in new unused two gallon plastic bottles from the bulk tank at each location, preserved with sodium bisulfite, and shipped promptly to the laboratory.

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

Ambient Gamma Radiation

Direct radiation measurements were made using CaF_2 thermoluminescent dosimeters (TLD). The TLD locations were placed on and around the BNGS site as follows:

An inner ring consisting of 16 locations (BY-101, BY-102, BY-103, BY-104, BY-105, BY-106, BY-107, BY-108, BY-109, BY-110, BY-111, BY-112, BY-113, BY-114, BY-115, and BY-116) near and within the site perimeter representing fence post doses (i.e., at locations where the doses will be potentially greater than maximum annual off–site doses) from BNGS release.

An outer ring consisting of 16 locations (BY-201, BY-202, BY-203, BY-204, BY-205, BY-206, BY-207, BY-208, BY-209, BY-210, BY-211, BY-212, BY-213, BY-214, BY-215 and BY-216) extending to approximately 5 miles from the site designed to measure possible exposures to close-in population.

A special interest set consisting of three locations (BY-301-1, BY-302-1 and BY-314-1).

An other set consisting of seven locations (BY-01, BY-04, BY-06, BY-21, BY-22, BY-23 and BY-24).

The balance of one location (BY-08) representing the control area.

The specific TLD locations were determined by the following criteria:

1. The presence of relatively dense population;

2. Site meteorological data taking into account distance and elevation for each of the sixteen–22 1/2 degree sectors around the site, where estimated annual dose from BNGS, if any, would be most significant;

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

4. And near the closest dwelling to the vents in the prevailing downwind direction.

Two TLDs – each comprised of two CaF_2 thermoluminescent phosphors enclosed in plastic – were placed at each location located at a minimum of five feet above ground level. The TLDs were exchanged quarterly and

sent to Global Dosimetry for analysis.

B. Sample Analysis

This section describes the general analytical methodologies used by TBE and Environmental Inc. (Midwest Labs) to analyze the environmental samples for radioactivity for the BNGS REMP in 2008. The analytical procedures used by the laboratories are listed in Table B-2.

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

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

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

The radiological and direct radiation data collected prior to Byron Nuclear Generating Station becoming operational were used as a baseline with which these operational data were compared. For the purpose of this report, Byron Nuclear Generating 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. <u>Lower Limit of Detection and Minimum Detectable Concentration</u>

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 BNGS detection capabilities for environmental sample analysis.

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

2. Net Activity Calculation and Reporting of Results

Net activity for a sample was calculated by subtracting background activity from the sample activity. Since the REMP measures extremely small changes in radioactivity in the environment, background variations may result in sample activity being lower than the background activity 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 surface water, ground 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, milk and vegetation 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 2008 the BNGS REMP had a sample recovery rate in excess of 99%. Sample anomalies and missed samples are listed in the tables below:

Table D-1 LISTING OF SAMPLE ANOMALIES

Sample Type	Location Code	Collection Date	Reason
A/I	BY-24	01/08/08	Run time meter not running; estimated time and replaced
A/I	BY-22	04/16/08	Timer not running; estimated time and replaced
A/I	BY-04	05/06/08	Run time meter would not reset; meter replaced
A/I	BY-21	06/03/08	No power due to storm; power lost and restored the same day

Table D-1 LISTING OF SAMPLE ANOMALIES (cont'd)

Sample Type	Location Code	Collection Date	Reason
A/I	BY-24	06/03/08	Run time meter low due to power outage from storms
TLD	BY-102-1 BY-102-2	06/03/08	Poles holding TLDs blown over from storms; TLDs were reattached to replacement poles
TLD	BY-105-1	07/01/08	Could not differentiate results between BY-105-1 & BY-212-4
TLD	BY-212-4	07/01/08	Could not differentiate results between BY-105-1 & BY-212-4
A/I	BY-04	08/05/08	No power due to storm
A/I	BY-22	08/05/08	No power due to storm
A/I	BY-23	08/05/08	No power due to storm
A/I	BY-24	08/05/08	No power due to storm
TLD	BY-108-2	08/05/08	TLD knocked off pole from falling tree; reattached
A/I	BY-01	08/05/08	Low timer reading due power outage from storm; estimated time
A/I	BY-04	08/05/08	Low timer reading due power outage from storm; estimated time
A/I	BY-06	08/05/08	Low timer reading due power outage from storm; estimated time
A/I	BY-08	08/05/08	Low timer reading due power outage from storm; estimated time
A/I	BY-21	08/05/08	Low timer reading due power outage from storm; estimated time
A/I	BY-22	08/05/08	Low timer reading due power outage from storm; estimated time
A/I	BY-23	08/05/08	Low timer reading due power outage from storm; estimated time
A/I	BY-24	08/05/08	Low timer reading due power outage from storm; estimated time

Table D-1 LISTING OF SAMPLE ANOMALIES (cont'd)

Sample Type	Location Code	Collection Date	Reason
A/I	BY-04	08/12/08	Low timer reading due power outage from storm; estimated time
A/I	BY-22	08/12/08	Low timer reading due power outage from storm; estimated time
A/I	BY-23	08/12/08	Low timer reading due power outage from storm; estimated time
A/I	BY-24	08/12/08	Low timer reading due power outage from storm; estimated time
A/I	BY-01	09/09/08	Vacuum gauge broken; replaced & checked
V	QUAD-3	09/09/08	Vegetation sample recollected due to measurement change; original QUAD 3 sample location found to be in QUAD 4
A/I	BY-01	09/30/08	Vacuum gauge broken; replaced & checked
A/I	BY-24	10/14/08	Vacuum gauge broken; replaced & checked

Table D-2 LISTING OF MISSED SAMPLES

Sample Type	Location Code	Collection Date	Reason
SW	BY-12	01/02/08	No sample; ice on river
SW	BY-29	01/02/08	No sample; ice on river
M	BY-38	01/08/08	No sample; goats not producing until spring
SW	BY-12	01/22/08	No sample; ice on river
SW	BY-29	01/22/08	No sample; ice on river
SW	BY-29	01/29/08	No sample; ice on river
M	BY-38	02/05/08	No sample; goats not producing until spring
M	BY-30	02/05/08	No sample; farmer sold milk cows
SW	BY-29	02/05/08	No sample; ice on river

Table D-2 LISTING OF MISSED SAMPLES

Sample Type	Location Code	Collection Date	Reason
SW	BY-12	02/12/08	No sample; ice on river
SW	BY-29	02/12/08	No sample; ice on river
SW	BY-12	02/19/08	No sample; ice on river
SW	BY-29	02/19/08	No sample; ice on river
SW	BY-12	02/26/08	No sample; ice on river
SW	BY-29	02/26/08	No sample; ice on river
SW	BY-29	03/04/08	No sample; ice on river
M	BY-30	03/04/08	No milk; farmer sold milk cows
M	BY-38	03/04/08	No goat milk; goats not producing
M	BY-38	04/01/08	No goat milk; goats not producing
M	BY-38	05/06/08	Goat farmer stopped milking
TLD	BY-116-3	07/01/08	TLD not received & read by vendor
V	QUAD 3	09/09/08	Food product sample not obtained
SW	BY-12	12/09/08	No sample; ice on river
SW	BY-29	12/09/08	No sample; ice on river
SW	BY-12	12/16/08	No sample; ice on river
SW	BY-29	12/16/08	No sample; ice on river
SW	BY-12	12/23/08	No sample; ice on river
SW	BY-29	12/23/08	No sample; ice on river
SW	BY-29	12/30/08	No sample; ice on river

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

Milk station BY-38 went out of business in January 2008.

Milk station BY-30 went out of business in February 2008.

Milk station BY-30-1 was added to the sampling program on April 1, 2008.

TLD station BY-103-3 was added to the sampling program in April 2008.

TLD station BY-104-3 was added to the sampling program in April 2008.

TLD station BY-107-3 was added to the sampling program in April 2008.

TLD station BY-116-3 was added to the sampling program in April 2008.

IV. Results and Discussion

A. Aquatic Environment

1. Surface Water

Samples were taken weekly and composited monthly at two locations (BY-12 and BY-29). Of these locations only BY-12 located downstream, could be affected by Byron Nuclear Generating Station's effluent releases. The following analyses were performed.

Gross Beta

Samples from both locations were analyzed for concentrations of gross beta (Table C–I.1, Appendix C). The values ranged from 3.5 to 6.4 pCi/l. Concentrations detected were consistent with those detected in previous years (Figure C–1, Appendix C).

Tritium

Quarterly composites of weekly collections were analyzed for tritium activity (Table C–I.2, Appendix C). No tritium was detected, and the required LLD was met. (Figure C–2, Appendix C).

Gamma Spectrometry

Samples from both 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 grab samples were collected at six locations (BY-14-1, BY-18, BY-32, BY-35, BY-36 and BY-37). These locations could be affected by Byron Nuclear Generating Station's effluent releases. The following analyses were performed:

Tritium

Quarterly grab samples from the locations were analyzed for tritium activity (Table C–II.1, Appendix C). No tritium was detected, and the required LLD was met (Figures C–3 and C–6, Appendix C).

Gamma Spectrometry

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

3. Fish

Fish samples comprised of smallmouth bass, channel catfish, river carpsucker and common carp were collected at two locations (BY-29 and BY-31) semiannually. Location BY-31 could be affected by Byron Nuclear Generating Station'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). No nuclides were detected, and all required LLDs were met.

4. Sediment

Aquatic sediment samples were collected at two locations (BY-12 and BY-34) semiannually. Both locations, located downstream,

could be affected by Byron Nuclear Generating Station's effluent releases. The following analysis was performed:

Gamma Spectrometry

Sediment samples from both locations were analyzed for gamma emitting nuclides (Table C–IV.1, Appendix C). Cesium-137 was detected in both locations. The values ranged from 60 to 320 pCi/kg dry. Concentrations detected were consistent with those detected in previous years. No other nuclides were detected, and all required LLDs were met.

B. Atmospheric Environment

1. Airborne

a. Air Particulates

Continuous air particulate samples were collected from eight locations on a weekly basis. The eight locations were separated into three groups: Nearsite samplers (BY-21, BY-22, BY-23 and BY-24), Far Field samplers within 4 km of the site (BY-01, BY-04, and BY-06) and the Control sampler between 10 and 30 km from the site (BY-08). The following analyses were performed:

Gross Beta

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

Detectable gross beta activity was observed at all locations. Comparison of results among the three groups aid in determining the effects, if any, resulting from the operation of BNGS. The results from the Nearsite locations (Group I) ranged from 5 to 38 E–3 pCi/m^3 with a mean of 19 E–3 pCi/m^3. The results from the Far Field locations (Group II) ranged from 7 to 42 E–3 pCi/m^3 with a mean of 20 E–3 pCi/m^3. The results from the Control location (Group III) ranged from 8 to 37 E–3 pCi/m^3 with a mean of 20 E–3 pCi/m^3. Comparison of the 2008 air particulate data with previous years data indicate no effects from the operation of BNGS. In addition a comparison of the weekly mean values for 2008 indicate no notable differences among the three groups (Figures C–7 through C-11, Appendix C).

Gamma Spectrometry

Weekly samples were composited quarterly and analyzed for gamma emitting nuclides (Table C–V.3, Appendix C). No nuclides were detected, and all required LLDs were met.

b. Airborne Iodine

Continuous air samples were collected from eight locations (BY-01, BY-04, BY-06, BY-08, BY-21, BY-22, BY-23, and BY-24) and analyzed weekly for I-131 (Table C–VI.1, Appendix C). No I-131 was detected and the required LLD was met.

2. Terrestrial

a. Milk

Samples were collected from four locations (BY-20-1, BY-26-1, BY-30 and BY-30-1) biweekly May through October and monthly November through April. The following analyses were performed:

Iodine-131

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

Gamma Spectrometry

Each milk sample was analyzed for concentrations of gamma emitting nuclides (Table C–VII.2, Appendix C). No nuclides were detected, and all required LLDs were met.

b. Vegetation

Vegetation samples were collected at five locations (BY-Control, BY-Quad 1, BY-Quad 2, BY-Quad 3 and BY-Quad 4) when available. Four locations (BY-Quad 1, BY-Quad 2, BY-Quad 3 and BY-Quad 4) could be affected by Byron Nuclear Generating Station's effluent releases. The following analysis was performed:

Gamma Spectrometry

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

C. Ambient Gamma Radiation

Ambient gamma radiation levels were measured utilizing Panasonic 814 (CaF_2) thermoluminescent dosimeters. Eighty-seven TLD locations were established around the site. Results of TLD measurements are listed in Tables C–IX.1 to C–IX.3, Appendix C.

Most TLD measurements were below 30 mR/standard month, with a range of 16 to 30 mR/standard month. A comparison of the Inner Ring, Outer Ring, Special Interest, Other and Control Location data indicate that the ambient gamma radiation levels were comparable among the groups.

D. Land Use Survey

A Land Use Survey conducted during August 2008 around the Byron Nuclear Generating Station (BNGS) was performed by Environmental Inc. (Midwest Labs) for Exelon Nuclear to comply with the Byron Nuclear Generating Station's Offsite Dose Calculation Manual. The purpose of the survey was to document the nearest resident, milk producing animal and garden of greater than 500 ft^2 in each of the sixteen 22 ½ degree sectors around the site. There were no changes required to the BNGS REMP, as a result of this survey. The results of this survey are summarized below.

Distance in Miles from the BNGS Vent Stacks				
Sector		Residence Miles	Livestock Miles	Milk Farm Miles
A	N	1.3	5.0	12.8
B	NNE	2.0	1.5	-
C	NE	1.1	1.9	-
D	ENE	1.3	2.3	-
E	E	1.3	3.5	-
F	ESE	1.4	1.5	-
G	SE	1.3	4.5	-
H	SSE	0.8	3.2	-
J	S	0.7	4.0	-
K	SSW	0.7	2.2	-
L	SW	0.7	2.0	-
M	WSW	1.6	0.4	4.7
N	W	1.8	2.5	-
P	WNW	0.9	3.3	-
Q	NW	1.4	4.0	-
R	NNW	0.9	1.4	5.0

E. Errata Data

There is no errata data for 2008.

F. Summary of Results – Inter-Laboratory Comparison Program

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

1. Analytics Evaluation Criteria

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

2. ERA Evaluation Criteria

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

program requirements or ERA's SOP for the Generation of Performance Acceptance Limits, as applicable. The acceptance limits are either determined by a regression equation specific to each analyte or a fixed percentage limit promulgated under the appropriate regulatory document.

3. DOE Evaluation Criteria

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

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

For the primary laboratory, 16 out of 18 analytes met the specified acceptance criteria. Two samples did not meet the specified acceptance criteria for the following reasons:

1. Teledyne Brown Engineering's Analytics December 2008 Sr-89 in milk result of 18.0 pCi/L was higher than the known value of 12.6 pCi/L, resulting in a found to known ratio of 1.43. NCR 09-02 was initiated to investigate this failure.

2. Teledyne Brown Engineering's Analytics' ERA Quik Response water sample January 2008 Sr-89 result of 37.33 pCi/L exceeded the upper acceptance limit of 25.2 pCi/L. No cause could be found for the failure. Studies bracketing these results, RAD 71 and RAD 72 had acceptable Sr-89 results. NCR 08-03

APPENDIX A

RADIOLOGICAL ENVIRONMENTAL MONITORING REPORT SUMMARY

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR BYRON NUCLEAR GENERATION STATION, 2008

Name of Facility: BYRON **DOCKET NUMBER: 50-454 & 50-455**
Location of Facility: BYRON; IL **REPORTING PERIOD: 2008**

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	23	4	5.2 (12/12) (3.5/6.4)	4.9 (10/11) (3.3/5.7)	5.2 (12/12) (3.5/6.4)	BY-12 INDICATOR OREGON POOL OF ROCK RIVER - DOWNSTREAM 4.5 MILES SSW OF SITE	0
	H-3	8	200	<LLD	<LLD	-		0
	GAMMA	23						
	MN-54		15	<LLD	<LLD	-		0
	CO-58		15	<LLD	<LLD	-		0
	FE-59		30	<LLD	<LLD	-		0
	CO-60		15	<LLD	<LLD	-		0

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

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SURFACE WATER (PCI/LITER)	ZN-65	23	30	<LLD	<LLD	-		0
	NB-95		15	<LLD	<LLD	-		0
	ZR-95		30	<LLD	<LLD	-		0
	I-131		15	<LLD	<LLD	-		0
	CS-134		15	<LLD	<LLD	-		0
	CS-137		18	<LLD	<LLD	-		0
	BA-140		60	<LLD	<LLD	-		0

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Location of Facility: BYRON; IL **REPORTING PERIOD: 2008**

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)	LA-140	23	15	<LLD	<LLD	-		0
GROUND WATER (PCI/LITER)	H-3	24	200	<LLD	NA	-		0
	GAMMA	24						
	MN-54		15	<LLD	NA	-		0
	CO-58		15	<LLD	NA	-		0
	FE-59		30	<LLD	NA	-		0
	CO-60		15	<LLD	NA	-		0

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

TABLE A-1 RADIOLOGICAL ENVIRONMENTAL MONITORING PROGRAM ANNUAL SUMMARY FOR BYRON NUCLEAR GENERATION STATION, 2008

Name of Facility: BYRON **DOCKET NUMBER: 50-454 & 50-455**
Location of Facility: BYRON; IL **REPORTING PERIOD: 2008**

MEDIUM OR PATHWAY SAMPLED (UNIT OF MEASUREMENT)	TYPES OF ANALYSIS PERFORMED	NUMBER OF ANALYSIS PERFORMED	REQUIRED LOWER LIMIT OF DETECTION (LLD)	INDICATOR LOCATIONS MEAN(M) (F) RANGE	CONTROL LOCATION MEAN(M) (F) RANGE	LOCATION WITH HIGHEST ANNUAL MEAN (M) MEAN(M) (F) RANGE	STATION # NAME DISTANCE AND DIRECTION	NUMBER OF NONROUTINE REPORTED MEASUREMENTS
GROUND WATER (PCI/LITER)	ZN-65	24	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

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GROUND WATER (PCI/LITER)	LA-140	24	15	<LLD	NA	-		0
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

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FISH (PCI/KG WET)	NB-95	8	NA	<LLD	<LLD	-		0
	ZR-95		NA	<LLD	<LLD	-		0
	CS-134		130	<LLD	<LLD	-		0
	CS-137		150	<LLD	<LLD	-		0
	BA-140		NA	<LLD	<LLD	-		0
	LA-140		NA	<LLD	<LLD	-		0

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SEDIMENT (PCI/KG DRY)	GAMMA	4						
	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

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SEDIMENT (PCI/KG DRY)	ZR-95	4	NA	<LLD	NA	-		0
	CS-134		150	<LLD	NA	-		0
	CS-137		180	158 (3/4) (60/320)	NA	190 (2/2) (60/320)	BY-12 INDICATOR OREGON POOL OF ROCK RIVER - DOWNSTREAM 4.5 MILES SSW OF SITE	0
	BA-140		NA	<LLD	NA	-		0
	LA-140		NA	<LLD	NA	-		0
AIR PARTICULATE (E-3 PCI/CU.METER)	GR-B	416	10	20 (364/364) (5/42)	20 (52/52) (8/37)	21 (52/52) (7/42)	BY-06 INDICATOR OREGON 4.7 MILES SSW OF SITE	0

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AIR PARTICULATE (E-3 PCI/CU.METER)	GAMMA	32						
	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

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AIR PARTICULATE (E-3 PCI/CU.METER)	ZR-95	32	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	416	70	<LLD	<LLD	-		0

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MILK (PCI/LITER)	I-131	55	1	<LLD	<LLD	-		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
	ZN-65		NA	<LLD	<LLD	-		0

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MILK (PCI/LITER)	NB-95	55	NA	<LLD	<LLD	-		0
	ZR-95		NA	<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

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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

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VEGETATION (PCI/KG WET)	ZR-95	10	NA	<LLD	<LLD	-		0
	I-131		60	<LLD	<LLD	-		0
	CS-134		60	<LLD	<LLD	-		0
	CS-137		80	<LLD	<LLD	-		0
	BA-140		NA	<LLD	<LLD	-		0
	LA-140		NA	<LLD	<LLD	-		0
DIRECT RADIATION (MILLI-ROENTGEN/QTR.)	TLD-QUARTERLY	342	NA	22.9 (334/334) (16/30)	19.4 (8/8) (17/21)	26.7 (3/3) (24/29)	BY-105-1 INDICATOR 1.4 MILES E	0

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APPENDIX B

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

TABLE B-1: Radiological Environmental Monitoring Program - Sampling Locations, Distance and Direction, Byron Nuclear Generating Station, 2008

Location	Location Description	Distance & Direction From Site
A. Surface Water		
BY-12	Oregon Pool of Rock River, Downstream	4.5 miles SSW
BY-29	Byron, Upstream (control)	3.0 miles N
B. Ground/Well Water		
BY-14-1	3200 North German Church Road	1.0 miles SSE
BY-18	McCoy Farmstead	0.7 miles SW
BY-32	Ron Wolford Well	1.8 miles W
BY-35	Vancko Well	2.0 miles WNW
BY-36	Blanchard Well	1.0 miles NW
BY-37	Alexander Well	1.8 miles WNW
C. Milk		
BY-20-1	Ron Snodgrass Farm	4.7 miles WSW
BY-26-1	Dennis Herbert (control)	12.8 miles N
BY-30	Don Roos Dairy	5.3 miles SE
BY-30-1	Ebert Farm	5.0 miles NNW
BY-38	Larson Goat Farm	5.0 miles ENE
D. Air Particulates / Air Iodine		
BY-01	Byron	3.0 miles N
BY-04	Paynes Point	5.0 miles SE
BY-06	Oregon	4.7 miles SSW
BY-08	Leaf River (control)	6.8 miles WNW
BY-21	Byron Nearsite North	0.3 miles N
BY-22	Byron Nearsite East-Southeast	0.4 miles ESE
BY-23	Byron Nearsite South	0.6 miles S
BY-24	Byron Nearsite Southwest	0.6 miles SW
E. Fish		
BY-29	Byron, Upstream (control)	3.0 miles N
BY-31	Byron, Discharge	2.2 miles WNW
F. Sediment		
BY-12	Oregon Pool of Rock River, Downstream	4.5 miles SSW
BY-34	Rock River, Downstream	0.6 miles W
G. Vegetation		
Quadrant 1	5186 N. Cox Road, Stillman Valley	4.9 miles ENE
Quadrant 2	6402 Brick Road, Oregon	4.9 miles SE
Quadrant 3	555 Park Road, Oregon	3.4 miles SW
Quadrant 4	Met Tower, Byron	0.6 miles SW
Control	8631 11th Street, Davis Junction	6.8 miles ENE
H. Environmental Dosimetry - TLD		
Inner Ring		
BY-101-1 and -2		0.3 miles N
BY-102-1		0.9 miles NNE
BY-102-2		1.0 miles NNE

TABLE B-1: Radiological Environmental Monitoring Program - Sampling Locations, Distance and Direction, Byron Nuclear Generating Station, 2008

Location	Location Description	Distance & Direction From Site
BY-103-1 and -2		1.7 miles NE
BY-103-3		0.43 miles NE
BY-104-1 and -2		1.5 miles ENE
BY-104-3		0.36 miles ENE
BY-105-1 and -2		1.3 miles E
BY-106-1 and -2		1.4 miles ESE
BY-107-1 and -2		1.4 miles SE
BY-107-3		0.47 miles SE
BY-108-1		0.7 miles SSE
BY-108-2		0.6 miles SSE
BY-109-1 and -2		0.6 miles S
BY-110-1 and -2		0.6 miles SSW
BY-111-3		0.7 miles SW
BY-111-4		0.8 miles SW
BY-112-3 and -4		0.8 miles WSW
BY-113-1 and -2		0.7 miles W
BY-114-1 and -2		0.8 miles WNW
BY-115-1 and -2		1.0 miles NW
BY-116-1 and -2		1.4 miles NNW
BY-116-3		0.85 miles NNW
Outer Ring		
BY-201-3		4.5 miles N
BY-201-4		4.4 miles N
BY-202-1		4.3 miles NNE
BY-202-2		4.8 miles NNE
BY-203-1		4.8 miles NE
BY-203-2		4.7 miles NE
BY-204-1		4.2 miles ENE
BY-204-2		4.1 miles ENE
BY-205-1 and -2		3.8 miles E
BY-206-1		4.1 miles ESE
BY-206-2		4.4 miles ESE
BY-207-1		4.2 miles SE
BY-207-2		3.6 miles SE
BY-208-1		4.0 miles SSE
BY-208-2		3.7 miles SSE
BY-209-1 and -4		3.7 miles S
BY-210-3 and -4		3.9 miles SSW
BY-211-1 and -4		4.9 miles SW
BY-212-1 and -4		4.7 miles WSW
BY-213-1		4.7 miles W
BY-213-4		4.6 miles W
BY-214-1		4.6 miles WNW
BY-214-4		4.9 miles WNW
BY-215-1		5.3 miles NW
BY-215-4		5.2 miles NW
BY-216-1		4.6 miles NNW
BY-216-2		4.8 miles NNW

TABLE B-1: Radiological Environmental Monitoring Program - Sampling Locations, Distance and Direction, Byron Nuclear Generating Station, 2008

Location	Location Description	Distance & Direction From Site
Special Interest		
BY-301-1		0.2 miles N
BY-302-1		0.2 miles N
BY-314-1		0.2 miles WNW
Other		
BY-01-1 and -2		3.0 miles N
BY-04-1 and -2		5.0 miles SE
BY-06-1 and -2		4.7 miles SSW
BY-21-1 and -2		0.3 miles N
BY-22-1 and -2		0.4 miles ESE
BY-23-1 and -2		0.6 miles S
BY-24-1 and -2		0.6 miles SW
Control		
BY-08-1 and -2		6.8 miles WNW

TABLE B-2: Radiological Environmental Monitoring Program – Summary of Sample Collection and Analytical Methods, Byron Nuclear Generating Station, 2008

Sample Medium	Analysis	Sampling Method	Analytical Procedure Number
Surface Water	Gamma Spectroscopy	Monthly composite from weekly grab samples.	TBE, TBE-2007 Gamma emitting radioisotope analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Surface Water	Gross Beta	Monthly composite from weekly grab samples.	TBE, TBE-2008 Gross Alpha and/or gross beta activity in various matrices Env. Inc., W(DS)-01 Determination of gross alpha and/or gross beta in water (dissolved solids or total residue)
Surface Water	Tritium	Quarterly composite from weekly grab samples.	TBE, TBE-2011 Tritium analysis in drinking water by liquid scintillation Env. Inc., T-02 Determination of tritium in water (direct method)
Ground Water	Gamma Spectroscopy	Quarterly grab samples.	TBE, TBE-2007 Gamma emitting radioisotope analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Ground Water	Tritium	Quarterly grab samples.	TBE, TBE-2011 Tritium analysis in drinking water by liquid scintillation Env. Inc., T-02 Determination of tritium in water (direct method)
Fish	Gamma Spectroscopy	Semi-annual samples collected via electroshocking or other techniques	TBE-2007 Gamma emitting radioisotope analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Sediment	Gamma Spectroscopy	Semi-annual grab samples	TBE, TBE-2007 Gamma emitting radioisotope analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Air Particulates	Gross Beta	One-week composite of continuous air sampling through glass fiber filter paper	TBE, TBE-2008 Gross Alpha and/or gross beta activity in various matrices Env. Inc., AP-02 Determination of gross alpha and/or gross beta in air particulate filters
Air Particulates	Gamma Spectroscopy	Quarterly composite of each station	TBE, TBE-2007 Gamma emitting radioisotope analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Air Iodine	Gamma Spectroscopy	One-week composite of continuous air sampling through charcoal filter	TBE, TBE-2007 Gamma emitting radioisotope analysis Env. Inc., I-131-02 Determination of I-131 in charcoal canisters by gamma spectroscopy (batch method)
Milk	I-131	Bi-weekly grab sample when cows are on pasture. Monthly all other times	TBE, TBE-2012 Radioiodine in various matrices Env. Inc., I-131-01 Determination of I-131 in milk by anion exchange
Milk	Gamma Spectroscopy	Bi-weekly grab sample when cows are on pasture. Monthly all other times	TBE, TBE-2007 Gamma emitting radioisotope analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
Vegetation	Gamma Spectroscopy	Annual grab samples.	TBE, TBE-2007 Gamma emitting radioisotope analysis Env. Inc., GS-01 Determination of gamma emitters by gamma spectroscopy
TLD	Thermoluminescence Dosimetry	Quarterly TLDs comprised of two Global Dosimetry CaF_2 elements.	Global Dosimetry

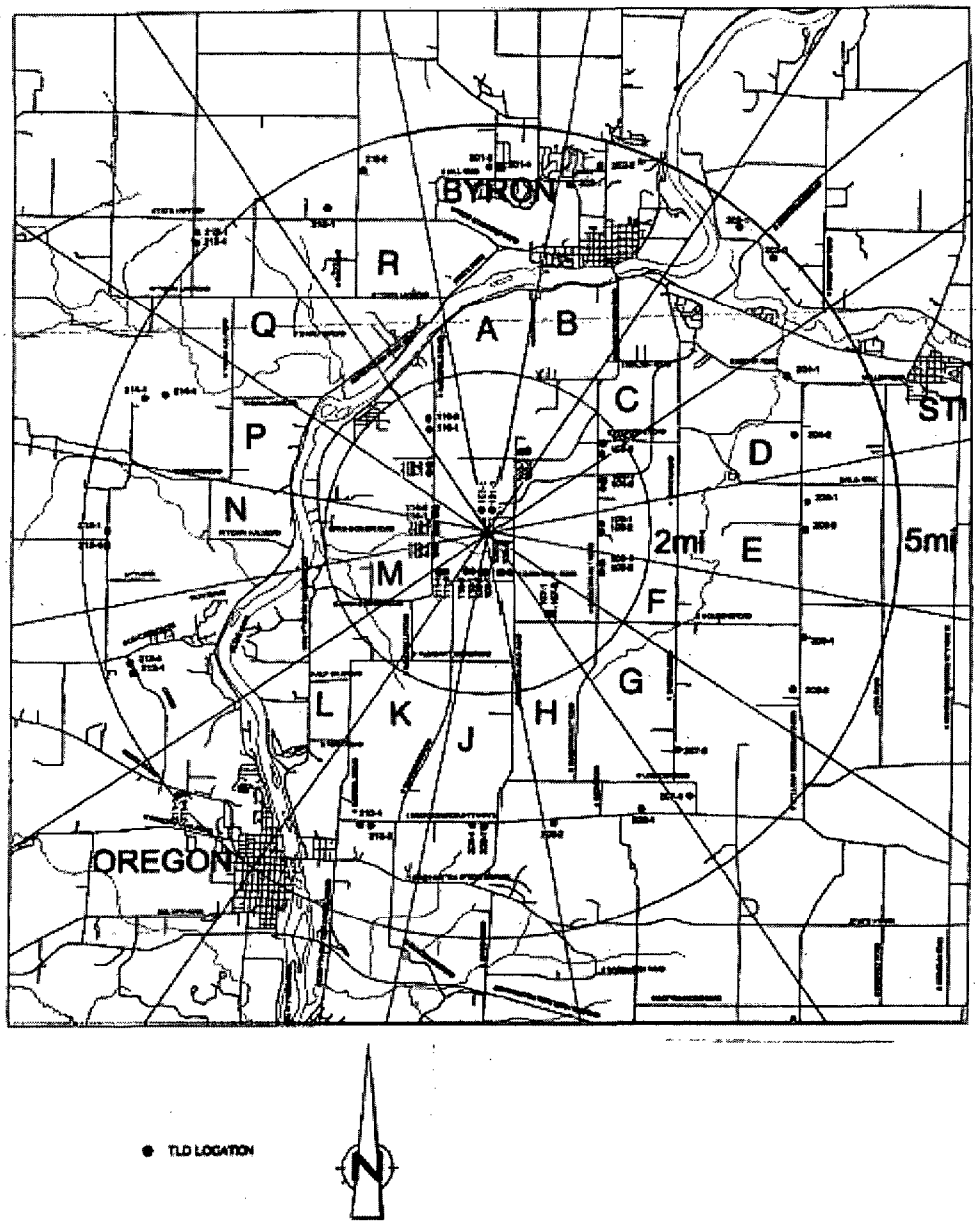


Figure B-1
Inner and Outer Ring TLD Locations of the
Byron Nuclear Generating Station, 2008

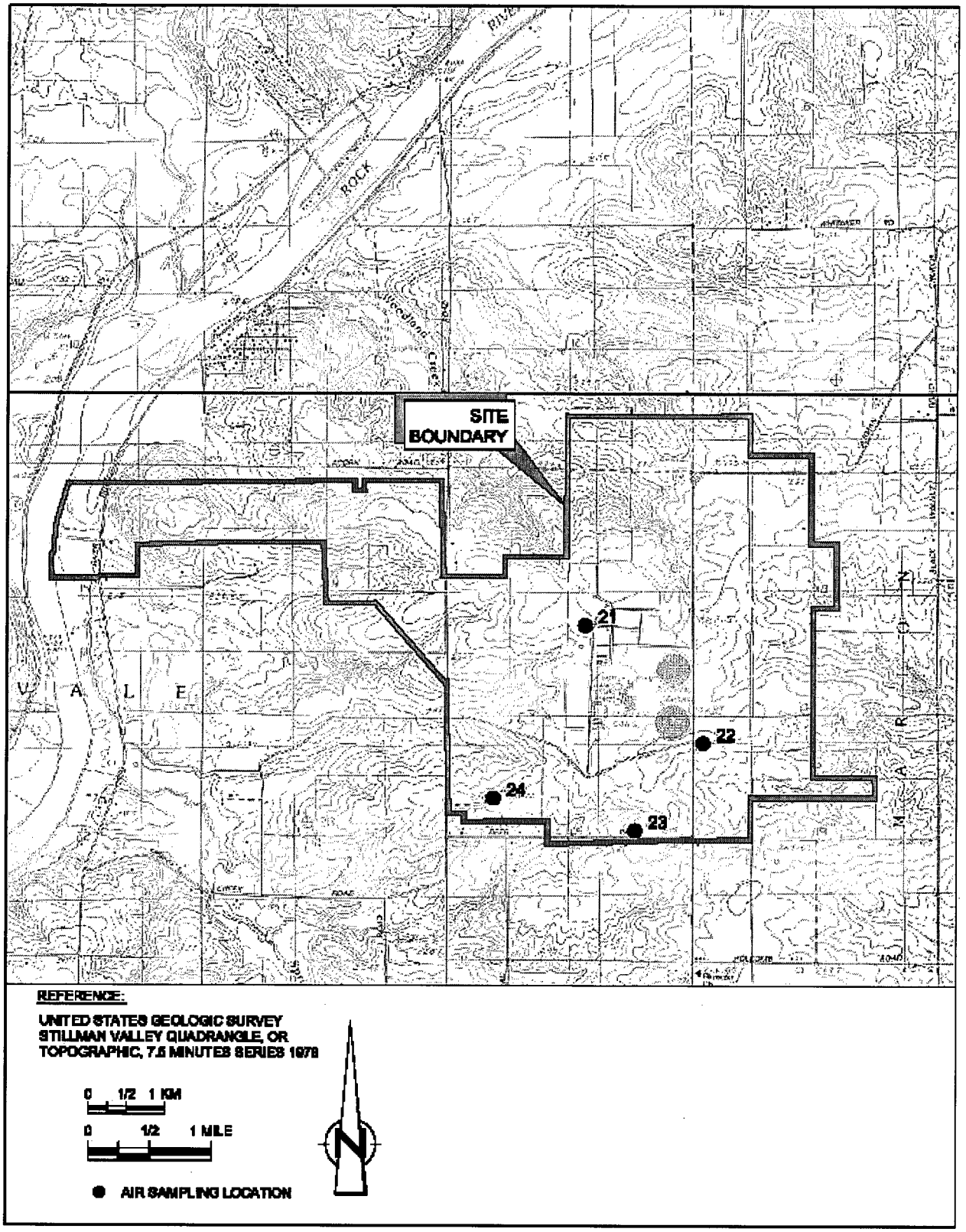
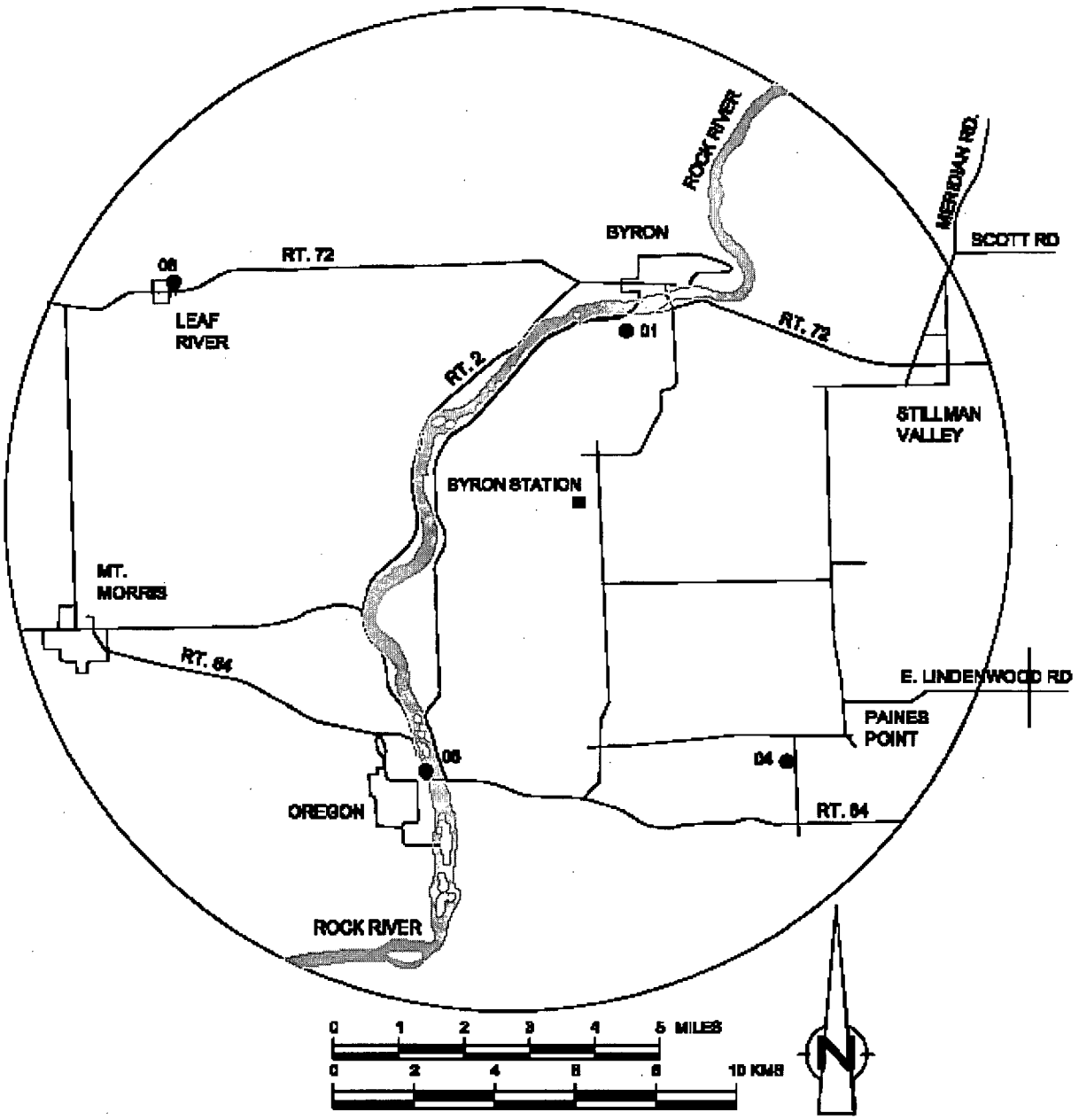


Figure B-2
Onsite Air Sampling Locations of the
Byron Nuclear Generating Station, 2008



● Air Sampling Location

■ Byron Station

Figure B-3
Offsite Air Sampling Locations of the
Byron Nuclear Generating Station, 2008

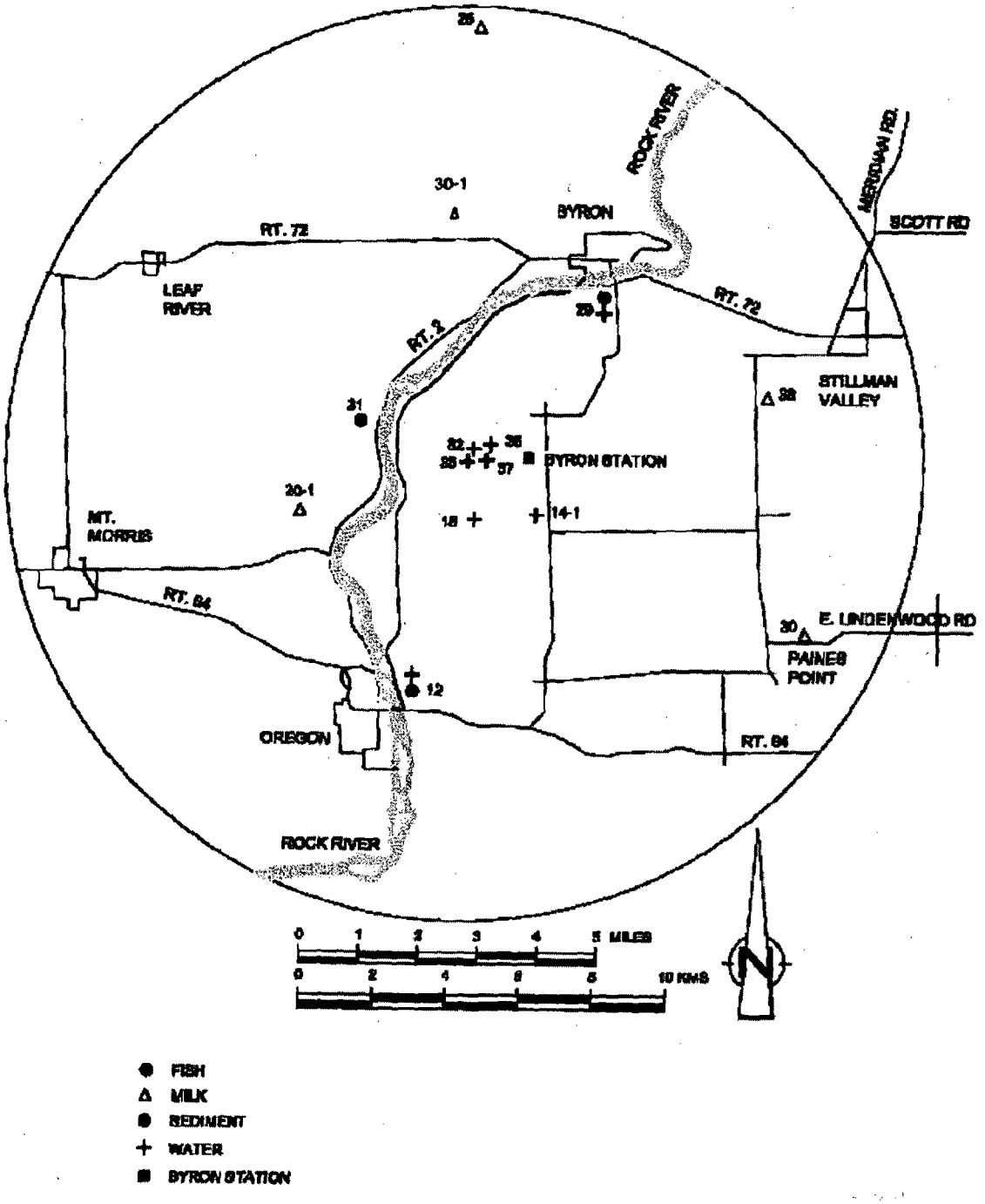


Figure B-4
Ingestion and Waterborne Exposure Pathway Sampling Locations
of the Byron Nuclear Generating Station, 2008

APPENDIX C

DATA TABLES AND FIGURES
PRIMARY LABORATORY

TABLE C-I.1 **CONCENTRATIONS OF GROSS BETA IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF BYRON NUCLEAR GENERATING STATION, 2008**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	BY-12	BY-29
01/08/08 - 01/15/08	5.9 ± 1.9	4.7 ± 1.8
02/05/08 - 02/05/08	3.5 ± 2.1	(1)
03/11/08 - 03/24/08	6.2 ± 2.6	5.3 ± 2.6
04/01/08 - 04/29/08	5.3 ± 1.9	5.7 ± 2.0
05/06/08 - 05/27/08	5.9 ± 2.9	5.4 ± 2.9
06/03/08 - 06/24/08	5.9 ± 2.1	5.4 ± 2.1
07/01/08 - 07/28/08	4.3 ± 2.1	5.2 ± 2.2
08/05/08 - 08/26/08	4.9 ± 2.6	< 3.7
09/02/08 - 09/30/08	4.9 ± 2.0	4.3 ± 2.0
10/07/08 - 10/28/08	5.3 ± 2.2	4.7 ± 2.2
11/04/08 - 11/25/08	3.7 ± 2.0	4.8 ± 2.1
12/02/08 - 12/02/08	6.4 ± 2.1	3.3 ± 1.9
MEAN	5.2 ± 1.9	4.9 ± 1.4

TABLE C-I.2 **CONCENTRATIONS OF TRITIUM IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF BYRON NUCLEAR GENERATING STATION, 2008**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	BY-12	BY-29
01/08/08 - 03/24/08	< 169	< 169
04/01/08 - 06/24/08	< 195	< 190
07/01/08 - 09/30/08	< 143	< 135
10/07/08 - 12/30/08	< 178	< 180
MEAN	-	-

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

TABLE C-I.3 **CONCENTRATIONS OF GAMMA EMITTERS IN SURFACE WATER SAMPLES COLLECTED IN THE VICINITY OF BYRON NUCLEAR GENERATING STATION, 2008**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
BY-12	01/08/08 - 01/29/08	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 12	< 1	< 1	< 18	< 6
	02/05/08 - 02/05/08	< 2	< 2	< 4	< 2	< 3	< 2	< 4	< 14	< 2	< 2	< 21	< 7
	03/03/08 - 03/24/08	< 3	< 3	< 5	< 2	< 5	< 3	< 6	< 13	< 2	< 3	< 25	< 8
	04/01/08 - 04/29/08	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 11	< 2	< 2	< 18	< 6
	05/06/08 - 05/27/08	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 8	< 1	< 2	< 16	< 5
	06/03/08 - 06/24/08	< 2	< 2	< 6	< 2	< 5	< 3	< 4	< 15	< 2	< 2	< 27	< 9
	07/01/08 - 07/28/08	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 12	< 2	< 2	< 21	< 7
	08/05/08 - 08/26/08	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 14	< 2	< 2	< 22	< 7
	09/02/08 - 09/30/08	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 11	< 1	< 1	< 16	< 5
	10/07/08 - 10/28/08	< 2	< 2	< 5	< 1	< 3	< 2	< 4	< 9	< 2	< 2	< 46	< 12
	11/04/08 - 11/25/08	< 1	< 1	< 3	< 1	< 2	< 1	< 3	< 8	< 1	< 1	< 54	< 13
	12/02/08 - 12/30/08	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 11	< 1	< 1	< 17	< 5
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
BY-29	01/08/08 - 01/15/08	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 14	< 1	< 1	< 18	< 5
	02/05/08 - 02/05/08 (1)												
	03/11/08 - 03/24/08	< 4	< 4	< 9	< 5	< 8	< 4	< 8	< 14	< 3	< 4	< 31	< 10
	04/01/08 - 04/29/08	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 12	< 2	< 2	< 21	< 6
	05/06/08 - 05/27/08	< 2	< 2	< 4	< 2	< 4	< 2	< 3	< 9	< 2	< 2	< 16	< 5
	06/03/08 - 06/24/08	< 2	< 2	< 5	< 2	< 4	< 3	< 4	< 15	< 2	< 2	< 24	< 7
	07/01/08 - 07/28/08	< 2	< 2	< 4	< 2	< 4	< 2	< 4	< 13	< 2	< 2	< 21	< 6
	08/05/08 - 08/26/08	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 14	< 1	< 2	< 21	< 6
	09/02/08 - 09/30/08	< 1	< 1	< 3	< 1	< 3	< 1	< 3	< 12	< 1	< 1	< 18	< 5
	10/07/08 - 10/28/08	< 2	< 2	< 6	< 2	< 3	< 2	< 4	< 8	< 1	< 2	< 45	< 14
	11/04/08 - 11/25/08	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 8	< 1	< 1	< 49	< 13
	12/02/08 - 12/02/08	< 0	< 0	< 1	< 1	< 1	< 1	< 1	< 14	< 0	< 0	< 13	< 4
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-II.1 **CONCENTRATIONS OF TRITIUM IN GROUND WATER SAMPLES COLLECTED IN THE VICINITY OF BYRON NUCLEAR GENERATING STATION, 2008**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

COLLECTION PERIOD	BY-14-1	BY-18	BY-32	BY-35	BY-36	BY-37
01/08/08 - 01/08/08	< 187	< 190	< 190	< 192	< 196	< 194
04/08/08 - 04/08/08	< 171	< 170	< 169	< 171	< 169	< 171
07/08/08 - 07/08/08	< 171	< 168	< 169	< 166	< 167	< 165
10/14/08 - 10/14/08	< 146	< 146	< 138	< 139	< 148	< 134
MEAN	-	-	-	-	-	-

TABLE C-II.2 **CONCENTRATIONS OF GAMMA EMITTERS IN GROUND WATER SAMPLES COLLECTED IN THE VICINITY OF BYRON NUCLEAR GENERATING STATION, 2008**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
BY-14-1	01/08/08 - 01/08/08	< 6	< 8	< 13	< 3	< 13	< 7	< 11	< 10	< 5	< 5	< 29	< 11
	04/08/08 - 04/08/08	< 4	< 4	< 7	< 3	< 7	< 4	< 7	< 5	< 3	< 4	< 16	< 5
	07/08/08 - 07/08/08	< 4	< 4	< 9	< 4	< 7	< 4	< 8	< 13	< 4	< 4	< 29	< 9
	10/14/08 - 10/14/08	< 2	< 3	< 7	< 2	< 5	< 3	< 5	< 15	< 3	< 3	< 23	< 8
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
BY-18	01/08/08 - 01/08/08	< 6	< 6	< 10	< 7	< 10	< 6	< 7	< 10	< 5	< 5	< 23	< 12
	04/08/08 - 04/08/08	< 5	< 5	< 11	< 5	< 9	< 5	< 10	< 9	< 5	< 6	< 26	< 8
	07/08/08 - 07/08/08	< 4	< 5	< 9	< 4	< 7	< 5	< 8	< 14	< 4	< 5	< 34	< 9
	10/14/08 - 10/14/08	< 2	< 2	< 5	< 2	< 5	< 2	< 4	< 14	< 2	< 2	< 21	< 8
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
BY-32	01/08/08 - 01/08/08	< 5	< 6	< 15	< 6	< 14	< 7	< 11	< 12	< 5	< 7	< 31	< 8
	04/08/08 - 04/08/08	< 5	< 5	< 9	< 6	< 8	< 5	< 9	< 8	< 4	< 5	< 19	< 7
	07/08/08 - 07/08/08	< 4	< 5	< 9	< 4	< 9	< 4	< 8	< 15	< 4	< 4	< 32	< 12
	10/14/08 - 10/14/08	< 2	< 3	< 6	< 2	< 4	< 3	< 5	< 15	< 2	< 2	< 25	< 7
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
BY-35	01/08/08 - 01/08/08	< 6	< 6	< 13	< 7	< 12	< 7	< 10	< 11	< 5	< 7	< 32	< 9
	04/08/08 - 04/08/08	< 4	< 4	< 8	< 4	< 8	< 4	< 7	< 8	< 4	< 4	< 20	< 7
	07/08/08 - 07/08/08	< 3	< 4	< 9	< 4	< 7	< 4	< 7	< 14	< 4	< 4	< 30	< 10
	10/14/08 - 10/14/08	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 12	< 2	< 2	< 21	< 7
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

TABLE C-II.2 **CONCENTRATIONS OF GAMMA EMITTERS IN GROUND WATER SAMPLES COLLECTED IN THE VICINITY OF BYRON NUCLEAR GENERATING STATION, 2008**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
BY-36	01/08/08 - 01/08/08	< 5	< 4	< 10	< 5	< 8	< 5	< 8	< 10	< 4	< 5	< 24	< 8
	04/08/08 - 04/08/08	< 4	< 5	< 9	< 4	< 9	< 5	< 9	< 9	< 5	< 5	< 23	< 6
	07/08/08 - 07/08/08	< 4	< 4	< 8	< 3	< 7	< 4	< 7	< 13	< 4	< 4	< 27	< 9
	10/14/08 - 10/14/08	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 12	< 2	< 2	< 22	< 6
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
BY-37	01/08/08 - 01/08/08	< 7	< 5	< 14	< 6	< 10	< 7	< 12	< 13	< 6	< 7	< 35	< 13
	04/08/08 - 04/08/08	< 4	< 4	< 8	< 4	< 9	< 4	< 6	< 7	< 4	< 3	< 21	< 5
	07/08/08 - 07/08/08	< 3	< 3	< 8	< 3	< 7	< 4	< 7	< 12	< 3	< 4	< 26	< 10
	10/14/08 - 10/14/08	< 1	< 1	< 3	< 1	< 2	< 1	< 2	< 11	< 1	< 1	< 15	< 5
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

TABLE C-III.1 **CONCENTRATIONS OF GAMMA EMITTERS IN FISH SAMPLES COLLECTED IN THE VICINITY OF BYRON NUCLEAR GENERATING STATION, 2008**

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
BY-29												
Freshwater Drum	05/20/08	< 53	< 65	< 170	< 41	< 113	< 75	< 124	< 45	< 44	< 1510	< 372
Silver Redhorse	05/20/08	< 44	< 47	< 125	< 45	< 88	< 57	< 98	< 39	< 39	< 1240	< 373
River Carpsucker	10/21/08	< 50	< 48	< 148	< 39	< 106	< 57	< 105	< 41	< 50	< 792	< 269
Smallmouth Bass	10/21/08	< 54	< 66	< 155	< 55	< 113	< 66	< 122	< 55	< 57	< 1020	< 323
	MEAN	-	-	-	-	-	-	-	-	-	-	-
BY-31												
Freshwater Drum	05/20/08	< 44	< 62	< 144	< 50	< 130	< 68	< 114	< 46	< 39	< 1400	< 297
Silver Redhorse	05/20/08	< 46	< 58	< 147	< 63	< 102	< 71	< 128	< 41	< 48	< 1350	< 481
Channel Catfish	10/21/08	< 62	< 58	< 136	< 58	< 97	< 64	< 97	< 43	< 44	< 592	< 335
Common Carp	10/21/08	< 40	< 58	< 148	< 45	< 95	< 63	< 114	< 45	< 49	< 718	< 383
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE C-IV.1 CONCENTRATIONS OF GAMMA EMITTERS IN SEDIMENT SAMPLES COLLECTED IN THE VICINITY OF BYRON NUCLEAR GENERATING STATION, 2008

RESULTS IN UNITS OF PCI/KG DRY ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
BY-12	05/26/08	< 55	< 66	< 142	< 50	< 118	< 75	< 100	< 48	320 ± 67	< 408	< 142
	10/20/08	< 54	< 65	< 163	< 48	< 124	< 75	< 113	< 50	60 ± 34	< 1190	< 330
	MEAN	-	-	-	-	-	-	-	-	190 ± 367	-	-
BY-34	05/26/08	< 86	< 87	< 207	< 72	< 234	< 100	< 155	< 126	94 ± 59	< 610	< 195
	10/20/08	< 30	< 33	< 96	< 32	< 64	< 43	< 69	< 26	< 34	< 640	< 174
	MEAN	-	-	-	-	-	-	-	-	94 ± 0	-	-

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

TABLE C-V.1 CONCENTRATIONS OF GROSS BETA IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF BYRON NUCLEAR GENERATING STATION, 2008

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

COLLECTION PERIOD	GROUP I				GROUP II			GROUP III
	BY-21	BY-22	BY-23	BY-24	BY-01	BY-04	BY-06	BY-08
01/02/08 - 01/08/08	21 ± 5	23 ± 5	25 ± 5	24 ± 5	20 ± 5	26 ± 5	27 ± 5	24 ± 5
01/08/08 - 01/15/08	29 ± 5	29 ± 5	36 ± 5	38 ± 6	32 ± 5	30 ± 5	42 ± 6	28 ± 5
01/15/08 - 01/22/08	27 ± 5	27 ± 5	30 ± 5	31 ± 5	27 ± 5	31 ± 5	29 ± 5	31 ± 5
01/22/08 - 01/29/08	34 ± 5	35 ± 5	30 ± 5	36 ± 5	35 ± 5	31 ± 5	40 ± 6	34 ± 5
01/29/08 - 02/05/08	22 ± 5	21 ± 4	14 ± 4	21 ± 4	24 ± 5	22 ± 5	20 ± 4	21 ± 5
02/05/08 - 02/12/08	30 ± 5	28 ± 5	26 ± 5	28 ± 5	25 ± 5	28 ± 5	27 ± 5	26 ± 5
02/12/08 - 02/19/08	26 ± 5	26 ± 5	22 ± 5	26 ± 5	23 ± 5	30 ± 5	26 ± 5	24 ± 5
02/19/08 - 02/25/08	16 ± 4	12 ± 4	15 ± 4	17 ± 4	19 ± 5	21 ± 5	16 ± 5	17 ± 5
02/25/08 - 03/04/08	23 ± 5	22 ± 5	18 ± 5	18 ± 5	21 ± 4	19 ± 4	23 ± 5	22 ± 4
03/04/08 - 03/10/08	22 ± 5	25 ± 5	24 ± 5	27 ± 5	22 ± 5	20 ± 5	21 ± 5	20 ± 5
03/10/08 - 03/18/08	18 ± 4	15 ± 4	17 ± 4	17 ± 4	19 ± 5	21 ± 4	19 ± 4	19 ± 5
03/18/08 - 03/24/08	16 ± 4	14 ± 4	12 ± 4	10 ± 4	11 ± 4	12 ± 4	12 ± 4	11 ± 4
03/24/08 - 04/01/08	13 ± 4	13 ± 4	13 ± 4	14 ± 4	13 ± 4	14 ± 4	15 ± 4	12 ± 4
04/01/08 - 04/08/08	17 ± 4	20 ± 4	19 ± 4	16 ± 4	21 ± 4	22 ± 4	21 ± 4	20 ± 4
04/08/08 - 04/16/08	9 ± 3	8 ± 3	8 ± 3	7 ± 3	9 ± 3	10 ± 3	9 ± 3	9 ± 3
04/16/08 - 04/22/08	23 ± 5	26 ± 5	23 ± 5	24 ± 5	18 ± 5	23 ± 5	23 ± 5	23 ± 5
04/22/08 - 04/29/08	19 ± 4	19 ± 4	20 ± 4	13 ± 4	16 ± 4	17 ± 4	15 ± 4	17 ± 4
04/29/08 - 05/06/08	18 ± 4	23 ± 4	26 ± 5	19 ± 4	20 ± 4	19 ± 4	21 ± 4	18 ± 4
05/06/08 - 05/13/08	13 ± 4	13 ± 4	11 ± 4	16 ± 4	17 ± 4	13 ± 4	14 ± 4	18 ± 4
05/13/08 - 05/20/08	14 ± 4	12 ± 4	9 ± 3	12 ± 4	12 ± 4	8 ± 3	13 ± 4	12 ± 4
05/20/08 - 05/27/08	8 ± 3	5 ± 3	10 ± 4	10 ± 4	7 ± 3	7 ± 3	7 ± 3	8 ± 3
05/27/08 - 06/03/08	19 ± 4	12 ± 4	15 ± 4	16 ± 4	16 ± 4	10 ± 4	15 ± 4	12 ± 4
06/03/08 - 06/10/08	10 ± 4	13 ± 4	12 ± 4	13 ± 4	10 ± 4	14 ± 4	11 ± 4	12 ± 4
06/10/08 - 06/17/08	15 ± 4	14 ± 4	10 ± 4	9 ± 4	9 ± 4	11 ± 4	13 ± 4	12 ± 4
06/17/08 - 06/24/08	19 ± 4	13 ± 4	11 ± 4	13 ± 4	19 ± 4	13 ± 4	14 ± 4	13 ± 4
06/24/08 - 07/01/08	12 ± 4	12 ± 4	7 ± 4	12 ± 4	12 ± 4	16 ± 4	14 ± 4	15 ± 4
07/01/08 - 07/08/08	15 ± 4	11 ± 4	12 ± 4	12 ± 4	12 ± 4	11 ± 4	15 ± 4	15 ± 4
07/08/08 - 07/15/08	9 ± 4	13 ± 4	10 ± 4	10 ± 4	10 ± 4	11 ± 4	9 ± 4	8 ± 4
07/15/08 - 07/22/08	19 ± 5	17 ± 5	15 ± 5	21 ± 5	18 ± 5	17 ± 5	19 ± 5	17 ± 5
07/22/08 - 07/28/08	16 ± 4	21 ± 5	17 ± 4	18 ± 4	17 ± 5	17 ± 4	18 ± 4	20 ± 5
07/28/08 - 08/05/08	19 ± 4	14 ± 4	13 ± 4	16 ± 4	16 ± 4	12 ± 4	21 ± 4	20 ± 4
08/05/08 - 08/12/08	19 ± 4	15 ± 4	16 ± 4	17 ± 4	20 ± 4	14 ± 5	16 ± 4	19 ± 4
08/12/08 - 08/19/08	22 ± 5	23 ± 5	19 ± 5	23 ± 5	22 ± 5	21 ± 5	18 ± 4	22 ± 5
08/19/08 - 08/26/08	18 ± 4	18 ± 4	14 ± 4	17 ± 4	15 ± 4	18 ± 4	18 ± 4	19 ± 4
08/26/08 - 09/02/08	35 ± 5	27 ± 5	25 ± 5	30 ± 5	32 ± 5	36 ± 5	31 ± 5	29 ± 5
09/02/08 - 09/09/08	15 ± 4	16 ± 4	15 ± 4	17 ± 4	17 ± 4	20 ± 4	17 ± 4	19 ± 4
09/09/08 - 09/16/08	14 ± 4	14 ± 4	10 ± 4	12 ± 4	14 ± 4	13 ± 4	21 ± 4	16 ± 4
09/16/08 - 09/23/08	35 ± 5	33 ± 5	29 ± 5	35 ± 5	37 ± 5	34 ± 5	33 ± 5	34 ± 5
09/23/08 - 09/30/08	36 ± 6	28 ± 5	30 ± 5	35 ± 6	38 ± 6	31 ± 5	35 ± 5	31 ± 5
09/30/08 - 10/07/08	22 ± 5	16 ± 4	15 ± 4	23 ± 5	22 ± 5	17 ± 4	20 ± 5	15 ± 4
10/07/08 - 10/14/08	13 ± 4	16 ± 4	18 ± 4	21 ± 4	20 ± 4	16 ± 4	23 ± 5	19 ± 4
10/14/08 - 10/20/08	18 ± 5	15 ± 5	19 ± 5	17 ± 5	17 ± 5	18 ± 5	19 ± 5	20 ± 5
10/20/08 - 10/28/08	11 ± 3	13 ± 4	12 ± 4	13 ± 4	11 ± 3	10 ± 3	16 ± 4	10 ± 3
10/28/08 - 11/04/08	32 ± 5	34 ± 5	33 ± 5	35 ± 5	37 ± 5	35 ± 5	34 ± 5	33 ± 5
11/04/08 - 11/11/08	16 ± 4	18 ± 4	17 ± 4	15 ± 4	13 ± 4	15 ± 4	17 ± 4	18 ± 4
11/11/08 - 11/18/08	20 ± 5	13 ± 4	15 ± 4	18 ± 4	20 ± 5	13 ± 4	19 ± 4	16 ± 4
11/18/08 - 11/25/08	23 ± 5	20 ± 4	15 ± 4	21 ± 4	20 ± 4	15 ± 4	20 ± 4	17 ± 4
11/25/08 - 12/02/08	17 ± 4	15 ± 4	20 ± 4	23 ± 4	24 ± 5	17 ± 4	20 ± 4	20 ± 4
12/02/08 - 12/09/08	23 ± 5	18 ± 4	21 ± 5	21 ± 5	24 ± 5	20 ± 5	19 ± 4	18 ± 4
12/09/08 - 12/16/08	28 ± 5	21 ± 5	25 ± 5	23 ± 5	25 ± 5	25 ± 5	27 ± 5	26 ± 5
12/16/08 - 12/22/08	35 ± 5	29 ± 5	29 ± 5	35 ± 5	35 ± 6	34 ± 5	31 ± 5	30 ± 5
12/22/08 - 12/30/08	30 ± 5	33 ± 5	28 ± 5	27 ± 5	28 ± 4	34 ± 5	32 ± 5	37 ± 5
MEAN	20 ± 15	19 ± 14	18 ± 14	20 ± 16	20 ± 16	19 ± 16	21 ± 15	20 ± 14

TABLE C-V.2 **MONTHLY AND YEARLY MEAN VALUES OF GROSS BETA CONCENTRATIONS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF BYRON NUCLEAR GENERATING STATION, 2008**

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

GROUP I - NEARSITE LOCATIONS				GROUP II - FAR FIELD LOCATIONS				GROUP III - CONTROL LOCATIONS			
COLLECTION PERIOD	MIN	MAX	MEAN ± 2SD	COLLECTION PERIOD	MIN	MAX	MEAN ± 2SD	COLLECTION PERIOD	MIN	MAX	MEAN ± 2SD
01/02/08 - 01/29/08	21	38	30 ± 10	01/02/08 - 01/29/08	20	42	31 ± 12	01/02/08 - 01/29/08	24	34	29 ± 9
01/29/08 - 02/26/08	12	30	22 ± 11	01/29/08 - 03/04/08	16	30	23 ± 8	01/29/08 - 03/04/08	17	26	22 ± 6
02/26/08 - 04/01/08	10	27	17 ± 10	03/03/08 - 04/01/08	11	22	17 ± 8	03/04/08 - 04/01/08	11	20	15 ± 9
04/01/08 - 04/29/08	7	26	17 ± 12	04/01/08 - 04/29/08	9	23	17 ± 11	04/01/08 - 04/29/08	9	23	17 ± 12
04/29/08 - 06/03/08	5	26	14 ± 10	04/29/08 - 06/03/08	7	21	13 ± 10	04/29/08 - 06/03/08	8	18	14 ± 9
06/03/08 - 07/01/08	7	19	12 ± 5	06/03/08 - 07/01/08	9	19	13 ± 5	06/03/08 - 07/01/08	12	15	13 ± 3
07/01/08 - 07/28/08	9	21	15 ± 8	07/01/08 - 07/28/08	9	19	15 ± 7	07/01/08 - 07/28/08	8	20	15 ± 10
07/28/08 - 09/02/08	13	35	20 ± 12	07/28/08 - 09/02/08	12	36	21 ± 14	07/28/08 - 09/02/08	19	29	22 ± 9
09/02/08 - 09/30/08	10	36	23 ± 20	09/02/08 - 09/30/08	13	38	26 ± 19	09/02/08 - 09/30/08	16	34	25 ± 18
09/30/08 - 10/28/08	11	23	16 ± 7	09/30/08 - 10/28/08	10	23	17 ± 8	09/30/08 - 10/28/08	10	20	16 ± 9
10/28/08 - 12/02/08	13	35	21 ± 14	10/28/08 - 12/02/08	13	37	21 ± 16	10/28/08 - 12/02/08	16	33	21 ± 14
12/02/08 - 12/30/08	18	35	27 ± 10	12/02/08 - 12/30/08	19	35	28 ± 11	12/02/08 - 12/30/08	18	37	28 ± 15
01/02/08 - 12/30/08	5	38	19 ± 15	01/02/08 - 12/30/08	7	42	20 ± 16	01/02/08 - 12/30/08	8	37	20 ± 14

TABLE C-V.3 **CONCENTRATIONS OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF BYRON NUCLEAR GENERATING STATION, 2008**

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

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
BY-01	01/02/08 - 04/01/08	< 2	< 5	< 18	< 3	< 9	< 6	< 10	< 2	< 2	< 580	< 275
	04/01/08 - 07/01/08	< 3	< 4	< 19	< 2	< 6	< 5	< 8	< 3	< 3	< 754	< 364
	07/01/08 - 09/30/08	< 3	< 11	< 50	< 3	< 7	< 12	< 21	< 4	< 2	< 32700	< 12300
	09/30/08 - 12/30/08	< 3	< 5	< 13	< 3	< 8	< 5	< 9	< 3	< 2	< 439	< 105
	MEAN	-	-	-	-	-	-	-	-	-	-	-
BY-04	01/02/08 - 04/01/08	< 2	< 4	< 13	< 2	< 6	< 4	< 9	< 2	< 2	< 617	< 183
	04/01/08 - 07/01/08	< 4	< 6	< 24	< 4	< 9	< 5	< 9	< 4	< 3	< 980	< 305
	07/01/08 - 09/30/08	< 3	< 13	< 45	< 3	< 9	< 15	< 24	< 4	< 3	< 48400	< 13500
	09/30/08 - 12/30/08	< 3	< 6	< 20	< 2	< 10	< 6	< 12	< 4	< 3	< 561	< 155
	MEAN	-	-	-	-	-	-	-	-	-	-	-
BY-06	01/02/08 - 04/01/08	< 2	< 3	< 11	< 2	< 6	< 5	< 8	< 3	< 1	< 552	< 312
	04/01/08 - 07/01/08	< 2	< 4	< 15	< 2	< 6	< 5	< 8	< 2	< 2	< 652	< 222
	07/01/08 - 09/30/08	< 4	< 9	< 48	< 2	< 12	< 11	< 17	< 3	< 3	< 44300	< 13900
	09/30/08 - 12/30/08	< 3	< 5	< 14	< 3	< 7	< 5	< 10	< 3	< 3	< 410	< 132
	MEAN	-	-	-	-	-	-	-	-	-	-	-
BY-08	01/02/08 - 04/01/08	< 3	< 6	< 24	< 4	< 11	< 7	< 11	< 4	< 4	< 974	< 417
	04/01/08 - 07/01/08	< 4	< 8	< 25	< 3	< 9	< 9	< 14	< 5	< 4	< 1370	< 491
	07/01/08 - 09/30/08	< 4	< 15	< 76	< 3	< 9	< 19	< 29	< 4	< 3	< 51300	< 10300
	09/30/08 - 12/30/08	< 3	< 4	< 14	< 3	< 10	< 5	< 9	< 3	< 3	< 366	< 131
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE C-V.3 **CONCENTRATIONS OF GAMMA EMITTERS IN AIR PARTICULATE SAMPLES COLLECTED IN THE VICINITY OF BYRON NUCLEAR GENERATING STATION, 2008**

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

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
BY-21	01/02/08 - 04/01/08	< 4	< 7	< 16	< 3	< 8	< 6	< 14	< 4	< 3	< 931	< 420
	04/01/08 - 07/01/08	< 3	< 5	< 19	< 2	< 8	< 7	< 11	< 3	< 3	< 1020	< 384
	07/01/08 - 09/30/08	< 3	< 10	< 55	< 3	< 10	< 14	< 25	< 3	< 2	< 36300	< 18700
	09/30/08 - 12/30/08	< 4	< 6	< 22	< 4	< 7	< 7	< 10	< 4	< 3	< 533	< 173
	MEAN	-	-	-	-	-	-	-	-	-	-	-
BY-22	01/02/08 - 04/01/08	< 4	< 5	< 11	< 2	< 8	< 5	< 9	< 3	< 3	< 678	< 237
	04/01/08 - 07/01/08	< 2	< 7	< 22	< 3	< 8	< 6	< 12	< 4	< 3	< 1090	< 290
	07/01/08 - 09/30/08	< 4	< 16	< 68	< 4	< 8	< 18	< 26	< 4	< 4	< 49300	< 25700
	09/30/08 - 12/30/08	< 3	< 5	< 13	< 3	< 8	< 5	< 8	< 2	< 2	< 347	< 133
	MEAN	-	-	-	-	-	-	-	-	-	-	-
BY-23	01/02/08 - 04/01/08	< 3	< 5	< 18	< 3	< 7	< 5	< 7	< 2	< 2	< 723	< 261
	04/01/08 - 07/01/08	< 4	< 7	< 22	< 4	< 11	< 8	< 13	< 4	< 4	< 1100	< 486
	07/01/08 - 09/30/08	< 4	< 10	< 48	< 4	< 9	< 11	< 23	< 3	< 3	< 36300	< 13800
	09/30/08 - 12/30/08	< 3	< 7	< 11	< 3	< 9	< 6	< 9	< 4	< 2	< 528	< 137
	MEAN	-	-	-	-	-	-	-	-	-	-	-
BY-24	01/02/08 - 04/01	< 3	< 7	< 22	< 3	< 9	< 6	< 11	< 4	< 3	< 855	< 326
	04/01/08 - 07/01/08	< 3	< 5	< 22	< 3	< 8	< 7	< 10	< 3	< 2	< 845	< 310
	07/01/08 - 09/30/08	< 4	< 10	< 60	< 3	< 9	< 14	< 29	< 4	< 3	< 39100	< 17500
	09/30/08 - 12/30/08	< 3	< 5	< 19	< 4	< 5	< 5	< 10	< 3	< 3	< 452	< 150
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE C-VI.1 CONCENTRATIONS OF I-131 IN AIR IODINE SAMPLES COLLECTED IN THE VICINITY OF BYRON NUCLEAR GENERATING STATION, 2008

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

COLLECTION PERIOD	GROUP I				GROUP II			GROUP III
	BY-21	BY-22	BY-23	BY-24	BY-01	BY-04	BY-06	BY-08
01/02/08 - 01/08/08	< 46	< 46	< 46	< 46	< 42	< 41	< 41	< 40
01/08/08 - 01/15/08	< 29	< 29	< 29	< 29	< 33	< 33	< 32	< 33
01/15/08 - 01/22/08	< 32	< 43	< 43	< 43	< 20	< 33	< 33	< 32
01/22/08 - 01/29/08	< 44	< 44	< 44	< 45	< 35	< 35	< 35	< 35
01/29/08 - 02/05/08	< 42	< 54	< 54	< 54	< 41	< 26	< 43	< 44
02/05/08 - 02/12/08	< 62	< 62	< 63	< 63	< 62	< 63	< 62	< 61
02/12/08 - 02/19/08	< 62	< 62	< 62	< 62	< 65	< 65	< 65	< 64
02/19/08 - 02/25/08	< 52	< 47	< 46	< 46	< 62	< 62	< 62	< 31
02/25/08 - 03/04/08	< 58	< 58	< 58	< 58	< 35	< 41	< 42	< 35
03/04/08 - 03/10/08	< 42	< 42	< 41	< 41	< 35	< 37	< 37	< 34
03/10/08 - 03/18/08	< 42	< 56	< 56	< 56	< 68	< 55	< 55	< 67
03/18/08 - 03/24/08	< 47	< 28	< 46	< 46	< 48	< 55	< 54	< 49
03/24/08 - 04/01/08	< 43	< 43	< 43	< 44	< 33	< 32	< 33	< 33
04/01/08 - 04/08/08	< 46	< 46	< 37	< 46	< 56	< 57	< 56	< 56
04/08/08 - 04/16/08	< 58	< 58	< 58	< 58	< 67	< 67	< 67	< 67
04/16/08 - 04/22/08	< 63	< 63	< 63	< 27	< 69	< 69	< 69	< 68
04/22/08 - 04/29/08	< 49	< 49	< 49	< 49	< 48	< 47	< 47	< 47
04/29/08 - 05/06/08	< 41	< 63	< 62	< 62	< 25	< 41	< 41	< 42
05/06/08 - 05/13/08	< 18	< 18	< 18	< 18	< 14	< 14	< 14	< 14
05/13/08 - 05/20/08	< 49	< 49	< 49	< 50	< 37	< 36	< 36	< 37
05/20/08 - 05/27/08	< 34	< 34	< 34	< 34	< 30	< 31	< 30	< 29
05/27/08 - 06/03/08	< 53	< 53	< 53	< 55	< 44	< 44	< 44	< 46
06/03/08 - 06/10/08	< 17	< 17	< 17	< 17	< 18	< 18	< 18	< 17
06/10/08 - 06/17/08	< 53	< 52	< 52	< 53	< 53	< 53	< 53	< 55
06/17/08 - 06/24/08	< 52	< 54	< 54	< 54	< 58	< 58	< 58	< 58
06/24/08 - 07/01/08	< 62	< 62	< 62	< 69	< 65	< 64	< 64	< 66
07/01/08 - 07/08/08	< 54	< 54	< 54	< 55	< 44	< 45	< 44	< 42
07/08/08 - 07/15/08	< 58	< 58	< 58	< 58	< 53	< 52	< 53	< 55
07/15/08 - 07/22/08	< 24	< 24	< 24	< 24	< 22	< 22	< 22	< 21
07/22/08 - 07/28/08	< 55	< 55	< 55	< 55	< 38	< 36	< 37	< 38
07/28/08 - 08/05/08	< 34	< 36	< 36	< 36	< 57	< 60	< 58	< 55
08/05/08 - 08/12/08	< 60	< 62	< 62	< 62	< 46	< 68	< 45	< 47
08/12/08 - 08/19/08	< 52	< 52	< 52	< 52	< 70	< 69	< 69	< 69
08/19/08 - 08/26/08	< 63	< 63	< 63	< 63	< 67	< 67	< 67	< 68
08/26/08 - 09/02/08	< 69	< 69	< 69	< 69	< 65	< 67	< 67	< 64
09/02/08 - 09/09/08	< 55	< 55	< 54	< 55	< 26	< 27	< 27	< 28
09/09/08 - 09/16/08	< 65	< 65	< 66	< 66	< 46	< 45	< 45	< 44
09/16/08 - 09/23/08	< 68	< 68	< 67	< 67	< 51	< 51	< 51	< 52
09/23/08 - 09/30/08	< 70	< 68	< 69	< 70	< 61	< 61	< 60	< 59
09/30/08 - 10/07/08	< 65	< 66	< 66	< 66	< 48	< 48	< 48	< 50
10/07/08 - 10/14/08	< 48	< 48	< 48	< 48	< 51	< 52	< 52	< 49
10/14/08 - 10/20/08	< 38	< 38	< 39	< 39	< 62	< 60	< 60	< 64
10/20/08 - 10/28/08	< 30	< 30	< 30	< 30	< 42	< 44	< 44	< 41
10/28/08 - 11/04/08	< 62	< 62	< 62	< 62	< 66	< 66	< 66	< 70
11/04/08 - 11/11/08	< 45	< 45	< 45	< 45	< 50	< 49	< 49	< 48
11/11/08 - 11/18/08	< 61	< 61	< 61	< 61	< 56	< 58	< 57	< 56
11/18/08 - 11/25/08	< 64	< 63	< 64	< 64	< 62	< 60	< 60	< 60
11/25/08 - 12/02/08	< 57	< 57	< 57	< 57	< 60	< 60	< 60	< 62
12/02/08 - 12/09/08	< 59	< 59	< 59	< 59	< 65	< 67	< 67	< 65
12/09/08 - 12/16/08	< 57	< 57	< 57	< 57	< 52	< 53	< 52	< 52
12/16/08 - 12/22/08	< 62	< 62	< 62	< 63	< 65	< 65	< 65	< 65
12/22/08 - 12/30/08	< 54	< 54	< 54	< 54	< 48	< 50	< 49	< 49
MEAN	-	-	-	-	-	-	-	-

TABLE C-VII.1 CONCENTRATIONS OF I-131 IN MILK SAMPLES COLLECTED IN THE VICINITY OF BYRON NUCLEAR GENERATING STATION, 2008

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

	CONTROL FARM		INDICATOR FARM		
COLLECTION PERIOD	BY-26-1	BY-20-1	BY-30	BY-30-1	BY-38
01/08/08	< 0.4	< 0.7	< 0.7 (1)		(1)
02/05/08	< 0.9	< 0.8			
03/04/08	< 0.7	< 0.7			
04/01/08	< 0.7	< 0.7		< 0.8 (1)	
05/06/08	< 0.3	< 0.4		< 0.7	
05/20/08	< 0.6	< 0.9		< 1.0	
06/03/08	< 0.5	< 0.6		< 0.6	
06/17/08	< 0.7	< 0.8		< 0.8	
07/01/08	< 0.6	< 0.7		< 0.8	
07/15/08	< 0.5	< 0.6		< 0.6	
07/28/08	< 0.6	< 0.5		< 0.6	
08/12/08	< 0.7	< 0.9		< 0.8	
08/26/08	< 0.9	< 0.9		< 0.9	
09/09/08	< 0.7	< 0.8		< 0.9	
09/23/08	< 0.7	< 0.7		< 0.8	
10/07/08	< 0.8	< 0.9		< 0.8	
10/20/08	< 0.8	< 0.9		< 0.9	
11/04/08	< 0.8	< 0.7		< 0.7	
12/02/08	< 0.7	< 0.4		< 0.6	
MEAN	-	-		-	

(1) SEE PROGRAM CHANGES SECTION FOR EXPLANATION

TABLE C-VII.2 CONCENTRATIONS OF GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF BYRON NUCLEAR GENERATING STATION, 2008

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
BY-20-1	01/08/08	< 6	< 6	< 14	< 7	< 15	< 6	< 9	< 5	< 6	< 26	< 8
	02/05/08	< 7	< 6	< 14	< 8	< 17	< 6	< 12	< 5	< 8	< 32	< 11
	03/04/08	< 6	< 6	< 16	< 8	< 15	< 6	< 10	< 5	< 6	< 28	< 8
	04/01/08	< 6	< 5	< 12	< 5	< 10	< 5	< 10	< 5	< 6	< 24	< 4
	05/06/08	< 4	< 5	< 10	< 4	< 10	< 5	< 8	< 4	< 5	< 23	< 8
	05/20/08	< 6	< 7	< 17	< 8	< 15	< 7	< 15	< 6	< 6	< 43	< 13
	06/03/08	< 8	< 6	< 22	< 9	< 17	< 8	< 14	< 6	< 8	< 44	< 14
	06/17/08	< 5	< 6	< 13	< 5	< 13	< 6	< 10	< 5	< 6	< 40	< 15
	07/01/08	< 6	< 6	< 16	< 7	< 14	< 6	< 12	< 5	< 6	< 41	< 12
	07/15/08	< 6	< 5	< 15	< 8	< 15	< 7	< 12	< 5	< 6	< 41	< 12
	07/28/08	< 7	< 8	< 17	< 6	< 18	< 7	< 15	< 6	< 7	< 48	< 15
	08/12/08	< 5	< 6	< 15	< 6	< 13	< 6	< 12	< 5	< 6	< 39	< 14
	08/26/08	< 6	< 5	< 16	< 7	< 12	< 7	< 12	< 6	< 6	< 46	< 10
	09/09/08	< 6	< 7	< 14	< 5	< 12	< 7	< 10	< 5	< 5	< 43	< 11
	09/23/08	< 6	< 6	< 15	< 5	< 12	< 7	< 11	< 5	< 6	< 42	< 11
	10/07/08	< 3	< 3	< 9	< 3	< 7	< 4	< 6	< 3	< 3	< 49	< 14
	10/20/08	< 2	< 2	< 6	< 2	< 5	< 2	< 5	< 2	< 2	< 39	< 11
	11/04/08	< 1	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 1	< 43	< 13
	12/02/08	< 6	< 6	< 14	< 6	< 15	< 6	< 11	< 5	< 6	< 33	< 9
	MEAN	-	-	-	-	-	-	-	-	-	-	-

TABLE C-VII.2 CONCENTRATIONS OF GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF BYRON NUCLEAR GENERATING STATION, 2008

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
BY-26-1	01/08/08	< 7	< 6	< 14	< 6	< 14	< 6	< 12	< 5	< 6	< 21	< 7
	02/05/08	< 5	< 7	< 17	< 6	< 15	< 6	< 9	< 6	< 6	< 27	< 10
	03/04/08	< 5	< 4	< 11	< 6	< 12	< 5	< 9	< 5	< 5	< 21	< 5
	04/01/08	< 5	< 5	< 12	< 8	< 11	< 5	< 8	< 5	< 6	< 26	< 9
	05/06/08	< 8	< 7	< 19	< 7	< 16	< 7	< 12	< 6	< 6	< 44	< 12
	05/20/08	< 5	< 7	< 13	< 5	< 12	< 6	< 10	< 5	< 6	< 42	< 13
	06/03/08	< 8	< 7	< 15	< 6	< 16	< 7	< 12	< 7	< 7	< 32	< 11
	06/17/08	< 5	< 5	< 14	< 6	< 10	< 6	< 10	< 5	< 6	< 37	< 9
	07/01/08	< 5	< 6	< 12	< 5	< 11	< 6	< 10	< 4	< 5	< 31	< 8
	07/15/08	< 5	< 5	< 14	< 5	< 11	< 6	< 10	< 5	< 5	< 36	< 9
	07/28/08	< 7	< 7	< 18	< 8	< 14	< 7	< 13	< 6	< 6	< 40	< 15
	08/12/08	< 5	< 5	< 14	< 6	< 10	< 6	< 11	< 4	< 6	< 35	< 11
	08/26/08	< 7	< 7	< 19	< 6	< 17	< 7	< 13	< 6	< 6	< 44	< 15
	09/09/08	< 6	< 6	< 17	< 6	< 13	< 7	< 12	< 5	< 6	< 45	< 14
	09/23/08	< 7	< 7	< 15	< 6	< 15	< 7	< 13	< 6	< 7	< 47	< 11
	10/07/08	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 1	< 1	< 24	< 7
	10/20/08	< 2	< 3	< 8	< 3	< 5	< 3	< 5	< 2	< 3	< 47	< 12
	11/04/08	< 1	< 1	< 5	< 1	< 3	< 2	< 3	< 1	< 1	< 48	< 14
	12/02/08	< 4	< 5	< 12	< 5	< 11	< 5	< 8	< 4	< 5	< 29	< 10
	MEAN	-	-	-	-	-	-	-	-	-	-	-
BY-30 (1)	01/08/08	< 6	< 6	< 16	< 9	< 16	< 6	< 11	< 6	< 6	< 27	< 6
	MEAN	-	-	-	-	-	-	-	-	-	-	-

(1) SEE PROGRAM CHANGES SECTION FOR EXPLANATION

TABLE C-VII.2 CONCENTRATIONS OF GAMMA EMITTERS IN MILK SAMPLES COLLECTED IN THE VICINITY OF BYRON NUCLEAR GENERATING STATION, 2008

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
BY-30-1	04/01/08	< 6	< 7	< 16	< 7	< 17	< 7	< 11	< 6	< 6	< 35	< 12
(1)	05/06/08	< 6	< 6	< 14	< 6	< 12	< 6	< 9	< 5	< 5	< 34	< 9
	05/20/08	< 6	< 7	< 14	< 5	< 15	< 7	< 13	< 6	< 7	< 47	< 15
	06/03/08	< 5	< 5	< 12	< 6	< 12	< 6	< 9	< 5	< 5	< 30	< 10
	06/17/08	< 6	< 6	< 12	< 6	< 15	< 7	< 12	< 6	< 7	< 48	< 12
	07/01/08	< 6	< 7	< 16	< 7	< 15	< 6	< 10	< 4	< 5	< 40	< 13
	07/15/08	< 6	< 7	< 15	< 5	< 15	< 7	< 12	< 5	< 6	< 46	< 13
	07/28/08	< 5	< 6	< 15	< 6	< 11	< 5	< 11	< 5	< 5	< 38	< 12
	08/12/08	< 8	< 7	< 17	< 8	< 17	< 7	< 14	< 7	< 8	< 49	< 14
	08/26/08	< 7	< 8	< 21	< 6	< 16	< 7	< 13	< 6	< 7	< 58	< 14
	09/09/08	< 6	< 6	< 16	< 7	< 12	< 6	< 11	< 5	< 5	< 44	< 14
	09/23/08	< 5	< 6	< 18	< 6	< 15	< 6	< 12	< 5	< 6	< 44	< 14
	10/07/08	< 1	< 2	< 5	< 2	< 4	< 2	< 3	< 1	< 2	< 28	< 8
	10/20/08	< 2	< 3	< 6	< 2	< 5	< 3	< 5	< 2	< 2	< 40	< 10
	11/04/08	< 1	< 1	< 4	< 1	< 2	< 1	< 2	< 1	< 1	< 46	< 13
	12/02/08	< 4	< 5	< 11	< 4	< 10	< 5	< 9	< 4	< 5	< 26	< 8
	MEAN	-	-	-	-	-	-	-	-	-	-	-

(1) SEE PROGRAM CHANGES SECTION FOR EXPLANATION

TABLE C-VIII.1 **CONCENTRATIONS OF GAMMA EMITTERS IN VEGETATION SAMPLES COLLECTED IN THE VICINITY OF BYRON NUCLEAR GENERATING STATION, 2008**

RESULTS IN UNITS OF PCI/KG WET ± 2 SIGMA

STC	COLLECTION PERIOD	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	I-131	Cs-134	Cs-137	Ba-140	La-140
BY-CONTROL													
Cabbage	08/27/08	< 3	< 3	< 8	< 3	< 6	< 3	< 6	< 24	< 2	< 3	< 38	< 9
Corn	08/27/08	< 4	< 5	< 13	< 4	< 12	< 6	< 11	< 47	< 5	< 5	< 71	< 18
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
BY-QUAD 1													
Cabbage	08/27/08	< 2	< 3	< 8	< 3	< 6	< 3	< 5	< 24	< 2	< 3	< 38	< 11
Potatoes	08/27/08	< 4	< 4	< 11	< 4	< 9	< 5	< 8	< 33	< 3	< 4	< 46	< 12
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
BY-QUAD 2													
Onions	08/27/08	< 6	< 6	< 14	< 5	< 12	< 7	< 11	< 54	< 5	< 6	< 81	< 24
Swiss Chard	08/27/08	< 10	< 12	< 30	< 9	< 21	< 13	< 23	< 48	< 9	< 10	< 142	< 43
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
BY-QUAD 3													
Corn leaves	09/09/08 (1)	< 10	< 12	< 22	< 10	< 24	< 15	< 19	< 57	< 11	< 11	< 104	< 34
Corn leaves	09/09/08	< 10	< 12	< 25	< 11	< 23	< 11	< 20	< 55	< 10	< 12	< 98	< 30
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-
BY-QUAD 4													
Lettuce & Beet top c	08/27/08	< 13	< 13	< 33	< 13	< 28	< 15	< 23	< 45	< 11	< 13	< 171	< 43
Rutabagas	08/27/08	< 5	< 7	< 15	< 5	< 12	< 7	< 12	< 58	< 5	< 5	< 75	< 22
	MEAN	-	-	-	-	-	-	-	-	-	-	-	-

(1) SEE PROGRAM EXCEPTIONS SECTION FOR EXPLANATION

TABLE C-IX.1 QUARTERLY TLD RESULTS FOR BYRON NUCLEAR GENERATING STATION, 200

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

STATION CODE	MEAN ± 2 S.D.	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC
BY-01-1	19.8 ± 3.8	21	17	21	20
BY-01-2	19.5 ± 5.3	22	16	19	21
BY-04-1	22.8 ± 4.4	22	20	25	24
BY-04-2	22.5 ± 4.2	22	20	23	25
BY-06-1	19.0 ± 4.3	20	16	19	21
BY-06-2	19.3 ± 4.7	19	16	21	21
BY-08-1	19.5 ± 3.5	20	17	20	21
BY-08-2	19.3 ± 3.4	20	17	19	21
BY-21-1	19.8 ± 3.8	20	17	21	21
BY-21-2	19.8 ± 3.8	20	17	21	21
BY-22-1	24.8 ± 4.4	24	22	26	27
BY-22-2	24.8 ± 6.2	23	22	25	29
BY-23-1	23.3 ± 5.7	24	19	25	25
BY-23-2	23.3 ± 4.4	24	20	24	25
BY-24-1	22.0 ± 4.9	22	19	22	25
BY-24-2	23.0 ± 6.7	27	19	22	24
BY-101-1	19.8 ± 5.3	21	16	20	22
BY-101-2	19.0 ± 4.3	21	16	20	19
BY-102-1	23.8 ± 2.5	24	22	24	25
BY-102-2	23.5 ± 3.5	24	21	24	25
BY-103-1	23.3 ± 4.4	25	20	24	24
BY-103-2	23.8 ± 1.9	23	23	24	25
BY-103-3	22.0 ± 7.2	(1)	18	23	25
BY-104-1	24.5 ± 3.5	25	22	25	26
BY-104-2	24.8 ± 1.9	24	24	25	26
BY-104-3	23.0 ± 8.7	(1)	18	25	26
BY-105-1	26.7 ± 5.0	24	(2)	27	29
BY-105-2	25.0 ± 4.3	25	22	27	26
BY-106-1	24.0 ± 4.0	25	21	25	25
BY-106-2	23.3 ± 5.0	23	20	24	26
BY-107-1	25.5 ± 5.8	25	22	29	26
BY-107-2	26.0 ± 5.9	29	22	27	26
BY-107-3	22.0 ± 2.0	(1)	21	23	22
BY-108-1	24.5 ± 4.8	25	21	26	26
BY-108-2	23.0 ± 4.3	25	20	24	23
BY-109-1	22.8 ± 5.3	23	19	24	25
BY-109-2	23.0 ± 4.3	23	20	24	25
BY-110-1	21.5 ± 4.8	23	18	22	23
BY-110-2	22.5 ± 4.8	23	19	24	24
BY-111-3	24.0 ± 2.8	24	22	25	25
BY-111-4	23.3 ± 4.4	24	20	25	24
BY-112-3	22.8 ± 3.8	23	20	24	24
BY-112-4	23.5 ± 1.2	24	23	23	24
BY-113-1	22.8 ± 4.1	23	20	23	25
BY-113-2	21.0 ± 5.4	22	17	23	22
BY-114-1	21.3 ± 7.5	20	17	22	26
BY-114-2	23.0 ± 4.3	23	20	25	24

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

TABLE C-IX.1 QUARTERLY TLD RESULTS FOR BYRON NUCLEAR GENERATING STATION, 200

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

STATION CODE	MEAN ± 2 S.D.	JAN - MAR	APR - JUN	JUL - SEP	OCT - DEC
BY-115-1	24.0 ± 5.7	22	22	28	24
BY-115-2	20.5 ± 4.8	19	18	22	23
BY-116-1	20.5 ± 3.5	21	18	21	22
BY-116-2	21.5 ± 6.0	20	18	24	24
BY-116-3	21.3 ± 7.6	(1)	17	23	24
BY-201-3	22.3 ± 4.4	23	19	23	24
BY-201-4	23.0 ± 5.4	24	19	25	24
BY-202-1	20.8 ± 5.3	21	17	22	23
BY-202-2	23.8 ± 5.3	26	20	24	25
BY-203-1	19.0 ± 4.0	20	16	20	20
BY-203-2	22.0 ± 3.7	21	20	23	24
BY-204-1	22.0 ± 7.5	21	18	27	22
BY-204-2	24.8 ± 1.9	24	24	25	26
BY-205-1	24.5 ± 4.2	24	22	27	25
BY-205-2	21.8 ± 5.3	22	18	23	24
BY-206-1	24.0 ± 4.3	24	21	25	26
BY-206-2	24.0 ± 5.4	26	20	25	25
BY-207-1	25.8 ± 6.4	28	21	27	27
BY-207-2	23.3 ± 3.4	24	21	25	23
BY-208-1	25.0 ± 2.8	25	23	26	26
BY-208-2	25.3 ± 1.9	26	24	25	26
BY-209-1	24.0 ± 2.8	23	23	26	24
BY-209-4	24.0 ± 4.3	24	21	26	25
BY-210-3	23.0 ± 4.9	22	20	25	25
BY-210-4	22.5 ± 6.8	22	18	26	24
BY-211-1	23.3 ± 3.4	23	21	24	25
BY-211-4	22.3 ± 6.6	26	19	20	24
BY-212-1	24.8 ± 3.0	24	23	26	26
BY-212-4	24.3 ± 4.7	26	(2)	24	26
BY-213-1	23.8 ± 5.0	25	20	25	25
BY-213-4	26.0 ± 9.1	29	20	30	25
BY-214-1	23.5 ± 5.3	26	20	25	23
BY-214-4	23.5 ± 5.0	26	20	24	24
BY-215-1	24.8 ± 6.4	27	20	26	26
BY-215-4	25.5 ± 6.2	27	21	26	28
BY-216-1	25.3 ± 4.7	27	22	25	27
BY-216-2	23.0 ± 5.2	22	20	24	26
BY-301-1	19.3 ± 4.4	20	16	20	21
BY-302-1	23.3 ± 6.2	26	19	25	23
BY-314-1	20.3 ± 4.4	21	17	21	22

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

TABLE C-IX.2 MEAN QUARTLY TLD RESULTS FOR THE INNER RING, OUTER RING, SPECIAL INTEREST, OTHER AND CONTROL LOCATIONS FOR BYRON NUCLEAR GENERATING STATION, 2008

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

COLLECTION PERIOD	INNER RING ± 2 S.D.	OUTER RING	SPECIAL INTEREST	OTHER	CONTROL
JAN-MAR	23.3 ± 3.9	24.3 ± 4.5	22.3 ± 6.4	22.1 ± 4.3	20.0 ± 0.0
APR-JUN	19.9 ± 4.2	20.4 ± 3.8	17.3 ± 3.1	18.6 ± 4.2	17.0 ± 0.0
JUL-SEP	24.1 ± 4.0	24.8 ± 3.9	22.0 ± 5.3	22.4 ± 4.6	19.5 ± 1.4
OCT-DEC	24.4 ± 3.5	24.8 ± 3.2	22.0 ± 2.0	23.5 ± 5.4	21.0 ± 0.0

TABLE C-IX.3 SUMMARY OF THE AMBIENT DOSIMETRY PROGRAM FOR BYRON NUCLEAR GENERATING STATION, 2008

RESULTS IN UNITS OF MILLI-ROENTGEN/QUARTER

LOCATION	SAMPLES ANALYZED	PERIOD MINIMUM	PERIOD MAXIMUM	PERIOD MEAN ± 2 S.D.
INNER RING	139	16	29	22.9 ± 5.3
OUTER RING	127	16	30	23.6 ± 5.3
SPECIAL INTEREST	12	16	26	20.9 ± 5.8
OTHER	56	16	29	21.7 ± 5.9
CONTROL	8	17	21	19.4 ± 3.2

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

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

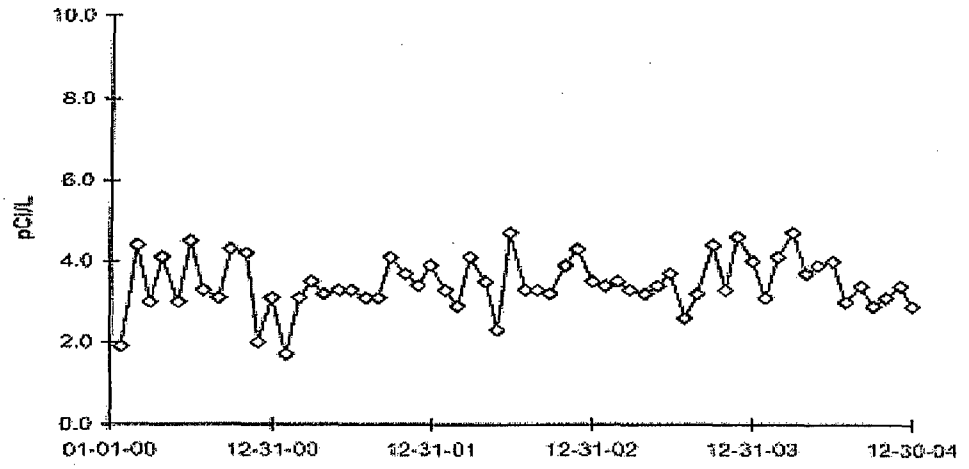
SPECIAL INTEREST STATIONS - BY-301-1, BY-302-1, BY-314-1,

OTHER STATIONS - BY-01-1, BY-01-2, BY-04-1, BY-04-2, BY-06-1, BY-06-2, BY-21-1, BY-21-2, BY-22-1, BY-22-2, BY-23-1, BY-23-2, BY-24-1, BY-24-2

CONTROL STATIONS - BY-08-1, BY-08-2

FIGURE C-1
Surface Water - Gross Beta - Station BY-12 and BY-29 (C) Collected in the Vicinity of BNGS, 2000 - 2004

BY-12 Oregon Pool of Rock River, Downstream



BY-29 (C) Byron, Upstream

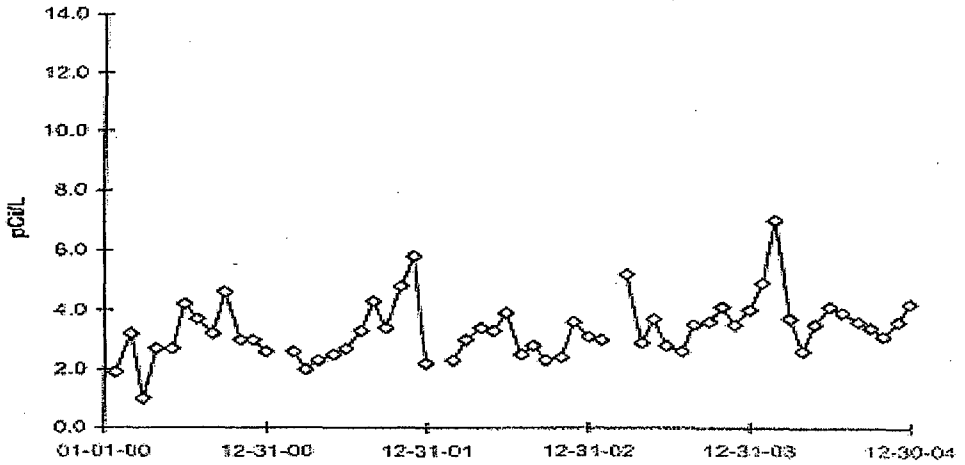
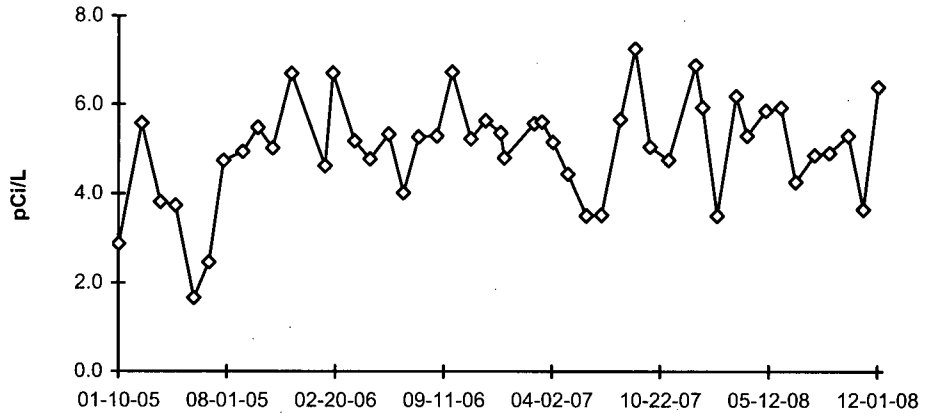
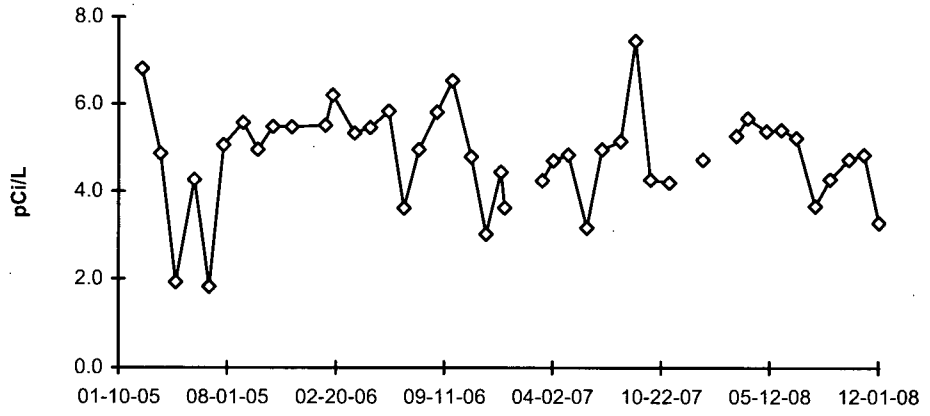


FIGURE C-1 (cont.)
Surface Water - Gross Beta - Station BY-12 and BY-29 (C)
Collected in the Vicinity of BNGS, 2005 - 2008

BY-12 Oregon Pool of Rock River, Downstream



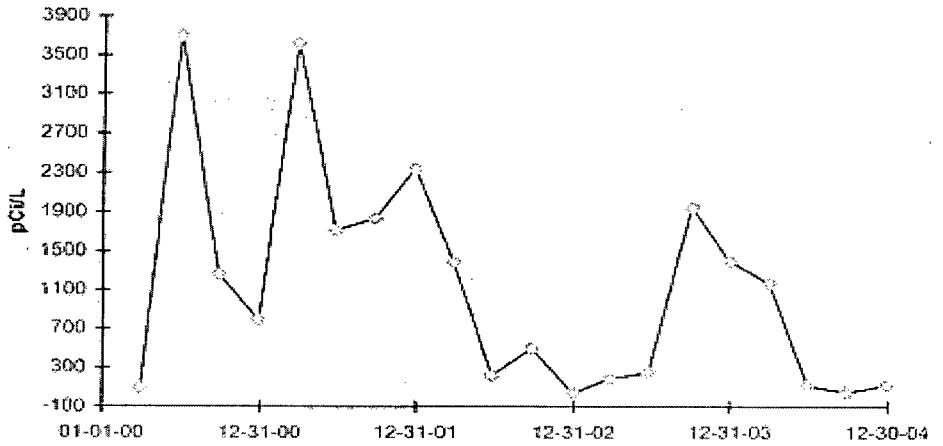
BY-29 (C) Byron, Upstream



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

FIGURE C-2
Surface Water - Tritium - Stations BY-12 and BY-29 (C) Collected in the Vicinity of BNGS, 2000 - 2004

BY-12 Oregon Pool of Rock River, Downstream



BY-29(C) Byron, Upstream

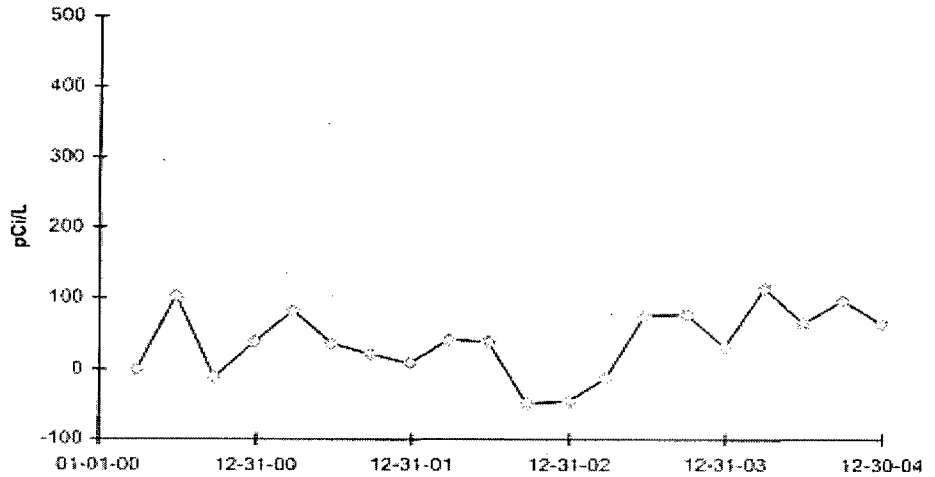
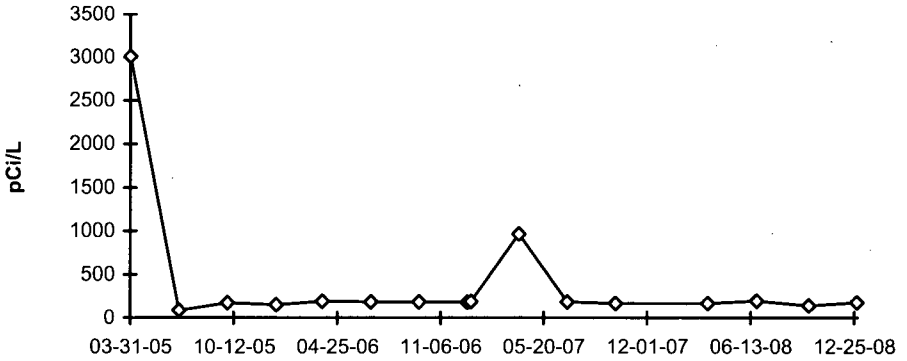
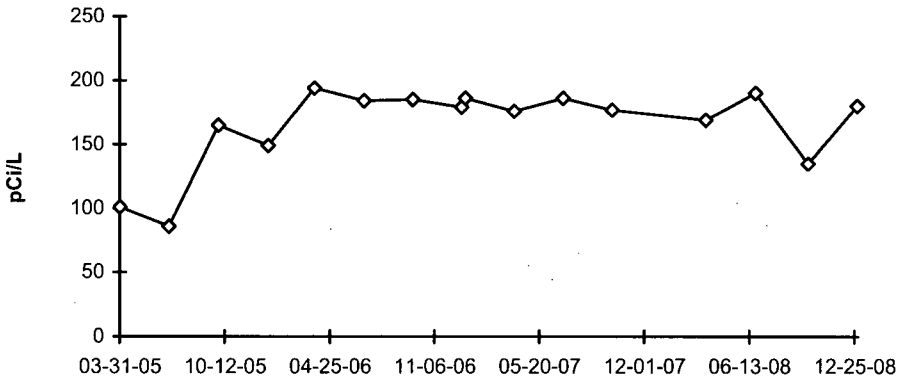


FIGURE C-2 (cont.)
Surface Water - Tritium - Stations BY-12 and BY-29 (C)
Collected in the Vicinity of BNGS, 2005 - 2008

BY-12 Oregon Pool of Rock River, Downstream



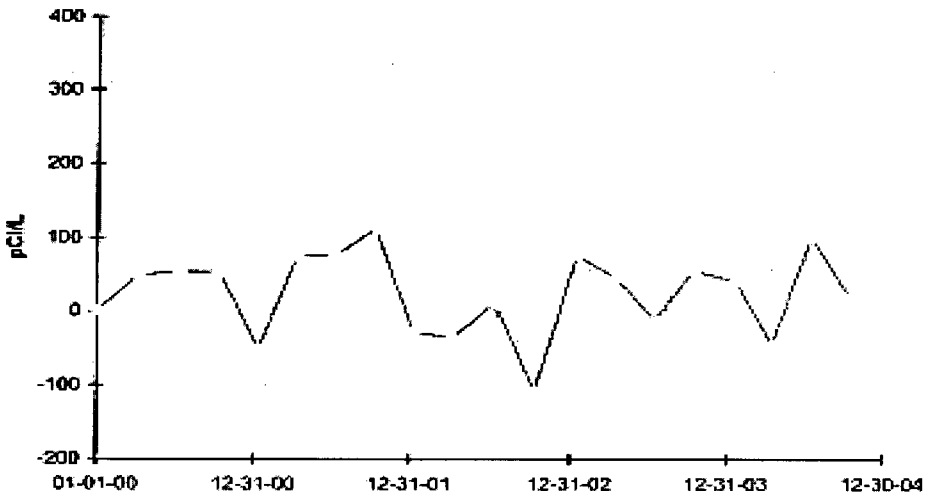
BY-29 (C) Byron, Upstream



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

FIGURE C-3
Ground Water - Tritium - Stations BY-14-1 and BY-18 Collected in the Vicinity of BNGS, 2000 - 2004

BY-14-1 3200 N. German Church Road



BY-18 McCoy Farmstead Well

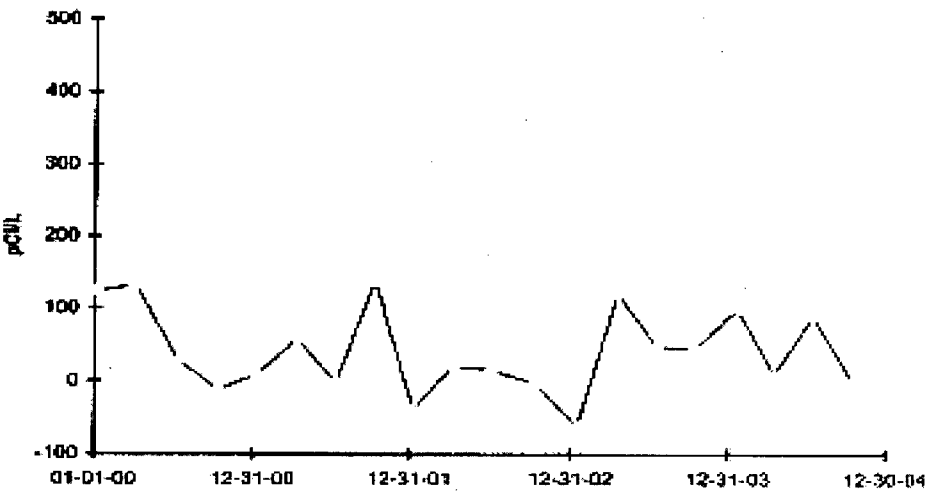
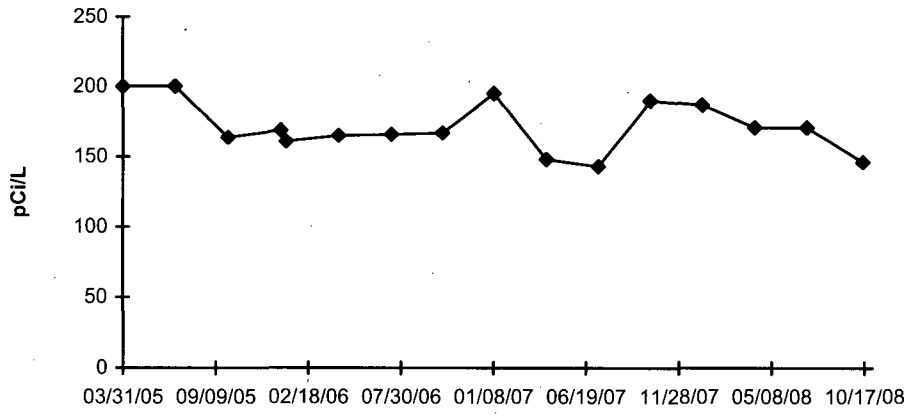
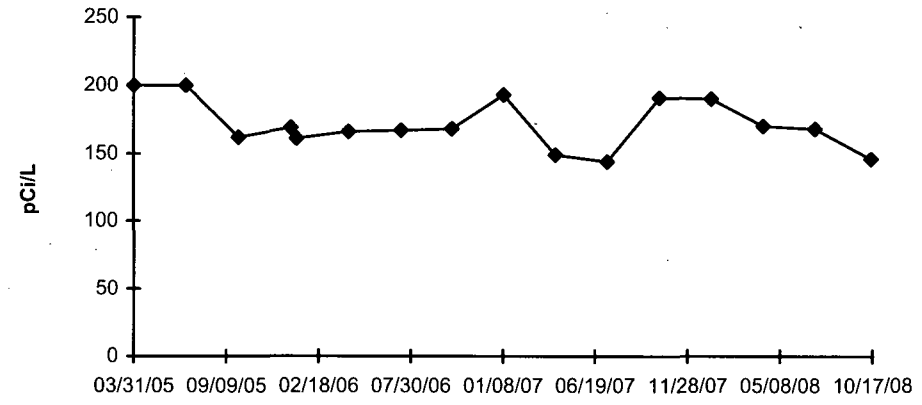


FIGURE C-3 (cont.)
Ground Water - Tritium - Stations BY-14-1 and BY-18 Collected in the Vicinity of BNGS, 2005 - 2008

BY-14-1 3200 N. German Church Road



BY-18 McCoy Farmstead Well



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

FIGURE C-4
Ground Water - Tritium - Station BY-32
Collected in the Vicinity of BNGS, 2000 - 2004
BY-32 Wolford Well

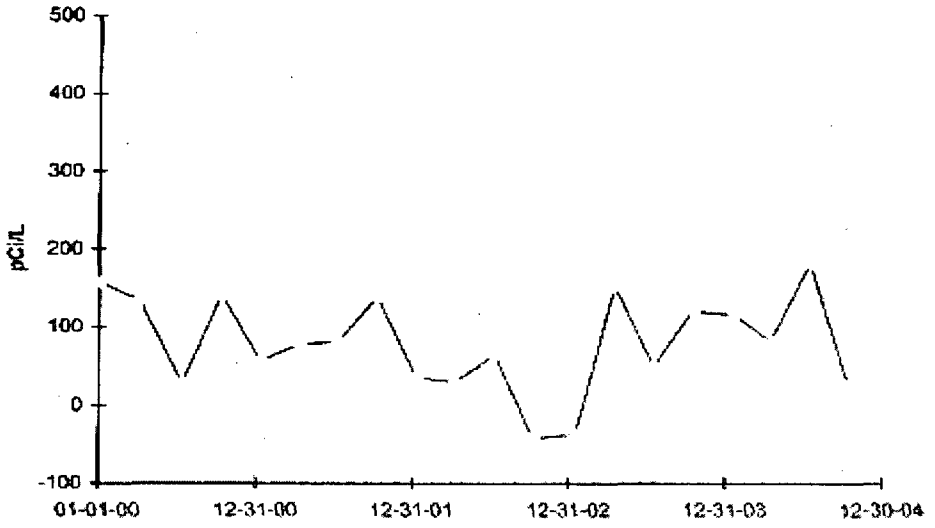
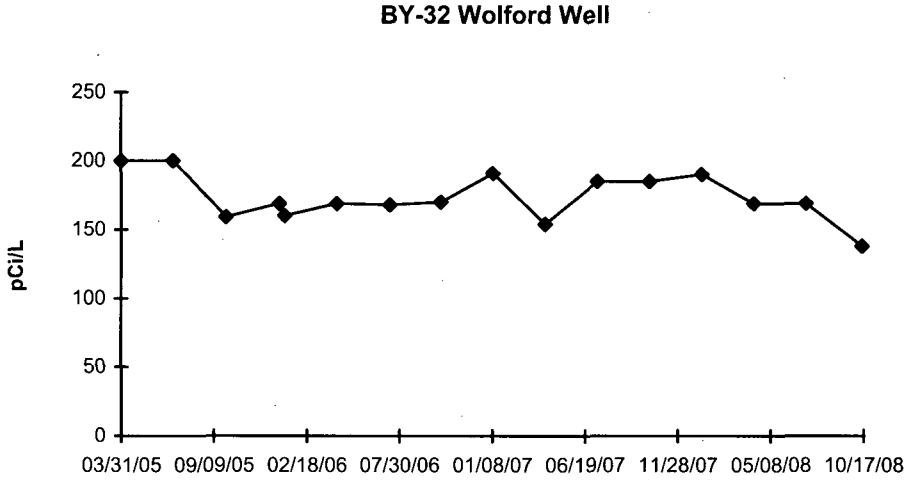
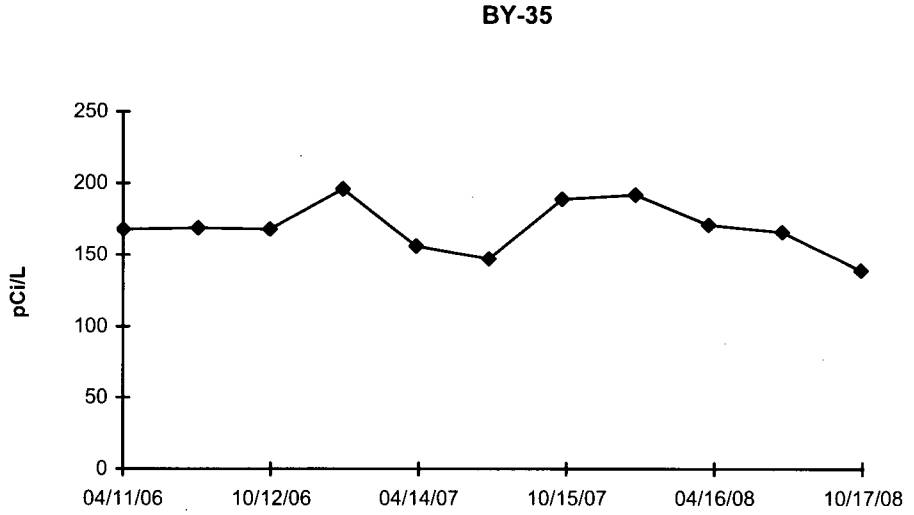


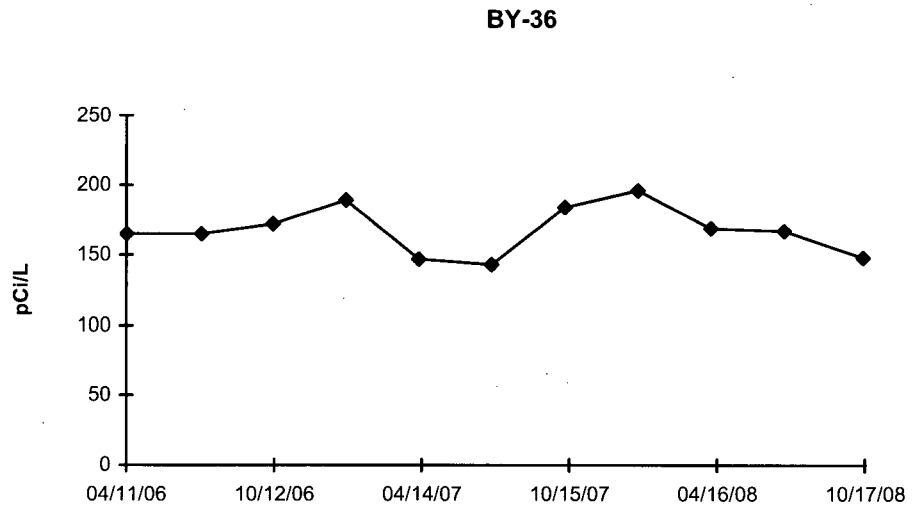
FIGURE C-4 (cont.)
Ground Water - Tritium - Station BY-32
Collected in the Vicinity of BNGS, 2005 - 2008



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

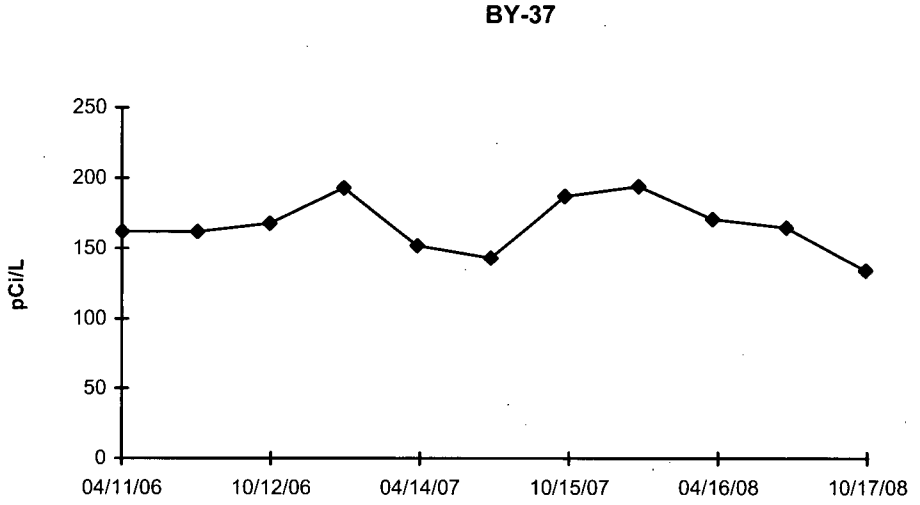
FIGURE C-5
Ground Water - Tritium - Stations BY-35 and BY-36 Collected in the Vicinity of BNGS, 2006-2008





NEW STATIONS IN 2006

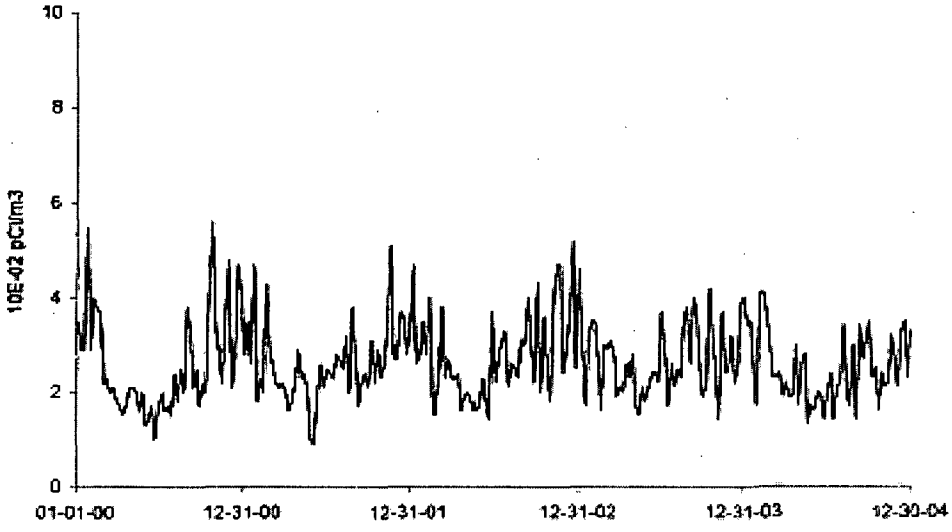
FIGURE C-6
Ground Water - Tritium - Stations BY-37
Collected in the Vicinity of BNGS, 2006-2008



NEW STATION IN 2006

FIGURE C-7
Air Particulates - Gross Beta - Stations BY-08 (C) and BY-21 Collected in the Vicinity of BNGS, 2000 - 2004

BY-08 (C) Leaf River



BY-21 Byron Nearsite N

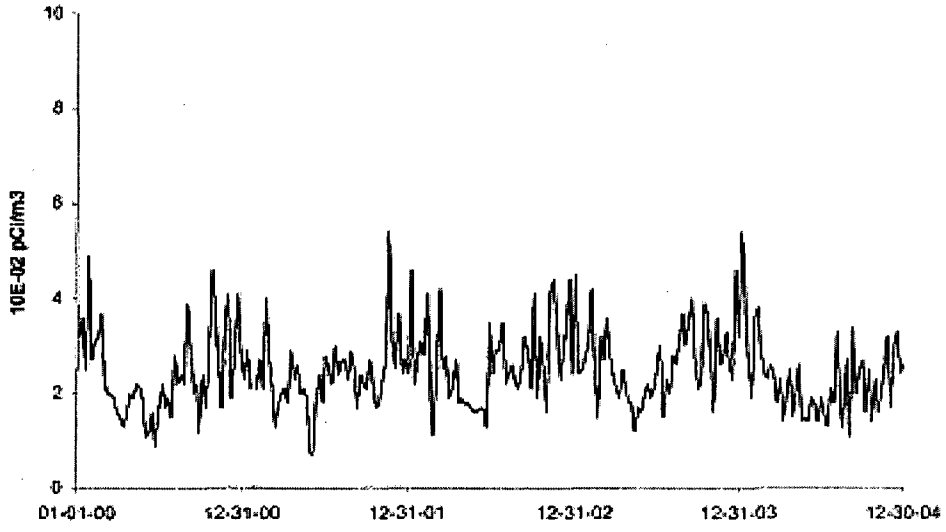
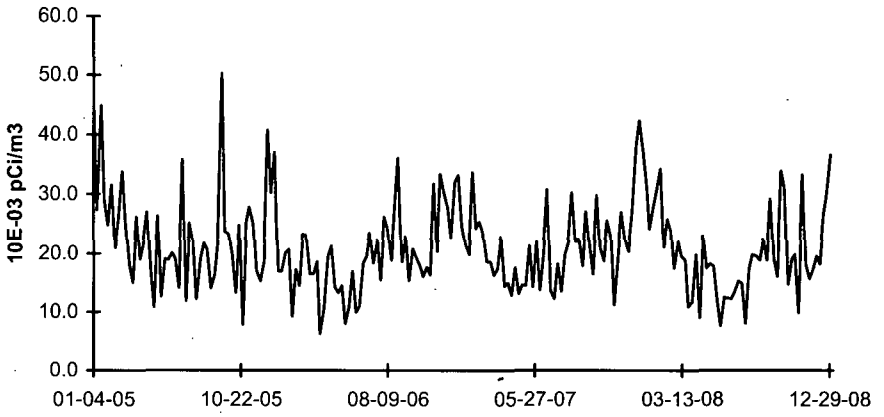
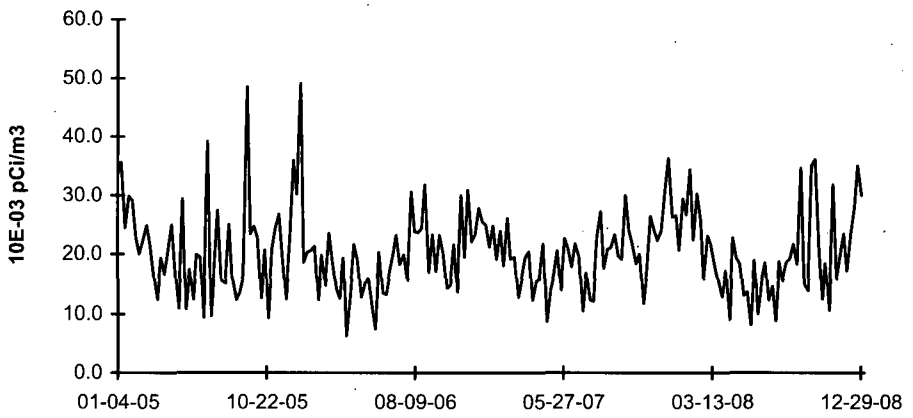


FIGURE C-7 (cont.)
Air Particulates - Gross Beta - Stations BY-08 (C) and BY-21 Collected in the Vicinity of BNGS, 2005 - 2008

BY-08 (C) Leaf River



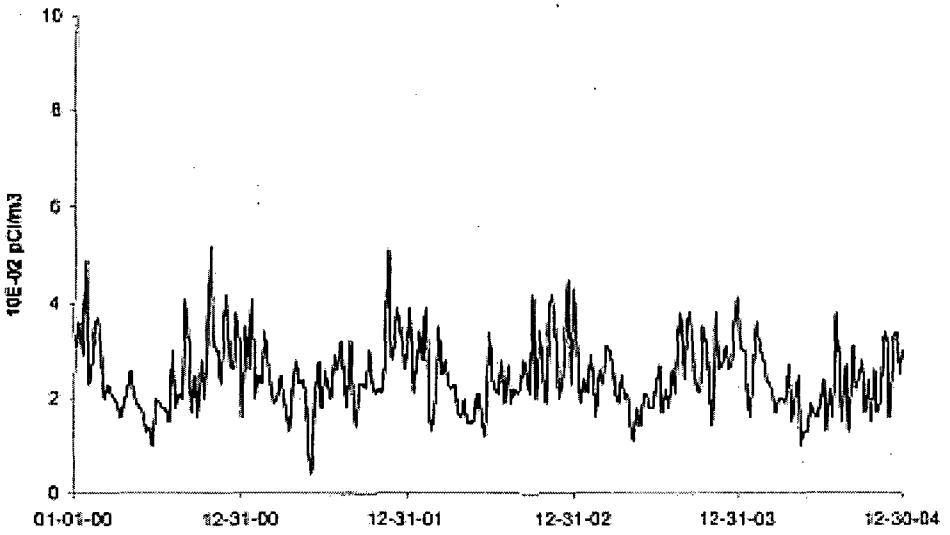
BY-21 Byron Nearsite N



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

FIGURE C-8
Air Particulates - Gross Beta - Stations BY-22 and BY-23 Collected in the Vicinity of BNGS, 2000 - 2004

BY-22 Byron Nearsite ESE



BY-23 Byron Nearsite S

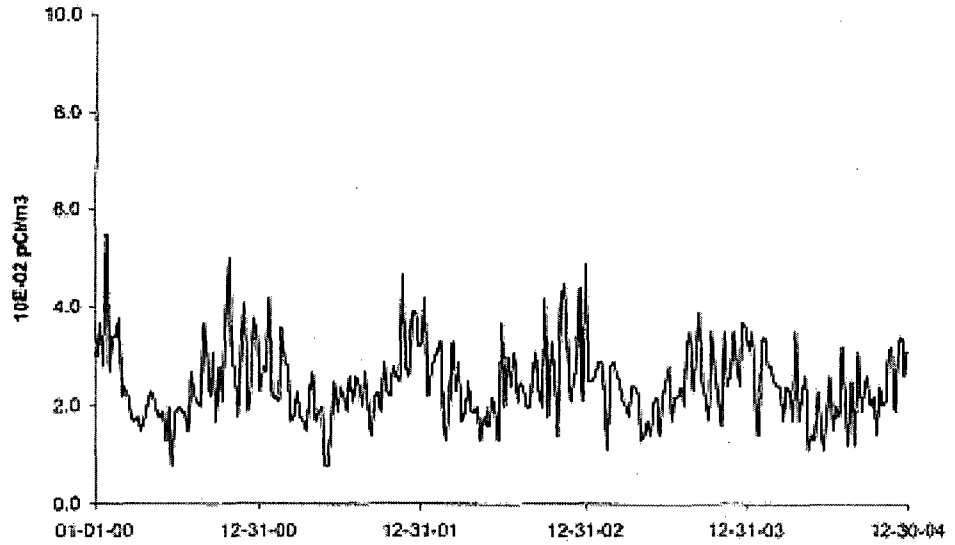
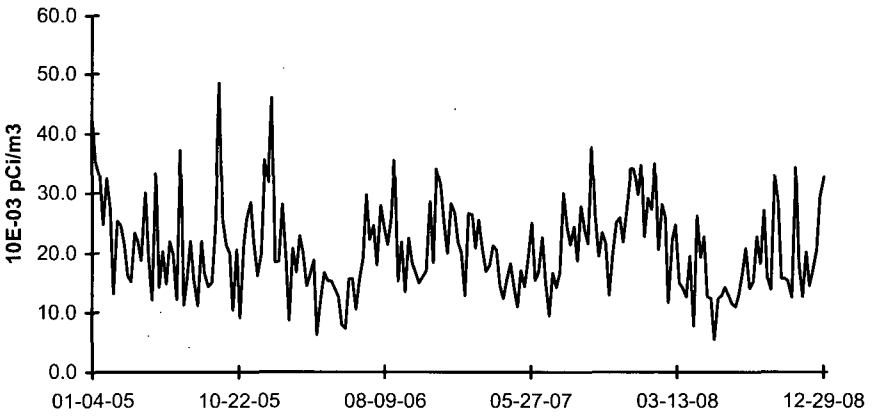
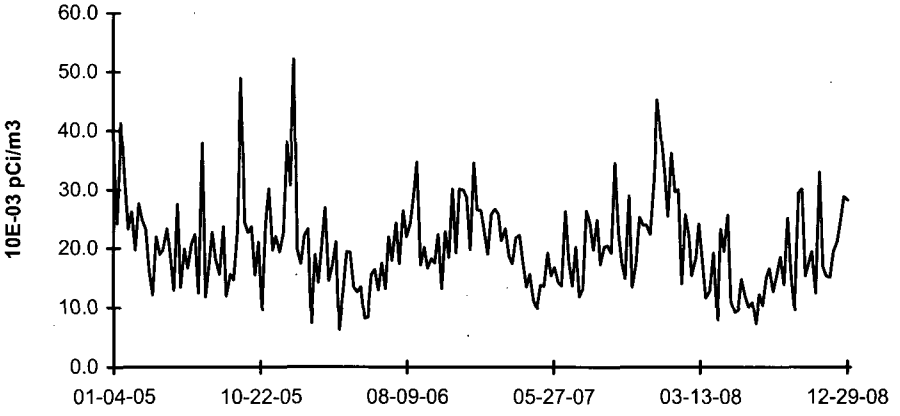


FIGURE C-8 (cont.)
Air Particulates - Gross Beta - Stations BY-22 and BY-23 Collected in the Vicinity of BNGS, 2005 - 2008

BY-22 Byron Nearsite ESE



BY-23 Byron Nearsite S



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

FIGURE C-9
Air Particulates - Gross Beta - Station BY-24
Collected in the Vicinity of BNGS, 2000 - 2004
BY-24 Byron Nearsite SW

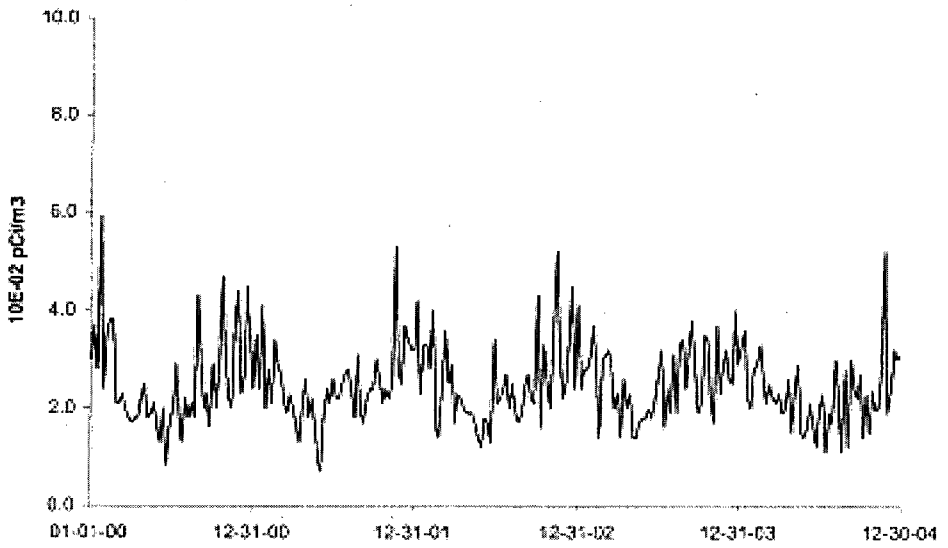
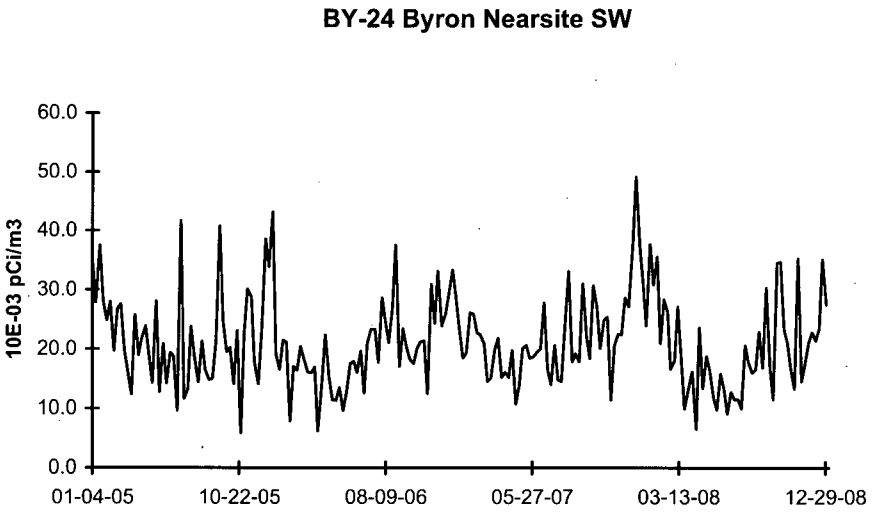


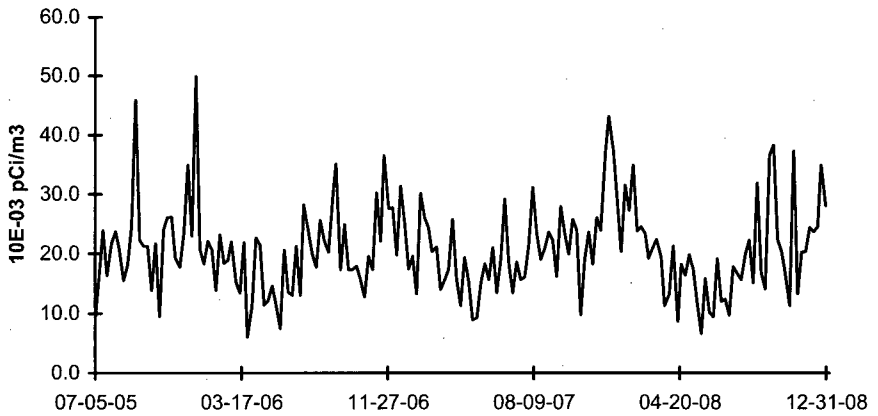
FIGURE C-9 (cont.)
Air Particulates - Gross Beta - Station BY-24
Collected in the Vicinity of BNGS, 2005 - 2008



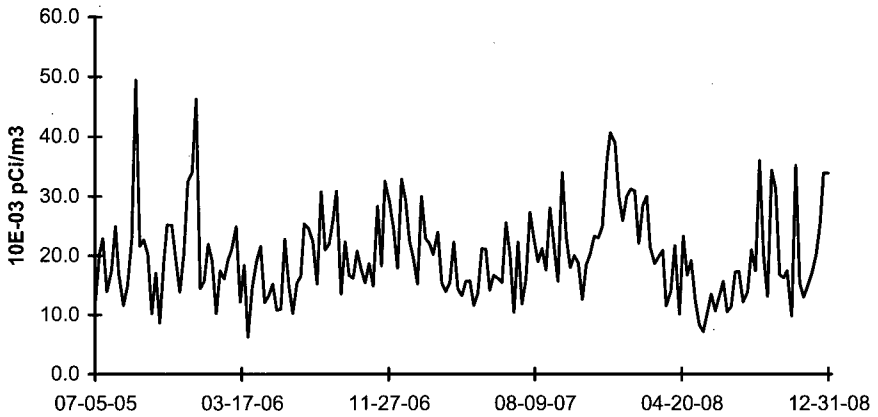
DUE TO VENDOR CHANGE IN 2005, THE REPORTED UNITS CHANGED FROM E-02 PCI/M3 TO E-03 PCI/M3

FIGURE C-10
Air Particulates - Gross Beta - Stations BY-01 and BY-04 Collected in the Vicinity of BNGS, 2005 - 2008

BY-01

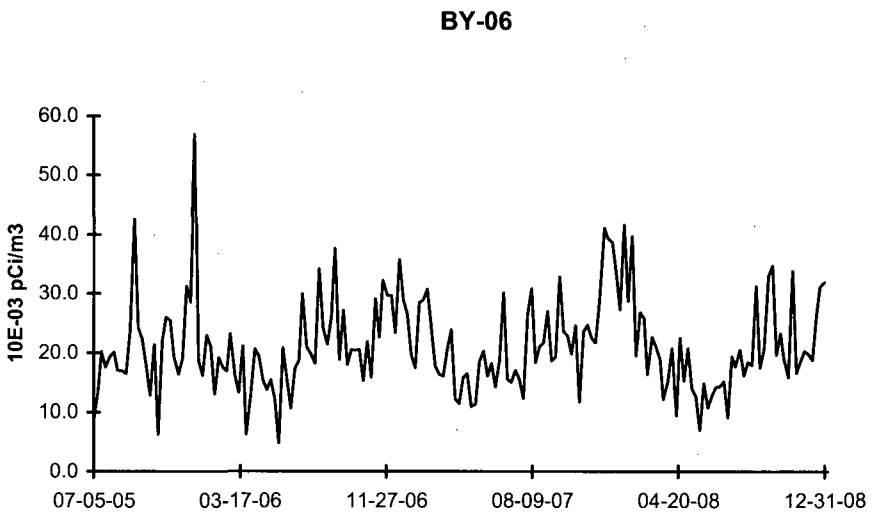


BY-04



AIR PARTICULATE GROSS BETA ANALYSES OF FAR FIELD LOCATIONS STARTED IN JULY 2005

FIGURE C-11
Air Particulates - Gross Beta - Station BY-06
Collected in the Vicinity of BNGS, 2005 - 2008



AIR PARTICULATE GROSS BETA ANALYSES OF FAR FIELD LOCATIONS STARTED IN JULY 2005

APPENDIX D

INTER-LABORATORY COMPARISON PROGRAM

TABLE D-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING, 2008
(PAGE 1 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
March 2008	E5847-396	Milk	Sr-89	pCi/L	83.5	95.8	0.87	A
			Sr-90	pCi/L	13.9	12.9	1.08	A
	E5848-396	Milk	I-131	pCi/L	57.3	60.0	0.96	A
			Ce-141	pCi/L	229	249	0.92	A
			Cr-51	pCi/L	336	359	0.94	A
			Cs-134	pCi/L	106	125	0.85	A
			Cs-137	pCi/L	141	146	0.97	A
			Co-58	pCi/L	71.8	70.8	1.01	A
			Mn-54	pCi/L	98.1	94.2	1.04	A
			Fe-59	pCi/L	102	102	1.00	A
			Zn-65	pCi/L	135	137	0.99	A
			Co-60	pCi/L	230	236	0.97	A
	E5850A-396	AP	Ce-141	pCi	163	157	1.04	A
			Cr-51	pCi	233	227	1.03	A
			Cs-134	pCi	72.6	79.0	0.92	A
			Cs-137	pCi	98.3	92.0	1.07	A
			Co-58	pCi	46.7	44.7	1.04	A
			Mn-54	pCi	69.8	59.4	1.18	A
			Fe-59	pCi	72.2	64.5	1.12	A
			Zn-65	pCi	106	86.4	1.23	W
			Co-60	pCi	156	149	1.05	A
	E5849-396	Charcoal	I-131	pCi	65.5	60.1	1.09	A
June 2008	E5971-396	Milk	Sr-89	pCi/L	83.9	85.0	0.99	A
			Sr-90	pCi/L	14.4	15.8	0.91	A
	E5972-396	Milk	I-131	pCi/L	70.9	71.4	0.99	A
			Ce-141	pCi/L	157	174	0.90	A
			Cr-51	pCi/L	159	138	1.15	A
			Cs-134	pCi/L	69.7	76.7	0.91	A
			Cs-137	pCi/L	115	116	0.99	A
			Co-58	pCi/L	59.1	61.9	0.95	A
			Mn-54	pCi/L	139	135	1.03	A
			Fe-59	pCi/L	98.4	91.7	1.07	A
			Zn-65	pCi/L	129	127	1.02	A
			Co-60	pCi/L	101	104	0.97	A
	E5974-396	AP	Ce-141	pCi	206	207	1.00	A
			Cr-51	pCi	173	164	1.05	A
			Cs-134	pCi	95.9	91.0	1.05	A
			Cs-137	pCi	142.0	138.0	1.03	A
			Co-58	pCi	72.0	73.4	0.98	A
			Mn-54	pCi	180	160.0	1.13	A
			Fe-59	pCi	108.0	109.0	0.99	A
			Zn-65	pCi	159	150	1.06	A
			Co-60	pCi	129	124	1.04	A

TABLE D-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING, 2008
(PAGE 2 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
June 2008	E5973-396	Charcoal	I-131	pCi	73.8	84.1	0.88	A
September 2008	E6284-396	Milk	Sr-89	pCi/L	76.2	73.9	1.03	A
			Sr-90	pCi/L	12.3	11.0	1.12	A
	E6285-396	Milk	I-131	pCi/L	65.7	67.9	0.97	A
			Ce-141	pCi/L	145	161	0.90	A
			Cr-51	pCi/L	406	421	0.96	A
			Cs-134	pCi/L	196	232	0.84	A
			Cs-137	pCi/L	147	162	0.91	A
			Co-58	pCi/L	167	179	0.93	A
			Mn-54	pCi/L	165	166	0.99	A
			Fe-59	pCi/L	161	144	1.12	A
			Zn-65	pCi/L	305	319	0.96	A
			Co-60	pCi/L	218	234	0.93	A
	E6287-396	AP	Ce-141	pCi	79.5	76.3	1.04	A
			Cr-51	pCi	208	199	1.05	A
			Cs-134	pCi	106	110	0.96	A
			Cs-137	pCi	79.3	76.7	1.03	A
			Co-58	pCi	87.7	84.4	1.04	A
			Mn-54	pCi	90.3	78.6	1.15	A
			Fe-59	pCi	81.7	68.3	1.20	A
			Zn-65	pCi	144	151	0.95	A
			Co-60	pCi	111	111	1.00	A
	E6286-396	Charcoal	I-131	pCi	93.2	90.0	1.04	A
December 2008	E6415-396	Milk	Sr-89	pCi/L	98.4	91.9	1.07	A
			Sr-90	pCi/L	18.0	12.6	1.43	N (1)
	E6416-396	Milk	I-131	pCi/L	69.2	79.9	0.87	A
			Ce-141	pCi/L	177	191	0.93	A
			Cr-51	pCi/L	231	246	0.94	A
			Cs-134	pCi/L	117	134	0.87	A
			Cs-137	pCi/L	119	120	0.99	A
			Co-58	pCi/L	104	104	1.00	A
			Mn-54	pCi/L	153	152	1.01	A
			Fe-59	pCi/L	99.6	100	1.00	A
			Zn-65	pCi/L	177	183	0.97	A
			Co-60	pCi/L	133	133	1.00	A
	E6418-396	AP	Ce-141	pCi	148	146	1.01	A
			Cr-51	pCi	202	187	1.08	A
			Cs-134	pCi	103	102	1.01	A
			Cs-137	pCi	95.4	91.2	1.05	A
			Co-58	pCi	81.4	79.2	1.03	A
			Mn-54	pCi	113	116.0	0.97	A
			Fe-59	pCi	76.5	76.4	1.00	A
			Zn-65	pCi	122	139	0.88	A
			Co-60	pCi	108	101	1.07	A

TABLE D-1 ANALYTICS ENVIRONMENTAL RADIOACTIVITY CROSS CHECK PROGRAM
TELEDYNE BROWN ENGINEERING, 2008
(PAGE 3 OF 3)

Month/Year	Identification Number	Matrix	Nuclide	Units	Reported Value (a)	Known Value (b)	Ratio (c) TBE/Analytics	Evaluation (d)
December 2008	E6417-396	Charcoal	I-131	pCi	65.8	74.1	0.89	A

(1) NCR 09-02 initiated to investigate the failure.

(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, 2008
(PAGE 1 OF 1)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Control Limits	Evaluation (c)
January 2008	Quik^{tm} Response	Water	Sr-89	pCi/L	37.33	19.0	11.8 - 25.2	N (1)
			Sr-90	pCi/L	40.40	42.7	31.5 - 49.0	A
			Ba-133	pCi/L	87.8	90.5	76.2 - 99.6	A
			Cs-134	pCi/L	80.67	88.9	72.9 - 97.8	A
			Cs-137	pCi/L	222.33	231	208 - 256	A
			Co-60	pCi/L	98.9	101.0	90.9 - 113	A
			Zn-65	pCi/L	352	350	315 - 408	A
			Gr-A	pCi/L	13.0	12.7	6.02 - 18.7	A
			Gr-B	pCi/L	32.7	36.2	23.8 - 43.8	A
			H-3	pCi/L	11100	11300	9840 - 12400	A
January 2008	RAD 72	Water	Sr-89	pCi/L	69.0	65.3	53.0 - 73.4	A
			Sr-90	pCi/L	35.6	41.4	30.5 - 47.6	A
			Ba-133	pCi/L	25.9	25.7	20.0 - 29.5	A
			Cs-134	pCi/L	86.5	92.6	76.0 - 102	A
			Cs-137	pCi/L	155	158	142 - 176	A
			Co-60	pCi/L	16.0	14.4	11.4 - 18.7	A
			Zn-65	pCi/L	214	204	184 - 240	A
			Gr-A	pCi/L	13.3	14.8	7.15 - 21.2	A
			Gr-B	pCi/L	21.2	22.5	13.7 - 30.6	A
			I-131	pCi/L	22.8	23.6	19.6 - 28.0	A
			H-3	pCi/L	3390	3540	3000 - 3910	A
April 2008	Rad 73	Water	Sr-89	pCi/L	65.47	60.4	48.6 - 68.2	A
			Sr-90	pCi/L	39.80	39.2	28.8 - 45.1	A
			Ba-133	pCi/L	59.63	58.3	48.3 - 64.3	A
			Cs-134	pCi/L	45.00	46.6	37.4 - 51.3	A
			Cs-137	pCi/L	97.97	102	91.8 - 115	A
			Co-60	pCi/L	75.47	76.6	68.9 - 86.7	A
			Zn-65	pCi/L	109	106	95.4 - 126	A
			Gr-A	pCi/L	41.03	50.8	26.5 - 63.7	A
			Gr-B	pCi/L	50.20	51.4	35.0 - 58.4	A
			I-131	pCi/L	26.67	28.7	23.9 - 33.6	A
			H-3	pCi/L	11633	12000	10400 - 13200	A

(1) Could find no cause for Sr-89 failure. Sample sent to outside lab for verification, but the outside laboratory was unable to confirm our numbers or ERA numbers. Studies bracketing these results, RAD 71 and RAD 72, had acceptable Sr-89 results. NCR 08-03

(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, 2008
(PAGE 1 OF 2)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Acceptance Range	Evaluation (c)
January 2008	07-MaW18	Water	Cs-134	Bq/L	-0.26		(1)	A
			Cs-137	Bq/L	0.029		(1)	A
			Co-57	Bq/L	21	22.8	16.0 - 29.6	A
			Co-60	Bq/L	8.2	8.40	5.88 - 10.92	A
			H-3	Bq/L	473	472	330 - 614	A
			Mn-54	Bq/L	12	12.1	8.5 - 15.7	A
			Sr-90	Bq/L	10.70	11.4	7.98- 14.82	A
			Zn-65	Bq/L	15.6	16.3	11.4 - 21.2	A
	07-GrW18	Water	Gr-A	Bq/L	1.4	1.399	>0.0 - 2.798	A
			Gr-B	Bq/L	3.06	2.43	1.22 - 3.65	A
	07-MaS18	Soil	Cs-134	Bq/kg	790	854.0	598 - 1110	A
			Cs-137	Bq/kg	568	545	382 - 709	A
			Co-57	Bq/kg	424	421	295 - 547	A
			Co-60	Bq/kg	2.307	2.9	(2)	A
			Mn-54	Bq/kg	611	570	399 - 741	A
			K-40	Bq/kg	6.09	571	400 - 742	A
			Sr-90	Bq/kg	454	493.0	345 - 641	A
			Zn-65	Bq/kg	0.162		(1)	A
	07-RdF18	AP	Cs-134	Bq/sample	2.73	2.5200	1.76 - 3.28	A
			Cs-137	Bq/sample	2.88	2.7	1.89 - 3.51	A
			Co-57	Bq/sample	3.493	3.55	2.49 - 4.62	A
			Co-60	Bq/sample	1.357	1.31	0.92 - 1.70	A
			Mn-54	Bq/sample	0.006		(1)	A
			Sr-90	Bq/sample	1.61	1.548	1.084 - 2.012	A
			Zn-65	Bq/sample	2.59	2.04	1.43 - 2.65	A
	07-GrF18	AP	Gr-A	Bq/sample	0.131	0.348	>0.0 - 0.696	A
			Gr-B	Bq/sample	0.261	0.286	0.143 - 0.429	A
January 2008	07-RdV18	Vegetation	Cs-134	Bq/sample	5.25	6.28	4.40 - 8.16	A
			Cs-137	Bq/sample	3.13	3.41	2.39 - 4.43	A
			Co-57	Bq/sample	6.837	6.89	4.82 - 8.96	A
			Co-60	Bq/sample	2.44	2.77	1.94 - 3.60	A
			Mn-54	Bq/sample	4.45	4.74	3.32 - 6.16	A
			K-40	Bq/sample	61.3		(1)	
			Sr-90	Bq/sample	1.33	1.273	0.891 - 1.655	A
			Zn-65	Bq/sample	0.085		(1)	A
August 2008	08-MaW19	Water	Cs-134	Bq/L	17.1	19.5	13.7 - 25.4	A
			Cs-137	Bq/L	21.4	23.6	16.5 - 30.7	A
			Co-57	Bq/L	-0.044		(1)	A
			Co-60	Bq/L	10.8	11.6	8.1 - 15.1	A
			H-3	Bq/L	334	341	239 - 443	A
			Mn-54	Bq/L	13.0	13.7	9.6 - 17.8	A
			Sr-90	Bq/L	6.55	6.45	4.52- 8.39	A
			Zn-65	Bq/L	16.5	17.1	12.0 - 22.2	A

TABLE D-3 DOE'S MIXED ANALYTE PERFORMANCE EVALUATION PROGRAM (MAPEP)
TELEDYNE BROWN ENGINEERING, 2008
(PAGE 2 OF 2)

Month/Year	Identification Number	Media	Nuclide	Units	Reported Value (a)	Known Value (b)	Acceptance Range	Evaluation (c)
August 2008	08-GrW19	Water	Gr-A	Bq/L	0.0612	<0.56	(3)	A
			Gr-B	Bq/L	0.222	<1.85	(3)	A
	08-MaS19	Soil	Cs-134	Bq/kg	546	581	407 - 755	A
			Cs-137	Bq/kg	2.52	2.8	(2)	A
			Co-57	Bq/kg	340	333	233 - 433	A
			Co-60	Bq/kg	157	145.0	102 - 189	A
			Mn-54	Bq/kg	460	415	291 - 540	A
			K-40	Bq/kg	650	571	399 - 741	A
			Sr-90	Bq/kg	1.40		(1)	A
			Zn-65	Bq/kg	-1.53		(1)	A
	08-RdF19	AP	Cs-134	Bq/sample	2.46	2.6300	1.84 - 3.42	A
			Cs-137	Bq/sample	0.0063		(1)	A
			Co-57	Bq/sample	1.36	1.50	1.05 - 1.95	A
			Co-60	Bq/sample	0.0143		(1)	A
			Mn-54	Bq/sample	2.70	2.64	1.85 - 3.43	A
			Sr-90	Bq/sample	1.42	1.12	0.78 - 1.46	W
			Zn-65	Bq/sample	0.975	0.94	0.66 - 1.22	A
	08-GrF19	AP	Gr-A	Bq/sample	-0.0037		(4)	A
			Gr-B	Bq/sample	0.540	0.525	0.263 - 0.788	A
	08-RdV19	Vegetation	Cs-134	Bq/sample	4.36	5.5	3.9 - 7.2	W
			Cs-137	Bq/sample	-0.03		(1)	A
			Co-57	Bq/sample	6.72	7.1	5.0 - 9.2	A
			Co-60	Bq/sample	4.04	4.70	3.3 - 6.1	A
			Mn-54	Bq/sample	5.22	5.8	4.1 - 7.5	A
			K-40	Bq/sample	64.4		(1)	
			Sr-90	Bq/sample	1.62	1.9	1.3 - 2.5	A
			Zn-65	Bq/sample	6.160	6.9	4.8 - 9.0	A

(1) Not evaluated by MAPEP.

(2) Reported a statistically zero result.

(3) Designed to test the Safe Drinking Water screening levels. Labs reporting values less than ref values were found to be acceptable.

(4) False positive test.

(a) Teledyne Brown Engineering reported result.

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

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

APPENDIX E

EFFLUENT REPORT

TABLE OF CONTENTS

Table of Contents (cont.)

INTRODUCTION

Liquid effluents from Byron Station are released to the Rock River in controlled batches after radioassay of each batch. Gaseous effluents are released to the atmosphere and are calculated on the basis of analyses of weekly grab samples and grab samples of batch releases prior to the release of noble gases as well as continuously collected composite samples of iodine and particulate radioactivity sampled during the course of the year. The results of effluent analyses are summarized on a monthly basis. Airborne concentrations of noble gases, I-131, and particulate radioactivity in offsite areas are calculated using isotopic composition of effluents and meteorological data.

Environmental monitoring is conducted by sampling at indicator and control (background) locations in the vicinity of Byron Station to measure changes in radiation or radioactivity levels that may be attributable to station operation. If significant changes attributable to Byron Station are measured, these changes are correlated with effluent releases. External gamma radiation exposure from noble gases and internal dose from I-131 in milk are the critical pathways at this site; however, an environmental monitoring program is conducted which also includes other pathways.

SUMMARY

Calculations based on gaseous and liquid effluents, Rock River flow and meteorological data indicate that public dose due to radioactive material attributable to Byron Station during the period does not exceed regulatory or Offsite Dose Calculation Manual (ODCM) limits.

The Total Effective Dose Equivalent (TEDE) due to licensed activities at Byron Station calculated for the maximum-exposed individual for the period is 3.12E-01 mrem. The annual limit on TEDE is 100 mrem.

The assessment of radiation doses to the public is performed in accordance with the ODCM. The results of these analyses confirm that the station is operating in compliance with 10CFR50 Appendix I, 10CFR20 and 40CFR190.

There were no additional operational controls implemented which affected the areas of radiological effluents in 2008.

There were no measurements which exceeded the reporting levels, including any which would not have been attributable to station effluents.

The results of the current radiological environmental monitoring program are approximately the same as those found during the pre-operational studies conducted at Byron Station.

1.0 EFFLUENTS

1.1 Gaseous Effluents to the Atmosphere

Measured concentrations and isotopic composition of noble gases, radioiodine, tritium and particulate radioactivity released to the atmosphere during the year, are listed in Table 1.1-1.

A total of 1.15E+01 curies of fission and activation gases were released with a maximum average quarterly release rate of 9.32E-01 µCi/sec.

A total of 1.21E-04 curies of 1-131 were released during the year with a maximum average quarterly release rate of 9.35E-06 µCi/sec.

A total of 7.35E-06 curies were released as airborne particulate matter with a maximum average quarterly release rate of 3.82E-07 µCi/sec. Alpha-emitting radionuclides were below detectable limits.

A total of 0.00E+00 curies of other radioisotopes were released with a maximum average quarterly release rate of 0.00E+00 µCi/sec.

A total of 8.25E+01 curies of tritium were released with a maximum average quarterly release rate of 2.03E+00 µCi/sec.

1.2 Liquids Released to Rock River

A total of 2.80E+10 liters of radioactive liquid wastes (prior to dilution) containing 1.87E-02 curies (excluding tritium, noble gases and alpha) were discharged from the station. These wastes were released at a maximum quarterly average concentration of 1.25E-09 µCi/ml. A total of 3.00E+03 curies of tritium were released. Quarterly release totals of principal radionuclides in liquid effluents are given in Table 1.2-1.

2.0 SOLID RADIOACTIVE WASTE

Solid radioactive wastes were shipped by truck. For detail, refer to Byron Station 2008 Effluent Report.

3.0 DOSE TO MAN

3.1 Gaseous Effluent Pathways

Table 3.1-1 summarizes the doses resulting from releases of airborne radioactivity via the different exposure pathways.

3.1.1 Noble Gases

3.1.1.1 Gamma Dose Rates

Offsite Gamma air and whole body dose rates are shown in Table 3.1-1 and were calculated based on measured release rates, isotopic composition of the noble gases, and average meteorological data for the period. Dose rates based on concurrent meteorological data are shown in Table 3.4-1. Based on measured effluents and average meteorological data, the maximum total body dose to an individual would be 1.37E-02 mrem for the year (Table 3.1-1), with an occupancy or shielding factor of 0.7 included. The maximum total body dose based on measured effluents and concurrent meteorological data would be 1.98E-03 mrem (Table 3.4-1). The maximum gamma air dose was 3.94E-02 mrad (Table 3.1-1) based on measured effluents and average meteorological data, and 3.64E-03 mrad based on concurrent meteorological data (Table 3.4-1).

3.1.1.2 Beta Air and Skin Dose Rates

The range of beta particles in air is relatively small (on the order of a few meters or less); consequently, plumes of gaseous effluents may be considered "semi-infinite" for purpose of calculating the dose from beta radiation incident on the skin. However, the actual dose to sensitive skin tissues is difficult to calculate due to the effect of the beta particle energies, thickness of inert skin and clothing covering sensitive tissues. For purposes of this report the skin is taken to have a thickness of 7.0 mg/cm^2 and an occupancy factor of 1.0 is used. The skin dose based on concurrent meteorological data for the year was 4.19E-03

mrem (Table 3.4-1)

The maximum offsite beta air dose for the year, based on measured effluents and average meteorological data, was 2.26E-03 mrad (Table 3.1-1). The beta air dose based on concurrent meteorological data was 2.33E-03 mrad (Table 3.4-1).

3.1.2 Radioactive Iodine

The human thyroid exhibits a significant capacity to concentrate ingested or inhaled iodine. The minimal levels of radioiodine, 1-131, released during routine operation of the station, may be made available to man resulting in a dose to the thyroid. The principal pathway of interest for this radionuclide is ingestion of radioiodine in milk. Calculations made for 2008 and previous years indicate that contributions to doses from inhalation of I-131 and I-133 and ingestion of I-133 in milk are negligible.

3.1.2.1 Dose to Thyroid

The hypothetical thyroid dose to the maximum exposed individual living near the station via ingestion of milk was calculated. The radionuclide considered was I-131 and the source of milk was taken to be the nearest dairy farm with the cows pastured from May through October. The maximum thyroid dose was less than 7.80E-02 mrem during the year (Table 3.1-1[infant]).

3.2 Liquid Effluent Pathways

The three principal pathways through the aquatic environment for potential doses to man from liquid waste are ingestion of potable water, eating aquatic foods, and exposure while on the shoreline. Not all of these pathways are significant or applicable at a given time or station but a reasonable approximation of the dose can be made by adjusting the dose formula for season of the year or type and degree of use of the aquatic environment. NRC developed equations* were used to calculate the doses to the whole body, lower GI tracts, thyroid, bone and skin; specific parameters for use in the equations are given in the Exelon Offsite Dose Calculation Manual. The maximum whole body dose for the year was 2.98E-01 mrem (adult) and no organ dose exceeded 3.34E-01 mrem (Table

3.2-1 [adult]).

3.3 Assessment of Dose to Member of Public

During the period January to December 2008, Byron Station did not exceed the limits below as shown in Table 3.1-1 and Table 3.2-1 (based on yearly average meteorological data), and Table 3.4-1 (based on concurrent meteorological data):

- The RETS limits on dose or dose commitment to a member of the public due to radioactive materials in liquid effluents from each reactor unit (1.5 mrem to the whole body or 5 mrem to any organ during any calendar quarter; 3 mrem to the whole body or 10 mrem to any organ during the calendar year).

- The RETS limits on air dose in noble gases released in gaseous effluents to a member of the public from each reactor unit (5 mrads for gamma radiation or 10 mrad for beta radiation during any calendar quarter; 10 mrad for gamma radiation or 20 mrad for beta radiation during a calendar year).

- The RETS limits on dose to a member of the public due to iodine-131, iodine-133, tritium, and radionuclides in particulate form 'with half-lives greater than eight days in gaseous effluents released from each reactor unit (7.5 mrem to any organ during any calendar quarter; 15 mrem to any organ during any calendar year).

- The 10CFR20 limit on Total Effective Dose Equivalent to individual members of the public (100 mrem).

4.0 SITE METEOROLOGY

A summary of the site meteorological measurements taken during each calendar quarter of the year is given in Appendix E. The data are presented as cumulative joint frequency distributions of the wind direction for the 250' level and wind speed class by atmospheric stability class determined from the temperature difference between the 250' and 30' levels. Data recovery for all measurements on the tower as 99.4% during 2008 (Table 3.4-1).

*Nuclear Regulatory Commission, Regulatory Guide 1.109 (Rev. 1)

APPENDIX E-1

DATA TABLES AND FIGURES

Table 1.1-1

Byron Station Unit One 2008

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 1A
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES
Reg Guide 1.21 - Unit 1 2008

REPORT FOR 2008	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	5.47E-01	2.65E-01	2.23E+00	5.88E-01	3.63E+00
2. Avg. Release Rate	uCi/sec	6.96E-02	3.37E-02	2.81E-01	7.40E-02	1.15E-02
Iodine-131						
1. Total Release	Ci	1.72E-05	4.24E-06	0.00E+00	0.00E+00	2.15E-05
2. Avg. Release Rate	uCi/sec	2.19E-06	5.39E-07	0.00E+00	0.00E+00	6.80E-07
Particulates Half Life >= 8 days						
1. Total Release	Ci	0.00E+00	1.33E-06	0.00E+00	1.07E-06	2.40E-06
2. Avg. Release Rate	uCi/sec	0.00E+00	1.69E-07	0.00E+00	1.35E-07	7.59E-08
Tritium						
1. Total Release	Ci	1.14E+01	7.11E+00	6.44E+00	3.69E+00	2.87E+01
2. Avg. Release Rate	uCi/sec	1.46E+00	9.04E-01	8.10E-01	4.64E-01	9.07E-01

Byron Station Unit Two 2008

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 1A
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES
Reg Guide 1.21 - Unit 2

REPORT FOR 2008	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	2.30E-01	2.25E-01	8.80E-04	7.41E+00	7.87E+00
2. Avg. Release Rate	uCi/sec	2.93E-02	2.86E-02	1.11E-04	9.32E-01	2.49E-01
Iodine-131						
1. Total Release	Ci	2.36E-05	7.36E-05	0.00E+00	2.17E-06	9.93E-05
2. Avg. Release Rate	uCi/sec	3.00E-06	9.35E-06	0.00E+00	2.73E-07	3.14E-06
Particulates Half Life >= 8 days						
1. Total Release	Ci	0.00E+00	1.91E-06	0.00E+00	3.04E-06	4.95E-06
2. Avg. Release Rate	uCi/sec	0.00E+00	2.43E-07	0.00E+00	3.82E-07	1.56E-07
Tritium						
1. Total Release	Ci	1.19E+01	1.60E+01	1.45E+01	1.14E+01	5.38E+01
2. Avg. Release Rate	uCi/sec	1.52E+00	2.03E+00	1.83E+00	1.43E+00	1.70E+00

Table 1.2-1

Byron Station Unit One 2008

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 2A
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES
Reg Guide 1.21 - Unit 1 2008

REPORT FOR 2008	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	2.21E-03	1.55E-03	2.12E-03	4.06E-03	9.35E-03
2. Avg. Diluted Conc.	uCi/ml	6.81E-10	4.52E-10	5.24E-10	1.25E-09	6.68E-10
Tritium						
1. Total Release	Ci	4.77E+02	1.98E+02	5.75E+02	2.50E+02	1.50E+03
2. Avg. Diluted Conc.	uCi/ml	1.47E-04	5.77E-05	1.42E-04	7.67E-05	1.07E-04
Dissolved and Entrained Gases						
1. Total Release	Ci	8.45E-03	5.40E-04	2.73E-04	5.10E-04	9.75E-03
2. Avg. Diluted Conc.	uCi/ml	2.61E-09	1.57E-10	6.75E-11	1.57E-10	6.99E-10
Gross Alpha Radioactivity						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Volume of liquid waste	liters	3.24E+09	3.43E+09	4.04E+09	3.26E+09	1.40E+10
Volume of dil. water	liters	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Byron Station Unit Two 2008

EFFLUENT AND WASTE DISPOSAL REPORT
TABLE 2A
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES
Reg Guide 1.21 - Unit 2 2008

REPORT FOR 2008	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
Fission and Activation Gases						
1. Total Release	Ci	2.21E-03	1.55E-03	2.12E-03	4.06E-03	9.35E-03
2. Avg. Diluted Conc.	uCi/ml	6.81E-10	4.52E-10	5.24E-10	1.25E-09	6.68E-10
Tritium						
1. Total Release	Ci	4.77E+02	1.98E+02	5.75E+02	2.50E+02	1.50E+03
2. Avg. Diluted Conc.	uCi/ml	1.47E-04	5.77E-05	1.42E-04	7.67E-05	1.07E-04
Dissolved and Entrained Gases						
1. Total Release	Ci	8.45E-03	5.40E-04	2.73E-04	5.10E-04	9.75E-03
2. Avg. Diluted Conc.	uCi/ml	2.61E-09	1.57E-10	6.75E-11	1.57E-10	6.99E-10
Gross Alpha Radioactivity						
1. Total Release	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Volume of liquid waste	liters	3.24E+09	3.43E+09	4.04E+09	3.26E+09	1.40E+10
Volume of dil. water	liters	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table 3.1-1

Byron Station Unit One 2008

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit 1 2008

Report for: 2008
Unit Range - From: 1 To: 1

=== I&P DOSE LIMIT ANALYSIS ========== ANNUAL 2008 =========

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2008 - Admin. Any Organ	INFANT	THYROID	3.90E-02	1.13E+01	3.47E-01
2008 - Admin. Total Body	CHILD	TBODY	6.83E-03	1.05E+01	6.51E-02
2008 - T.Spc. Any Organ	INFANT	THYROID	3.90E-02	1.50E+01	2.60E-01

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA
Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	1.36E+01
CO-58	7.29E-04
I-131	8.55E+01
I-132	1.01E-02
I-133	8.81E-01

2008 - T.Spc. Total Body	CHILD	TBODY	6.83E-03	1.50E+01	4.56E-02

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA
Critical Pathway: Vegetation (VEG)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.96E+01
CO-58	7.34E-03
I-131	3.69E-01
I-132	3.93E-03
I-133	5.30E-03

Table 3.1-1 (cont.)

Byron Station Unit One 2008

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit 1 2008

Report for: 2008
Unit Range - From: 1 To: 1

=== NG DOSE LIMIT ANALYSIS ========== ANNUAL 2008 =========

Annual - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
2008 - Admin. Gamma	1.97E-02	7.50E+00	2.63E-01
2008 - Admin. Beta	1.13E-03	1.50E+01	7.52E-03
2008 - T.Spc. Gamma	1.97E-02	1.00E+01	1.97E-01

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	2.97E-02
XE-138	1.48E-04
KR-85M	2.09E+00
XE-135	2.62E-03
XE-133M	1.02E-04
KR-88	9.75E+01
XE-131M	9.74E-04
XE-133	3.63E-01

2008 - T.Spc. Beta	1.13E-03	2.00E+01	5.64E-03

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	4.51E-02
XE-138	3.28E-04
KR-85M	1.44E+01
XE-135	1.44E-02
XE-133M	1.99E-03
KR-88	8.09E+01
XE-131M	2.98E-02
XE-133	4.65E+00

Table 3.1-1 (cont.)

Byron Station Unit Two 2008

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit 2 2008

Report for: 2008
Unit Range - From: 2 To: 2

=== I&P DOSE LIMIT ANALYSIS ========== ANNUAL 2008 =========

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2008 - Admin. Any Organ	INFANT	THYROID	3.90E-02	1.13E+01	3.47E-01
2008 - Admin. Total Body	CHILD	TBODY	6.83E-03	1.05E+01	6.51E-02
2008 - T.Spc. Any Organ	INFANT	THYROID	3.90E-02	1.50E+01	2.60E-01

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA
Critical Pathway: Grs/Goat/Milk (GMILK)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	1.36E+01
CO-58	7.29E-04
I-131	8.55E+01
I-132	1.01E-02
I-133	8.81E-01

2008 - T.Spc. Total Body	CHILD	TBODY	6.83E-03	1.50E+01	4.56E-02

Receptor: 5 Composite Crit. Receptor - IP
Distance: 0.00 (meters) Compass Point: NA
Critical Pathway: Vegetation (VEG)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.96E+01
CO-58	7.34E-03
I-131	3.69E-01
I-132	3.93E-03
I-133	5.30E-03

Table 3.1-1 (cont.)

Byron Station Unit Two 2008

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

GASEOUS DOSE SUMMARY

Unit 2 2008

Report for: 2008
Unit Range - From: 2 To: 2

=== NG DOSE LIMIT ANALYSIS ========== ANNUAL 2008 =========

Annual - Limit	Dose (mrad)	Limit (mrad)	Max % of Limit
2008 - Admin. Gamma	1.97E-02	7.50E+00	2.63E-01
2008 - Admin. Beta	1.13E-03	1.50E+01	7.52E-03
2008 - T.Spc. Gamma	1.97E-02	1.00E+01	1.97E-01

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	2.97E-02
XE-138	1.48E-04
KR-85M	2.09E+00
XE-135	2.62E-03
XE-133M	1.02E-04
KR-88	9.75E+01
XE-131M	9.74E-04
XE-133	3.63E-01

2008 - T.Spc. Beta	1.13E-03	2.00E+01	5.64E-03

Receptor: 4 Composite Crit. Receptor - NG
Distance: 0.00 (meters) Compass Point: NA

Nuclide	Percentage
AR-41	4.51E-02
XE-138	3.28E-04
KR-85M	1.44E+01
XE-135	1.44E-02
XE-133M	1.99E-03
KR-88	8.09E+01
XE-131M	2.98E-02
XE-133	4.65E+00

Table 3.2-1

Byron Station Unit One 2008

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Unit 1 2008

Report for: 2008
Unit Range - From: 1 To: 1
Liquid Receptor

=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) ========== ANNUAL 2008 =========

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	2.48E-03	1.49E-01	1.47E-01	1.50E-01	1.45E-01	1.67E-01	0.00E+00	1.49E-01
TEEN	2.62E-03	1.13E-01	1.10E-01	1.10E-01	1.09E-01	1.24E-01	0.00E+00	1.12E-01
CHILD	3.26E-03	1.25E-01	1.23E-01	1.22E-01	1.21E-01	1.27E-01	0.00E+00	1.23E-01
INFANT	5.23E-06	5.35E-02	5.36E-02	5.35E-02	5.35E-02	5.35E-02	0.00E+00	5.35E-02

=== SITE DOSE LIMIT ANALYSIS ============================== ANNUAL 2008 =========

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2008 - Admin. Any Organ	ADULT	GILLI	1.67E-01	7.50E+00	2.22E+00
2008 - Admin. Total Body	ADULT	TBODY	1.49E-01	2.25E+00	6.61E+00
2008 - T.Spc. Any Organ	ADULT	GILLI	1.67E-01	1.00E+01	1.67E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	8.67E+01
MN-54	7.41E-01
FE-59	6.57E-02
CO-58	4.74E+00
CO-60	3.06E+00
NB-95	1.77E+00
AG-110M	1.52E-03
TE-125M	2.86E+00
I-131	6.79E-04
I-133	1.33E-03
CS-134	3.16E-02

2008 - T.Spc. Total Body	ADULT	TBODY	1.49E-01	3.00E+00	4.96E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.72E+01
MN-54	5.17E-02
FE-59	8.46E-03
CO-58	5.88E-01
CO-60	4.03E-01
NB-95	1.76E-04
AG-110M	2.49E-06

Table 3.2-1 (cont.)
Byron Station Unit One 2008

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Unit 1 2008

Nuclide	Percentage
TE-125M	1.08E-01
I-131	1.65E-03
I-133	5.05E-04
CS-134	1.66E+00

Table 3.2-1 (cont.)

Byron Station Unit Two 2008

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Unit 2 2008

Report for: 2008
Unit Range - From: 2 To: 2
Liquid Receptor

=== PERIOD DOSE BY ORGAN AND AGE GROUP (mrem) ========== ANNUAL 2008 =========

Agegrp	Bone	Liver	Thyroid	Kidney	Lung	GI-LLI	Skin	TB
ADULT	2.48E-03	1.49E-01	1.47E-01	1.50E-01	1.45E-01	1.67E-01	0.00E+00	1.49E-01
TEEN	2.62E-03	1.13E-01	1.10E-01	1.10E-01	1.09E-01	1.24E-01	0.00E+00	1.12E-01
CHILD	3.26E-03	1.25E-01	1.23E-01	1.22E-01	1.21E-01	1.27E-01	0.00E+00	1.23E-01
INFANT	5.23E-06	5.35E-02	5.36E-02	5.35E-02	5.35E-02	5.35E-02	0.00E+00	5.35E-02

=== SITE DOSE LIMIT ANALYSIS ========== ANNUAL 2008 =========

Annual - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
2008 - Admin. Any Organ	ADULT	GILLI	1.67E-01	7.50E+00	2.22E+00
2008 - Admin. Total Body	ADULT	TBODY	1.49E-01	2.25E+00	6.61E+00
2008 - T.Spc. Any Organ	ADULT	GILLI	1.67E-01	1.00E+01	1.67E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	8.67E+01
MN-54	7.41E-01
FE-59	6.57E-02
CO-58	4.74E+00
CO-60	3.06E+00
NB-95	1.77E+00
AG-110M	1.52E-03
TE-125M	2.86E+00
I-131	6.79E-04
I-133	1.33E-03
CS-134	3.16E-02

2008 - T.Spc. Total Body	ADULT	TBODY	1.49E-01	3.00E+00	4.96E+00

Critical Pathway: Fresh Water Fish - Sport (FFSP)
Major Contributors (0% or greater to total)

Nuclide	Percentage
H-3	9.72E+01
MN-54	5.17E-02
FE-59	8.46E-03
CO-58	5.88E-01
CO-60	4.03E-01
NB-95	1.76E-04
AG-110M	2.49E-06

Table 3.2-1 (cont.)

Byron Station Unit Two 2008

40CFR190 URANIUM FUEL CYCLE DOSE REPORT

LIQUID DOSE SUMMARY

Unit 2 2008

Nuclide	Percentage
TE-125M	1.08E-01
I-131	1.65E-03
I-133	5.05E-04
CS-134	1.66E+00

Table 3.4-1

Byron Station - Unit 1

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

2008

TYPE OF DOSE	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER	ANNUAL
GAMMA AIR (mrad)	4.000E-06(ESE)	1.480E-06(SE)	3.530E-03(SSE)	3.080E-06(SSE)	3.537E-03(SSE)
BETA AIR (mrad)	1.650E-05(ESE)	6.710E-06(NNW)	1.880E-03(NW)	1.990E-05(NNW)	1.899E-03(NW)
WHOLE BODY (mrem)	1.960E-06(SE)	9.180E-07(SE)	1.920E-03(SSE)	1.610E-06(SSE)	1.924E-03(SSE)
SKIN (mrem)	6.120E-06(SE)	2.800E-06(SE)	3.920E-03(SSE)	6.220E-06(SSE)	3.933E-03(SSE)
ORGAN (mrem)	2.180E-04(ESE)	1.090E-04(NNW)	1.240E-04(NW)	8.020E-05(NNW)	4.753E-04(NNW)
CRITICAL PERSON	Teenager	Teenager	Teenager	Teenager	Teenager
CRITICAL ORGAN	Thyroid	Thyroid	Liver	Liver	Thyroid

COMPLIANCE STATUS

TYPE OF DOSE	10 CFR 50 APP. I QUARTERLY OBJECTIVE	% OF APP. I	10 CFR 50 APP.I YEARLY OBJECTIVE	% OF APP. I
GAMMA AIR (mrad)	5.0	0.07	10.0	0.04
BETA AIR (mrad)	10.0	0.02	20.0	0.01
WHOLE BODY (mrem)	2.5	0.08	5.0	0.04
SKIN (mrem)	7.5	0.05	15.0	0.03
ORGAN (mrem)	7.5	0.00	15.0	0.00
CRITICAL PERSON		Teenager		Teenager
CRITICAL ORGAN		Thyroid		Thyroid

Calculation used release data from the following:
Unit 1 - Vent

Date of calculation: 2/17/2009

Table 3.4-1 (cont.)

Byron Station - Unit 2

MAXIMUM DOSES RESULTING FROM AIRBORNE RELEASES

2008

TYPE OF DOSE	FIRST QUARTER	SECOND QUARTER	THIRD QUARTER	FOURTH QUARTER	ANNUAL
GAMMA AIR (mrad)	1.560E-06(ESE)	9.810E-07(SE)	4.970E-09(SSE)	1.030E-04(SSE)	1.048E-04(SSE)
BETA AIR (mrad)	6.840E-06(ESE)	5.530E-06(NNW)	2.720E-08(NW)	4.210E-04(NNW)	4.328E-04(NNW)
WHOLE BODY (mrem)	1.350E-06(SE)	1.110E-06(SE)	2.330E-09(SSE)	5.580E-05(SSE)	5.769E-05(SSE)
SKIN (mrem)	3.120E-06(SE)	2.620E-06(SE)	9.820E-09(SSE)	2.540E-04(WNW)	2.563E-04(WNW)
ORGAN (mrem)	2.280E-04(ESE)	2.550E-04(NNW)	2.770E-04(NW)	2.420E-04(NNW)	9.040E-04(NNW)
CRITICAL PERSON	Teenager	Teenager	Teenager	Teenager	Teenager
CRITICAL ORGAN	Thyroid	Liver	Lung	Thyroid	Lung

COMPLIANCE STATUS

TYPE OF DOSE	10 CFR 50 APP. I QUARTERLY OBJECTIVE	% OF APP. I	10 CFR 50 APP.I YEARLY OBJECTIVE	% OF APP. I
GAMMA AIR (mrad)	5.0	0.00	10.0	0.00
BETA AIR (mrad)	10.0	0.00	20.0	0.00
WHOLE BODY (mrem)	2.5	0.00	5.0	0.00
SKIN (mrem)	7.5	0.00	15.0	0.00
ORGAN (mrem)	7.5	0.00	15.0	0.01
CRITICAL PERSON		Teenager		Teenager
CRITICAL ORGAN		Liver		Thyroid

Calculation used release data from the following:
Unit 2 - Vent

Date of calculation: 2/17/2009

Data Recovery (priority parameters) 99.4%

APPENDIX F

METEOROLOGICAL DATA

Byron Generating Station

Period of Record: January - March 2008
Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	1	1	0	0	2
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	1	0	0	1
W	0	0	0	5	0	0	5
WNW	0	0	0	0	0	0	0
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	0	1	7	0	0	8

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 10

Byron Generating Station

Period of Record: January - March 2008
Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	2	0	0	0	4
NNE	0	1	0	2	0	0	3
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	1	0	0	0	1
ESE	0	0	1	1	0	0	2
SE	0	0	0	1	0	0	1
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	3	1	0	1	5
WNW	0	0	1	0	1	0	2
NW	0	0	0	0	0	0	0
NNW	0	0	1	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	0	3	9	5	1	1	19

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 10

Byron Generating Station

Period of Record: January - March 2008
Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	5	3	0	0	9
NNE	0	0	0	2	0	0	2
NE	0	1	1	0	0	0	2
ENE	0	0	0	0	0	0	0
E	0	3	1	0	0	0	4
ESE	0	0	0	1	0	0	1
SE	0	0	2	1	0	0	3
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	2	3	0	0	5
W	0	2	9	1	9	3	24
WNW	0	2	5	1	2	1	11
NW	0	1	3	0	0	0	4
NNW	0	2	5	2	0	0	9
Variable	0	0	0	0	0	0	0
Total	0	12	33	14	11	4	74

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 10

Byron Generating Station

Period of Record: January - March 2008
Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	3	21	46	18	0	0	88
NNE	1	30	29	12	0	0	72
NE	6	8	16	5	0	0	35
ENE	5	12	26	6	0	0	49
E	14	38	17	4	0	0	73
ESE	3	15	32	13	0	0	63
SE	3	27	35	5	0	0	70
SSE	2	14	56	6	0	0	78
S	4	16	40	26	4	0	90
SSW	4	11	16	14	3	0	48
SW	3	20	19	6	1	0	49
WSW	6	22	28	21	8	0	85
W	16	47	67	43	15	0	188
WNW	16	29	103	35	7	0	190
NW	9	41	49	15	0	0	114
NNW	7	44	51	10	0	0	112
Variable	0	0	0	0	0	0	0
Total	102	395	630	239	38	0	1404

Hours of calm in this stability class: 1
Hours of missing wind measurements in this stability class: 2
Hours of missing stability measurements in all stability classes: 10

Byron Generating Station

Period of Record: January - March 2008
Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	9	9	0	0	0	19
NNE	3	6	2	0	0	0	11
NE	0	4	0	0	0	0	4
ENE	0	6	4	0	0	0	10
E	6	9	4	0	0	0	19
ESE	2	16	15	7	0	0	40
SE	0	21	10	1	0	0	32
SSE	2	12	37	7	2	0	60
S	0	5	32	17	5	0	59
SSW	2	7	10	6	3	1	29
SW	6	19	9	0	0	0	34
WSW	6	16	7	0	0	0	29
W	8	20	2	5	0	0	35
WNW	11	28	10	1	0	0	50
NW	10	32	9	0	0	0	51
NNW	3	15	1	0	0	0	19
Variable	0	0	0	0	0	0	0
Total	60	225	161	44	10	1	501

Hours of calm in this stability class: 4
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 10

Byron Generating Station

Period of Record: January - March 2008
Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	0	0	0	0	2
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	2	1	0	0	0	0	3
E	0	1	0	0	0	0	1
ESE	2	1	3	0	0	0	6
SE	0	2	0	0	0	0	2
SSE	0	5	5	7	0	0	17
S	5	5	2	0	0	0	12
SSW	1	5	1	0	0	0	7
SW	6	3	0	0	0	0	9
WSW	3	2	0	0	0	0	5
W	6	3	0	0	0	0	9
WNW	9	0	0	0	0	0	9
NW	12	2	0	0	0	0	14
NNW	3	0	0	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	49	32	11	7	0	0	99

Hours of calm in this stability class: 2
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 10

Byron Generating Station

Period of Record: January - March 2008
Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	1	0	0	0	0	1
ESE	0	0	1	0	0	0	1
SE	1	0	0	0	0	0	1
SSE	0	1	5	1	0	0	7
S	5	11	1	0	0	0	17
SSW	5	9	1	0	0	0	15
SW	4	0	0	0	0	0	4
WSW	0	0	0	0	0	0	0
W	4	1	0	0	0	0	5
WNW	3	0	0	0	0	0	3
NW	3	0	0	0	0	0	3
NNW	2	0	0	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	27	23	8	1	0	0	59

Hours of calm in this stability class: 1
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 10

Byron Generating Station

Period of Record: January - March 2008
Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	1	1	0	2
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	1	0	1
W	0	0	0	4	0	0	4
WNW	0	0	0	0	1	0	1
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	0	0	5	3	0	8

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 10

Byron Generating Station

Period of Record: January - March 2008
Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	4	0	0	0	4
NNE	0	0	1	0	2	0	3
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	0	1	0	0	1
ESE	0	0	0	2	0	0	2
SE	0	0	0	1	0	0	1
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	2	1	1	0	4
WNW	0	0	0	1	0	2	3
NW	0	0	0	0	0	0	0
NNW	0	0	1	0	0	0	1
Variable	0	0	0	0	0	0	0
Total	0	0	8	6	3	2	19

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 10

Byron Generating Station

Period of Record: January - March 2008
Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	2	7	0	0	9
NNE	0	0	0	1	1	0	2
NE	0	0	1	1	0	0	2
ENE	0	0	0	0	0	0	0
E	0	0	3	1	0	0	4
ESE	0	0	0	1	1	0	2
SE	0	0	1	0	0	0	1
SSE	0	0	0	1	0	0	1
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	1	3	1	0	5
W	0	0	9	3	1	5	18
WNW	0	0	5	1	0	9	15
NW	0	2	3	2	0	0	7
NNW	0	0	2	6	0	0	8
Variable	0	0	0	0	0	0	0
Total	0	2	27	27	4	14	74

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 10

Byron Generating Station

Period of Record: January - March 2008
Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	3	15	20	50	5	0	93
NNE	1	10	24	35	9	0	79
NE	1	8	6	11	6	0	32
ENE	3	6	9	21	9	1	49
E	4	13	31	19	5	0	72
ESE	3	6	10	18	27	1	65
SE	0	6	13	23	11	0	53
SSE	0	1	10	31	18	0	60
S	2	3	15	42	27	7	96
SSW	2	3	11	13	12	6	47
SW	2	8	17	11	9	1	48
WSW	3	9	22	24	14	3	75
W	5	27	30	51	28	14	155
WNW	7	10	39	74	22	17	169
NW	5	8	39	64	25	2	143
NNW	1	9	29	42	4	0	85
Variable	0	0	0	0	0	0	0
Total	42	142	325	529	231	52	1321

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 86
Hours of missing stability measurements in all stability classes: 10

Byron Generating Station

Period of Record: January - March 2008
Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	6	11	8	1	0	26
NNE	0	2	4	9	2	0	17
NE	0	1	5	1	0	0	7
ENE	0	1	4	4	0	0	9
E	0	3	4	4	0	0	11
ESE	0	0	0	13	10	4	27
SE	0	0	6	19	9	0	34
SSE	0	1	4	13	18	5	41
S	0	1	6	11	34	23	75
SSW	2	1	4	10	13	7	37
SW	0	1	6	10	5	0	22
WSW	0	5	16	14	4	0	39
W	1	4	13	5	7	0	30
WNW	0	4	15	20	2	0	41
NW	1	5	18	36	1	0	61
NNW	0	2	8	4	0	0	14
Variable	0	0	0	0	0	0	0
Total	4	37	124	181	106	39	491

Hours of calm in this stability class: 1
Hours of missing wind measurements in this stability class: 13
Hours of missing stability measurements in all stability classes: 10

Byron Generating Station

Period of Record: January - March 2008
Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	2	0	0	2
NNE	0	3	1	0	0	0	4
NE	0	1	1	0	0	0	2
ENE	1	0	2	0	0	0	3
E	0	0	1	0	0	0	1
ESE	0	0	0	2	1	0	3
SE	0	0	0	2	2	0	4
SSE	0	1	0	0	0	7	8
S	0	0	3	2	5	3	13
SSW	0	0	1	1	2	1	5
SW	0	3	2	2	0	0	7
WSW	0	2	1	2	0	0	5
W	0	4	3	1	0	0	8
WNW	0	0	13	0	0	0	13
NW	1	2	5	13	0	0	21
NNW	0	0	2	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	2	16	35	27	10	11	101

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 10

Byron Generating Station

Period of Record: January - March 2008
Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	1	0	1	0	0	0	2
E	1	0	0	0	0	0	1
ESE	1	0	0	0	0	0	1
SE	0	0	0	1	0	0	1
SSE	0	0	0	0	1	0	1
S	0	0	0	1	1	5	7
SSW	0	0	2	2	3	1	8
SW	1	1	7	4	3	0	16
WSW	0	1	1	2	0	0	4
W	0	6	0	0	0	0	6
WNW	1	1	1	0	0	0	3
NW	0	3	3	0	0	0	6
NNW	0	1	2	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	5	13	17	10	8	6	59

Hours of calm in this stability class: 1
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 10

Byron Generating Station

Period of Record: April - June 2008
Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	1	0	0	0	0	1
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	1	0	0	1
SSE	0	1	0	0	0	0	1
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	1	1	2	1	5
W	0	0	3	1	0	0	4
WNW	0	0	1	0	0	0	1
NW	0	0	9	4	0	0	13
NNW	0	0	2	1	0	0	3
Variable	0	0	0	0	0	0	0
Total	0	2	16	8	2	1	29

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 17

Byron Generating Station

Period of Record: April - June 2008
Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	1	0	0	0	0	1
ESE	0	0	0	0	0	0	0
SE	0	0	1	3	0	0	4
SSE	0	0	0	2	0	0	2
S	0	0	0	0	0	0	0
SSW	0	0	0	1	0	0	1
SW	0	0	5	0	0	0	5
WSW	0	0	0	3	1	1	5
W	0	0	3	1	0	0	4
WNW	0	1	0	0	0	0	1
NW	0	1	10	3	0	0	14
NNW	0	0	5	1	0	0	6
Variable	0	0	0	0	0	0	0
Total	0	3	24	14	1	1	43

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 17

Byron Generating Station

Period of Record: April - June 2008
Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	1	0	0	0	1
NNE	0	1	0	0	0	0	1
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	1	5	0	0	0	6
ESE	0	2	1	0	0	0	3
SE	0	1	2	3	1	0	7
SSE	0	1	0	4	0	0	5
S	0	0	3	1	1	0	5
SSW	0	0	3	0	0	0	3
SW	0	1	5	0	0	0	6
WSW	0	3	6	0	1	0	10
W	0	6	0	3	3	0	12
WNW	0	2	4	2	0	0	8
NW	0	1	12	3	0	0	16
NNW	0	1	4	3	0	0	8
Variable	0	0	0	0	0	0	0
Total	0	20	46	19	6	0	91

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 17

Byron Generating Station

Period of Record: April - June 2008
Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	23	35	2	3	0	64
NNE	0	16	15	3	3	0	37
NE	0	12	11	16	0	0	39
ENE	1	4	33	8	3	0	49
E	1	15	30	8	0	0	54
ESE	0	9	11	4	1	0	25
SE	0	12	15	5	2	0	34
SSE	1	11	24	7	4	0	47
S	1	7	33	37	13	0	91
SSW	3	12	14	11	13	4	57
SW	0	17	27	18	3	0	65
WSW	1	14	43	10	5	1	74
W	3	12	20	24	11	3	73
WNW	4	8	28	28	1	0	69
NW	1	23	33	13	0	0	70
NNW	0	18	28	9	1	0	56
Variable	0	0	0	0	0	0	0
Total	17	213	400	203	63	8	904

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 3
Hours of missing stability measurements in all stability classes: 17

Byron Generating Station

Period of Record: April - June 2008
Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	17	6	0	0	0	25
NNE	3	12	5	2	0	0	22
NE	0	10	9	3	0	0	22
ENE	3	17	17	1	1	0	39
E	7	38	18	3	0	0	66
ESE	2	5	20	5	1	0	33
SE	3	19	31	3	3	0	59
SSE	4	24	46	11	0	0	85
S	3	20	37	33	4	1	98
SSW	4	14	20	17	2	0	57
SW	1	37	25	9	2	0	74
WSW	1	24	11	4	0	0	40
W	7	21	10	7	1	0	46
WNW	7	14	10	1	0	0	32
NW	5	33	4	0	0	0	42
NNW	5	28	8	0	0	0	41
Variable	0	0	0	0	0	0	0
Total	57	333	277	99	14	1	781

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 1
Hours of missing stability measurements in all stability classes: 17

Byron Generating Station

Period of Record: April - June 2008
Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	2	0	0	0	0	3
NNE	1	2	1	0	0	0	4
NE	0	0	0	0	0	0	0
ENE	0	1	3	0	0	0	4
E	7	15	0	0	0	0	22
ESE	3	13	2	0	0	0	18
SE	6	12	9	0	0	0	27
SSE	1	18	6	1	0	0	26
S	1	20	0	2	0	0	23
SSW	4	9	1	0	0	0	14
SW	3	4	0	0	0	0	7
WSW	4	2	0	0	0	0	6
W	11	8	0	0	0	0	19
WNW	10	9	0	0	0	0	19
NW	10	11	0	0	0	0	21
NNW	11	4	0	0	0	0	15
Variable	0	0	0	0	0	0	0
Total	73	130	22	3	0	0	228

Hours of calm in this stability class: 3
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 17

Byron Generating Station

Period of Record: April - June 2008
Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	0	0	0	0	1
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	1	0	0	0	0	0	1
E	1	2	0	0	0	0	3
ESE	1	5	0	0	0	0	6
SE	3	5	0	0	0	0	8
SSE	2	6	1	0	0	0	9
S	2	10	0	0	0	0	12
SSW	5	1	0	0	0	0	6
SW	3	2	0	0	0	0	5
WSW	7	0	0	0	0	0	7
W	9	0	0	0	0	0	9
WNW	7	0	0	0	0	0	7
NW	5	1	0	0	0	0	6
NNW	1	1	0	0	0	0	2
Variable	0	0	0	0	0	0	0
Total	47	34	1	0	0	0	82

Hours of calm in this stability class: 1
Hours of missing wind measurements in this stability class: 1
Hours of missing stability measurements in all stability classes: 17

Byron Generating Station

Period of Record: April - June 2008
Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	1	0	0	0	1
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	1	0	1
SSE	0	1	0	0	0	0	1
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	2	1	3	6
W	0	0	1	1	1	0	3
WNW	0	0	1	0	0	0	1
NW	0	0	1	8	4	0	13
NNW	0	0	1	1	1	0	3
Variable	0	0	0	0	0	0	0
Total	0	1	5	12	8	3	29

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 17

Byron Generating Station

Period of Record: April - June 2008
Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	0	1	0	0	0	1
ESE	0	0	0	0	0	0	0
SE	0	0	1	0	3	0	4
SSE	0	0	0	1	1	0	2
S	0	0	0	0	0	0	0
SSW	0	0	0	1	0	0	1
SW	0	0	1	4	0	0	5
WSW	0	0	0	4	0	2	6
W	0	0	0	2	1	0	3
WNW	0	1	0	0	0	0	1
NW	0	0	4	11	3	0	18
NNW	0	0	0	1	1	0	2
Variable	0	0	0	0	0	0	0
Total	0	1	7	24	9	2	43

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 17

Byron Generating Station

Period of Record: April - June 2008
Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	1	0	0	0	1
NNE	0	1	0	0	0	0	1
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	2	2	4	0	0	8
ESE	0	0	1	2	0	0	3
SE	0	0	1	1	2	1	5
SSE	0	1	0	2	2	0	5
S	0	0	0	4	1	0	5
SSW	0	0	3	1	0	0	4
SW	0	2	3	1	0	0	6
WSW	0	2	1	5	0	3	11
W	0	4	3	1	3	0	11
WNW	0	2	2	1	2	0	7
NW	0	1	4	9	5	0	19
NNW	0	0	3	1	1	0	5
Variable	0	0	0	0	0	0	0
Total	0	15	24	32	16	4	91

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 17

Byron Generating Station

Period of Record: April - June 2008
Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	7	20	27	0	4	59
NNE	1	7	9	16	3	3	39
NE	0	4	9	9	17	0	39
ENE	0	4	10	25	4	1	44
E	0	7	23	17	14	4	65
ESE	0	6	10	4	2	1	23
SE	0	7	10	12	5	4	38
SSE	0	6	10	19	9	4	48
S	1	5	7	32	24	16	85
SSW	1	7	10	9	11	16	54
SW	1	7	12	25	19	4	68
WSW	2	6	20	36	9	5	78
W	2	7	14	19	15	12	69
WNW	1	7	13	21	25	2	69
NW	1	13	17	25	14	1	71
NNW	0	7	20	20	5	3	55
Variable	0	0	0	0	0	0	0
Total	11	107	214	316	176	80	904

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 3
Hours of missing stability measurements in all stability classes: 17

Byron Generating Station

Period of Record: April - June 2008
Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	1	6	11	2	0	22
NNE	0	4	12	10	2	0	28
NE	0	4	10	10	0	3	27
ENE	0	6	15	18	4	1	44
E	3	5	16	25	8	1	58
ESE	0	1	2	10	12	4	29
SE	2	4	2	13	18	11	50
SSE	1	4	8	24	34	9	80
S	0	2	12	28	28	24	94
SSW	0	2	10	30	22	5	69
SW	0	1	16	35	10	10	72
WSW	0	2	13	21	7	2	45
W	1	1	20	20	7	1	50
WNW	0	3	10	15	2	0	30
NW	1	3	13	22	0	0	39
NNW	0	2	22	21	0	0	45
Variable	0	0	0	0	0	0	0
Total	10	45	187	313	156	71	782

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 17

Byron Generating Station

Period of Record: April - June 2008
Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	4	2	0	0	6
NNE	0	2	1	3	0	0	6
NE	0	0	0	1	1	0	2
ENE	0	2	4	0	1	0	7
E	0	2	6	2	1	0	11
ESE	1	1	1	4	6	2	15
SE	0	0	4	14	6	0	24
SSE	0	0	2	11	4	3	20
S	0	0	2	14	1	2	19
SSW	0	0	6	15	1	0	22
SW	0	2	4	11	1	0	18
WSW	0	2	1	2	0	0	5
W	0	0	1	5	0	0	6
WNW	0	3	7	13	0	0	23
NW	0	5	10	14	0	0	29
NNW	0	3	6	9	0	0	18
Variable	0	0	0	0	0	0	0
Total	1	22	59	120	22	7	231

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 17

Byron Generating Station

Period of Record: April - June 2008
Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	2	1	0	0	3
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	2	0	0	0	0	2
E	1	1	0	0	0	0	2
ESE	1	2	3	2	0	0	8
SE	0	1	2	2	0	0	5
SSE	1	4	0	4	0	1	10
S	0	2	2	4	0	0	8
SSW	0	1	2	3	0	0	6
SW	0	2	1	1	0	0	4
WSW	0	2	6	3	0	0	11
W	0	2	2	4	0	0	8
WNW	0	2	1	0	0	0	3
NW	0	2	3	3	0	0	8
NNW	0	0	4	2	0	0	6
Variable	0	0	0	0	0	0	0
Total	3	23	28	29	0	1	84

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 17

Byron Generating Station

Period of Record: July - September 2008
Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	1	0	0	0	0	1
E	0	3	1	0	0	0	4
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	1	0	0	0	1
SW	0	1	0	0	0	0	1
WSW	0	0	0	0	0	0	0
W	0	0	2	0	0	0	2
WNW	0	0	0	0	0	0	0
NW	0	0	1	0	0	0	1
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	5	5	0	0	0	10

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 5

Byron Generating Station

Period of Record: July - September 2008
Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	2	0	0	0	3
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	1	2	0	0	0	3
E	0	4	0	0	0	0	4
ESE	0	3	1	0	0	0	4
SE	0	0	0	0	0	0	0
SSE	0	1	0	0	0	0	1
S	0	0	2	0	0	0	2
SSW	0	1	2	0	0	0	3
SW	0	3	5	0	0	0	8
WSW	0	0	4	0	0	0	4
W	0	0	2	0	0	0	2
WNW	0	0	0	0	0	0	0
NW	0	1	0	0	0	0	1
NNW	0	2	2	0	0	0	4
Variable	0	0	0	0	0	0	0
Total	0	17	22	0	0	0	39

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 1
Hours of missing stability measurements in all stability classes: 5

Byron Generating Station

Period of Record: July - September 2008
Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	3	4	0	0	0	7
NNE	0	0	0	0	0	0	0
NE	0	1	0	0	0	0	1
ENE	0	1	2	0	0	0	3
E	0	7	1	0	0	0	8
ESE	0	4	1	0	0	0	5
SE	0	1	2	0	0	0	3
SSE	0	6	4	0	0	0	10
S	0	1	5	0	0	0	6
SSW	0	1	0	0	0	0	1
SW	0	5	3	0	0	0	8
WSW	0	6	2	0	0	0	8
W	0	4	6	0	0	0	10
WNW	0	3	2	0	0	0	5
NW	1	1	4	0	0	0	6
NNW	0	5	2	0	0	0	7
Variable	0	0	0	0	0	0	0
Total	1	49	38	0	0	0	88

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 1
Hours of missing stability measurements in all stability classes: 5

Byron Generating Station

Period of Record: July - September 2008
Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	4	44	23	0	0	0	71
NNE	5	21	17	0	0	0	43
NE	5	18	11	0	0	0	34
ENE	4	15	3	0	0	0	22
E	3	19	0	0	0	0	22
ESE	3	18	5	0	0	0	26
SE	2	29	5	0	0	0	36
SSE	3	29	22	0	0	0	54
S	0	24	36	6	0	0	66
SSW	1	16	17	7	0	0	41
SW	3	41	26	1	0	0	71
WSW	3	40	17	1	0	0	61
W	4	36	21	3	0	0	64
WNW	7	34	13	6	0	0	60
NW	7	35	10	0	0	0	52
NNW	6	37	23	0	0	0	66
Variable	0	0	0	0	0	0	0
Total	60	456	249	24	0	0	789

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 4
Hours of missing stability measurements in all stability classes: 5

Byron Generating Station

Period of Record: July - September 2008
Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	8	15	2	0	0	0	25
NNE	4	13	7	1	0	0	25
NE	5	9	4	0	0	0	18
ENE	6	25	9	0	0	0	40
E	5	29	2	0	0	0	36
ESE	4	14	3	0	0	0	21
SE	7	24	7	0	0	0	38
SSE	5	21	13	0	0	0	39
S	13	27	21	0	0	0	61
SSW	10	28	18	1	0	0	57
SW	9	45	9	1	0	0	64
WSW	13	38	6	0	0	0	57
W	10	35	2	0	0	0	47
WNW	16	17	3	0	0	0	36
NW	14	27	0	0	0	0	41
NNW	16	26	1	0	0	0	43
Variable	0	0	0	0	0	0	0
Total	145	393	107	3	0	0	648

Hours of calm in this stability class: 7
Hours of missing wind measurements in this stability class: 6
Hours of missing stability measurements in all stability classes: 5

Byron Generating Station

Period of Record: July - September 2008
Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	8	5	0	0	0	0	13
NNE	1	3	2	0	0	0	6
NE	1	0	0	0	0	0	1
ENE	5	4	2	0	0	0	11
E	6	36	0	0	0	0	42
ESE	5	22	1	0	0	0	28
SE	4	22	5	0	0	0	31
SSE	5	27	2	0	0	0	34
S	17	23	3	0	0	0	43
SSW	14	15	2	0	0	0	31
SW	8	10	0	0	0	0	18
WSW	11	3	0	0	0	0	14
W	14	7	0	0	0	0	21
WNW	16	2	0	0	0	0	18
NW	23	3	0	0	0	0	26
NNW	12	19	0	0	0	0	31
Variable	0	0	0	0	0	0	0
Total	150	201	17	0	0	0	368

Hours of calm in this stability class: 10
Hours of missing wind measurements in this stability class: 6
Hours of missing stability measurements in all stability classes: 5

Byron Generating Station

Period of Record: July - September 2008
Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	0	0	0	0	0	2
NNE	1	1	0	0	0	0	2
NE	1	0	0	0	0	0	1
ENE	0	0	0	0	0	0	0
E	5	9	0	0	0	0	14
ESE	9	29	1	0	0	0	39
SE	9	25	0	0	0	0	34
SSE	8	18	0	0	0	0	26
S	13	12	0	0	0	0	25
SSW	13	1	0	0	0	0	14
SW	3	0	0	0	0	0	3
WSW	9	0	0	0	0	0	9
W	11	0	0	0	0	0	11
WNW	10	0	0	0	0	0	10
NW	16	1	0	0	0	0	17
NNW	7	0	0	0	0	0	7
Variable	0	0	0	0	0	0	0
Total	117	96	1	0	0	0	214

Hours of calm in this stability class: 8
Hours of missing wind measurements in this stability class: 4
Hours of missing stability measurements in all stability classes: 5

Byron Generating Station

Period of Record: July - September 2008
Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	0	0	0	0
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	1	0	0	0	1
E	0	1	3	0	0	0	4
ESE	0	0	0	0	0	0	0
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	1	0	0	0	1
SW	0	0	1	0	0	0	1
WSW	0	0	0	0	0	0	0
W	0	0	2	0	0	0	2
WNW	0	0	0	0	0	0	0
NW	0	0	0	1	0	0	1
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	1	8	1	0	0	10

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 5

Byron Generating Station

Period of Record: July - September 2008
Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	3	0	0	0	3
NNE	0	0	0	0	0	0	0
NE	0	0	0	0	0	0	0
ENE	0	0	3	0	0	0	3
E	0	0	5	0	0	0	5
ESE	0	2	0	1	0	0	3
SE	0	0	0	0	0	0	0
SSE	0	0	1	0	0	0	1
S	0	0	2	1	0	0	3
SSW	0	0	1	0	0	0	1
SW	0	0	6	2	0	0	8
WSW	0	1	3	1	0	0	5
W	0	0	1	1	0	0	2
WNW	0	0	0	0	0	0	0
NW	0	1	0	1	0	0	2
NNW	0	0	3	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	0	4	28	7	0	0	39

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 1
Hours of missing stability measurements in all stability classes: 5

Byron Generating Station

Period of Record: July - September 2008
Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	6	1	0	0	7
NNE	0	1	0	0	0	0	1
NE	0	1	0	0	0	0	1
ENE	0	0	5	0	0	0	5
E	0	2	3	0	0	0	5
ESE	0	3	2	1	0	0	6
SE	0	1	5	1	0	0	7
SSE	0	1	4	2	0	0	7
S	0	0	2	3	0	0	5
SSW	0	0	2	0	0	0	2
SW	0	2	5	1	0	0	8
WSW	0	1	4	0	0	0	5
W	0	1	9	2	0	0	12
WNW	0	4	1	1	0	0	6
NW	0	2	3	1	0	0	6
NNW	0	2	2	1	0	0	5
Variable	0	0	0	0	0	0	0
Total	0	21	53	14	0	0	88

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 1
Hours of missing stability measurements in all stability classes: 5

Byron Generating Station

Period of Record: July - September 2008
Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	23	37	13	0	0	75
NNE	0	14	21	5	0	0	40
NE	2	12	7	10	5	0	36
ENE	2	11	8	4	0	0	25
E	0	13	9	0	0	0	22
ESE	1	13	9	7	0	0	30
SE	2	7	22	6	1	0	38
SSE	0	5	29	16	1	0	51
S	0	8	18	33	5	0	64
SSW	0	6	11	14	6	0	37
SW	0	8	40	24	4	0	76
WSW	1	15	26	10	1	0	53
W	1	10	45	9	2	2	69
WNW	2	13	28	7	5	1	56
NW	5	18	23	14	0	0	60
NNW	3	10	25	17	2	0	57
Variable	0	0	0	0	0	0	0
Total	21	186	358	189	32	3	789

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 4
Hours of missing stability measurements in all stability classes: 5

Byron Generating Station

Period of Record: July - September 2008
Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	9	5	0	0	16
NNE	2	5	16	11	2	0	36
NE	2	2	4	10	3	0	21
ENE	4	2	13	14	4	0	37
E	1	6	18	17	1	0	43
ESE	0	5	6	10	4	0	25
SE	2	3	10	8	2	0	25
SSE	1	1	6	12	14	0	34
S	1	3	15	29	8	0	56
SSW	1	4	17	25	8	0	55
SW	1	2	25	27	3	0	58
WSW	3	5	35	22	0	0	65
W	1	4	40	8	0	0	53
WNW	3	5	22	8	1	0	39
NW	1	11	24	17	0	0	53
NNW	1	7	20	13	0	0	41
Variable	0	0	0	0	0	0	0
Total	24	67	280	236	50	0	657

Hours of calm in this stability class: 3
Hours of missing wind measurements in this stability class: 1
Hours of missing stability measurements in all stability classes: 5

Byron Generating Station

Period of Record: July - September 2008
Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	3	6	12	0	0	22
NNE	1	3	7	5	2	0	18
NE	0	2	4	0	0	0	6
ENE	1	3	2	0	1	0	7
E	0	2	14	13	2	0	31
ESE	0	3	4	14	15	0	36
SE	1	1	4	6	17	2	31
SSE	1	2	4	7	5	1	20
S	1	4	5	13	3	0	26
SSW	0	1	16	15	3	0	35
SW	1	2	9	21	0	0	33
WSW	2	1	9	6	0	0	18
W	0	5	11	16	0	0	32
WNW	1	2	8	6	1	0	18
NW	1	1	13	8	0	0	23
NNW	0	5	14	8	0	0	27
Variable	0	0	0	0	0	0	0
Total	11	40	130	150	49	3	383

Hours of calm in this stability class: 1
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 5

Byron Generating Station

Period of Record: July - September 2008
Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	1	0	0	1
NNE	1	2	2	4	0	0	9
NE	0	1	3	3	0	0	7
ENE	0	1	0	1	0	0	2
E	0	0	2	4	2	0	8
ESE	0	1	3	12	4	0	20
SE	0	1	8	27	11	0	47
SSE	1	4	4	5	7	0	21
S	0	2	3	9	2	0	16
SSW	0	3	10	10	0	0	23
SW	2	3	8	7	0	0	20
WSW	1	2	2	0	0	0	5
W	0	2	9	3	0	0	14
WNW	2	2	3	1	0	0	8
NW	1	3	5	4	0	0	13
NNW	2	1	7	1	0	0	11
Variable	0	0	0	0	0	0	0
Total	10	28	69	92	26	0	225

Hours of calm in this stability class: 1
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 5

Byron Generating Station

Period of Record: October - December2008
Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	2	0	0	0	2
NNE	0	2	2	0	0	0	4
NE	0	0	0	0	0	0	0
ENE	0	1	0	0	0	0	1
E	0	1	0	0	0	0	1
ESE	0	0	1	0	0	0	1
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	1	0	1	0	2
WNW	0	0	7	0	0	0	7
NW	0	1	2	0	0	0	3
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	5	15	0	1	0	21

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Generating Station

Period of Record: October - December2008
Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	1	0	0	0	1
NNE	0	2	0	0	0	0	2
NE	0	0	0	0	0	0	0
ENE	0	0	0	0	0	0	0
E	0	2	0	0	0	0	2
ESE	0	2	1	1	0	0	4
SE	0	0	1	0	0	0	1
SSE	0	1	0	0	0	0	1
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	1	1	2	2	0	6
WNW	0	0	4	0	0	0	4
NW	0	0	1	0	0	0	1
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	8	9	3	2	0	22

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Generating Station

Period of Record: October - December2008
Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	4	2	0	0	0	6
NNE	0	0	0	0	0	0	0
NE	0	1	0	0	0	0	1
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	2	0	0	0	2
SE	0	1	3	0	0	0	4
SSE	0	2	1	0	0	0	3
S	0	1	2	0	0	0	3
SSW	0	2	1	0	0	0	3
SW	0	0	1	0	0	0	1
WSW	0	0	0	1	0	0	1
W	0	1	3	2	2	0	8
WNW	0	1	2	0	0	0	3
NW	0	2	3	0	0	0	5
NNW	0	2	1	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	0	17	21	3	2	0	43

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Generating Station

Period of Record: October - December2008
Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	1	19	24	22	0	0	66
NNE	2	8	3	5	0	0	18
NE	1	7	0	0	0	0	8
ENE	0	4	8	4	0	0	16
E	2	14	6	0	0	0	22
ESE	3	6	20	23	0	0	52
SE	0	9	38	11	0	0	58
SSE	2	10	28	15	2	0	57
S	1	17	50	27	11	0	106
SSW	0	6	34	17	6	0	63
SW	1	15	24	5	0	0	45
WSW	2	16	20	7	1	0	46
W	3	20	54	35	32	3	147
WNW	2	18	59	24	10	0	113
NW	5	31	59	16	0	0	111
NNW	3	33	65	41	0	0	142
Variable	0	0	0	0	0	0	0
Total	28	233	492	252	62	3	1070

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 15
Hours of missing stability measurements in all stability classes: 0

Byron Generating Station

Period of Record: October - December2008
Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	3	10	9	8	0	0	30
NNE	0	5	2	0	0	0	7
NE	3	5	0	0	0	0	8
ENE	2	4	11	0	0	0	17
E	1	36	8	0	0	0	45
ESE	0	29	28	0	0	0	57
SE	2	15	5	1	0	0	23
SSE	1	19	29	26	2	0	77
S	2	35	35	23	11	0	106
SSW	2	27	39	13	0	0	81
SW	5	18	11	0	0	0	34
WSW	3	11	6	2	0	0	22
W	9	30	18	1	0	0	58
WNW	6	27	12	1	0	0	46
NW	12	32	17	5	0	0	66
NNW	2	29	4	1	0	0	36
Variable	0	0	0	0	0	0	0
Total	53	332	234	81	13	0	713

Hours of calm in this stability class: 4
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Generating Station

Period of Record: October - December2008
Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	5	0	0	0	0	7
NNE	0	4	0	0	0	0	4
NE	0	0	0	0	0	0	0
ENE	1	3	1	0	0	0	5
E	4	20	1	0	0	0	25
ESE	7	16	4	0	0	0	27
SE	0	14	2	0	0	0	16
SSE	1	20	20	3	0	0	44
S	7	11	7	4	0	0	29
SSW	1	5	0	0	0	0	6
SW	5	3	0	0	0	0	8
WSW	2	3	0	0	0	0	5
W	12	13	0	0	0	0	25
WNW	10	3	0	0	0	0	13
NW	4	1	0	0	0	0	5
NNW	7	2	0	0	0	0	9
Variable	0	0	0	0	0	0	0
Total	63	123	35	7	0	0	228

Hours of calm in this stability class: 1
Hours of missing wind measurements in this stability class: 2
Hours of missing stability measurements in all stability classes: 0

Byron Generating Station

Period of Record: October - December2008
Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 30 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	4	1	0	0	0	0	5
NNE	0	0	0	0	0	0	0
NE	1	0	0	0	0	0	1
ENE	0	1	0	0	0	0	1
E	2	5	0	0	0	0	7
ESE	0	8	0	0	0	0	8
SE	1	10	1	0	0	0	12
SSE	2	11	0	0	0	0	13
S	5	2	0	0	0	0	7
SSW	4	1	0	0	0	0	5
SW	0	1	0	0	0	0	1
WSW	0	0	0	0	0	0	0
W	0	0	0	0	0	0	0
WNW	6	0	0	0	0	0	6
NW	7	0	0	0	0	0	7
NNW	5	0	0	0	0	0	5
Variable	0	0	0	0	0	0	0
Total	37	40	1	0	0	0	78

Hours of calm in this stability class: 7
Hours of missing wind measurements in this stability class: 4
Hours of missing stability measurements in all stability classes: 0

Byron Generating Station

Period of Record: October - December2008
Stability Class - Extremely Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	1	1	0	0	2
NNE	0	0	4	0	0	0	4
NE	0	0	0	0	0	0	0
ENE	0	0	1	0	0	0	1
E	0	1	0	0	0	0	1
ESE	0	0	0	1	0	0	1
SE	0	0	0	0	0	0	0
SSE	0	0	0	0	0	0	0
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	0	2	1	0	3
WNW	0	0	1	5	0	0	6
NW	0	0	2	1	0	0	3
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	1	9	10	1	0	21

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Generating Station

Period of Record: October - December2008
Stability Class - Moderately Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	0	1	0	0	1
NNE	0	0	1	0	0	0	1
NE	0	0	1	0	0	0	1
ENE	0	1	0	0	0	0	1
E	0	0	1	0	0	0	1
ESE	0	1	1	1	1	0	4
SE	0	0	0	1	0	0	1
SSE	0	1	0	0	0	0	1
S	0	0	0	0	0	0	0
SSW	0	0	0	0	0	0	0
SW	0	0	0	0	0	0	0
WSW	0	0	0	0	0	0	0
W	0	0	1	1	4	0	6
WNW	0	0	0	5	0	0	5
NW	0	0	0	0	0	0	0
NNW	0	0	0	0	0	0	0
Variable	0	0	0	0	0	0	0
Total	0	3	5	9	5	0	22

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Generating Station

Period of Record: October - December2008
Stability Class - Slightly Unstable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	2	2	0	0	5
NNE	0	0	0	0	0	0	0
NE	0	0	1	0	0	0	1
ENE	0	0	0	0	0	0	0
E	0	0	0	0	0	0	0
ESE	0	0	0	1	1	0	2
SE	0	1	0	3	1	0	5
SSE	0	2	0	0	0	0	2
S	0	1	0	2	0	0	3
SSW	0	1	1	1	0	0	3
SW	0	0	0	1	0	0	1
WSW	0	0	0	1	0	0	1
W	0	2	1	3	2	1	9
WNW	0	0	1	1	0	0	2
NW	0	1	5	0	0	0	6
NNW	0	0	3	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	0	9	14	15	4	1	43

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Generating Station

Period of Record: October - December2008
Stability Class - Neutral - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	2	7	17	22	16	1	65
NNE	2	1	8	4	10	0	25
NE	0	2	4	0	0	0	6
ENE	1	1	7	4	3	0	16
E	1	7	7	9	4	0	28
ESE	0	2	3	15	25	8	53
SE	0	5	7	24	18	2	56
SSE	0	3	14	17	9	8	51
S	0	3	22	44	23	15	107
SSW	0	1	15	30	11	7	64
SW	0	6	15	19	10	0	50
WSW	2	8	17	14	9	3	53
W	2	8	27	58	22	34	151
WNW	1	4	20	50	24	9	108
NW	0	13	27	42	23	1	106
NNW	0	12	27	60	33	1	133
Variable	0	0	0	0	0	0	0
Total	11	83	237	412	240	89	1072

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 13
Hours of missing stability measurements in all stability classes: 0

Byron Generating Station

Period of Record: October - December2008
Stability Class - Slightly Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	1	3	17	3	0	24
NNE	1	1	5	9	2	0	18
NE	0	0	3	2	0	0	5
ENE	2	0	4	5	1	0	12
E	0	1	17	23	2	0	43
ESE	0	0	5	16	33	4	58
SE	0	1	3	12	1	1	18
SSE	0	2	2	13	12	22	51
S	0	1	15	25	28	31	100
SSW	1	4	14	48	32	4	103
SW	0	4	12	22	9	0	47
WSW	1	4	7	11	2	0	25
W	0	5	13	41	2	0	61
WNW	0	2	16	24	2	0	44
NW	0	2	19	41	6	0	68
NNW	1	2	12	20	1	0	36
Variable	0	0	0	0	0	0	0
Total	6	30	150	329	136	62	713

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 4
Hours of missing stability measurements in all stability classes: 0

Byron Generating Station

Period of Record: October - December2008
Stability Class - Moderately Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	0	1	3	1	0	5
NNE	0	1	5	5	0	0	11
NE	0	0	0	0	0	0	0
ENE	1	2	2	1	0	0	6
E	2	6	4	7	1	2	22
ESE	0	3	6	4	7	4	24
SE	1	1	2	9	7	0	20
SSE	0	0	3	4	1	1	9
S	0	0	4	9	33	7	53
SSW	0	1	2	5	1	0	9
SW	0	1	5	3	0	0	9
WSW	1	1	2	4	1	0	9
W	0	2	7	11	0	0	20
WNW	0	1	1	10	0	0	12
NW	0	0	8	8	0	0	16
NNW	0	2	1	3	0	0	6
Variable	0	0	0	0	0	0	0
Total	5	21	53	86	52	14	231

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

Byron Generating Station

Period of Record: October - December2008
Stability Class - Extremely Stable - 250Ft-30Ft Delta-T (F)
Winds Measured at 250 Feet

Wind Direction	Wind Speed (in mph) 1-3	4-7	8-12	13-18	19-24	> 24	Total
N	0	2	1	0	1	0	4
NNE	0	1	3	0	0	0	4
NE	1	1	4	0	0	0	6
ENE	2	2	2	1	0	0	7
E	1	1	3	3	0	0	8
ESE	0	2	3	1	0	1	7
SE	0	0	1	2	6	0	9
SSE	0	0	0	7	4	0	11
S	1	1	1	2	8	0	13
SSW	0	0	3	0	0	0	3
SW	0	1	0	0	0	0	1
WSW	0	0	0	2	0	0	2
W	0	2	0	0	0	0	2
WNW	1	2	2	0	0	0	5
NW	0	3	1	0	0	0	4
NNW	0	2	1	0	0	0	3
Variable	0	0	0	0	0	0	0
Total	6	20	25	18	19	1	89

Hours of calm in this stability class: 0
Hours of missing wind measurements in this stability class: 0
Hours of missing stability measurements in all stability classes: 0

APPENDIX G

ANNUAL RADIOLOGICAL GROUNDWATER PROTECTION PROGRAM REPORT (ARGPPR)

Docket No: 50-454
50-455

BYRON NUCLEAR GENERATING STATION
UNITS 1 and 2

Annual Radiological
Groundwater Protection Program Report

1 January Through 31 December 2008

Prepared By

Teledyne Brown Engineering
Environmental Services

Exelon SM

Nuclear

Byron Nuclear Generating Station
Byron, IL 61010

May 2009

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Table Of Contents

Appendices

I. Summary and Conclusions

In 2006, Exelon instituted a comprehensive monitoring program to evaluate the impact of station operations on groundwater in the vicinity of Byron Nuclear Generating Station. The monitoring was conducted in two phases. Phase 1 of the monitoring was part of a comprehensive study initiated by Exelon to determine whether groundwater or surface water at and in the vicinity of Byron Nuclear Generating Station had been adversely impacted by any releases of radionuclides. Phase 1 was conducted by Conestoga Rovers and Associates (CRA) and the conclusions were made available to state and federal regulators as well as the public on an Exelon web site http://www.exeloncorp.com/ourcompanies/powergen/nuclear/Tritium.html. Phase 2 of the RGPP was conducted by Exelon corporate and station personnel to initiate follow up of Phase 1 and begin long-term monitoring at groundwater locations selected during Phase 1.This is the third in a series of annual reports on the status of the Radiological Groundwater Protection Program (RGPP) conducted at Byron Nuclear Generating Station. This report covers groundwater samples, collected from the environment, both on and off station property in 2008. During that time period, 68 analyses were performed on 49 samples from 22 locations.

Gamma-emitting radionuclides associated with licensed plant operations were not detected at concentrations greater than their respective Lower Limits of Detection (LLDs) as specified in the Offsite Dose Calculation Manual (ODCM) in any of the groundwater samples tested. In the case of tritium, Exelon specified that its laboratories achieve a lower limit of detection 10 times lower than that required by federal regulation.

Strontium-90 was not detected at a concentration greater than the LLD of 2.0 picoCuries per liter (pCi/L) in any of the groundwater samples tested in 2008.

Tritium was not detected in any of the groundwater samples at concentrations greater than the United States Environmental Protection Agency (USEPA) drinking water standard (and the Nuclear Regulatory Commission Reporting Limit) of 20,000 pCi/L. Low levels of tritium were detected at concentrations greater than the LLD of 200 pCi/L in three of 22 groundwater sample locations. The tritium concentrations in these three monitoring wells ranged from 207 ± 118 pCi/L to 2,150 ± 278 pCi/L. Two of these monitoring wells (AR-4 & AR-11) are located near Circ Water Blowdown vaults (3 & 4) along the blowdown line located west of the station. The third well (AR-7) is located west of U2 Containment. This well was resampled after a positive result (207 pCi/L) with the results being <LLD. The initial result was suspected to be due to rainwater intrusion into the well borehole that has since been corrected. Well AR-4 has shown an overall decrease in tritium concentration since first sampled in 2006. Well AR-11 has

been relatively unchanged from previous results. Wells AR-2 & AR-3 tritium concentrations decreased below the LLD value for the first time since sampling began in 2006.

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

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II. Introduction

The Byron Station, a two-unit PWR station, is located about two miles east of the Rock River and approximately three miles southwest of Byron in Ogle County, Illinois. The reactors are designed to have capacities of 1280 and 1254 MW gross, respectively. Unit One loaded fuel in November 1984 and went on line February 2, 1985. Unit Two went on line January 9, 1987.

This report covers those analyses performed by Teledyne Brown Engineering (TBE) on samples collected in 2008.

A. Objectives of the RGPP

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

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

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

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

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

5. Regularly assess analytical results to identify adverse trends.

6. Take necessary corrective actions to protect groundwater resources.

B. Implementation of the Objectives

The objectives identified have been implemented at Byron Nuclear Generating Station as discussed below:

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

2. The Byron Nuclear Generating Station reports describe the local hydrogeologic regime. Periodically, the flow patterns on the surface and shallow subsurface are updated based on ongoing measurements.

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

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

5. Byron Nuclear Generating Station staff and consulting hydrogeologist assess analytical results on an ongoing basis to identify adverse trends.

C. Program Description

1. Sample Collection

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

Groundwater

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

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

D. Characteristics of Tritium (H-3)

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

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

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

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

III. Program Description

A. Sample Analysis

This section describes the general analytical methodologies used by TBE to analyze the environmental samples for radioactivity for the Byron Nuclear Generating Station RGPP in 2008.

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

1. Concentrations of gamma emitters in groundwater (as required by procedure).

2. Concentrations of strontium in groundwater (as required by procedure).

3. Concentrations of tritium in groundwater.

B. Data Interpretation

The radiological data collected prior to Byron Nuclear Generating Station becoming operational were used as a baseline with which these operational data were compared. For the purpose of this report, Byron Nuclear Generating 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 specified by federal regulation as a 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.

C. Background Analysis

A pre-operational radiological environmental monitoring program (pre-operational REMP) was conducted to establish background radioactivity levels prior to operation of the Station. The environmental media sampled and analyzed during the pre-operational REMP were atmospheric radiation, fall-out, domestic water, surface water, marine life, and foodstuffs. The results of the monitoring were detailed in the report entitled, Environmental Radiological Monitoring for Byron Nuclear Generating Nuclear Power Station, Commonwealth Edison Company, Annual Report 1984, April 1985.

The pre-operational REMP contained analytical results from samples collected from the surface water and groundwater. All groundwater samples listed in the pre-Operational REMP report were <200 pCi/L.

1. Background Concentrations of Tritium

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

a. Tritium Production

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

A major anthropogenic source of tritium and strontium-90 comes from the former atmospheric testing of thermonuclear weapons. Levels of tritium in precipitation increased significantly during the 1950s and early 1960s, and later with

additional testing, resulting in the release of significant amounts of tritium to the atmosphere. The Canadian heavy water nuclear power reactors, other commercial power reactors, nuclear research and weapons production continue to influence tritium concentrations in the environment.

b. Precipitation Data

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

c. Surface Water Data

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

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

100 pCi/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. Clearly, these sample results cannot be distinguished as different from background at this concentration.

IV. Results and Discussion

A. Groundwater Results

Groundwater

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

Tritium

Samples from all locations were analyzed for tritium activity (Table B–I.1, Appendix B). Tritium values ranged from less than the detection limit to 2,150 pCi/l. Within the station boundary, concentrations of tritium at the bottom of the Galena-Platteville aquifer ranged from 207-2150 pCi/L. Outside of the station boundary, tritium concentrations were all less than detection limit (<200 pCi/L). This is based on evaluation of groundwater sample results obtained as part of the Byron Station REMP. Of the twenty-two wells sampled in 2008, three contained levels of tritium above the lower limit of detection (LLD) of 200 pCi/L. They were: AR-4 (2150 and 1910 pCi/L), AR-11 (1220 & 1280 pCi/L), and AR-7 (207 pCi/L). Well AR-7 was resampled after the initial positive result and found to be <LLD. The suspected cause of the initial result was rainwater intrusion into the well borehole that has since seen corrected. Well AR-4 has shown an overall decrease in tritium concentration since first sampled in 2006. Well AR-11 has been relatively unchanged from previous results. The tritium detected in groundwater samples has been isolated to the Galena-Platteville aquifer, which is isolated from the deeper regional groundwater aquifer by the semi-confining Glenwood Formation. Groundwater quality data from production wells and monitoring wells at the station located below this aquifer do not indicate concentrations of tritium greater than the LLD of 200 pCi/L. As such, the tritium impact is limited to the Galena-Platteville aquifer.

Strontium

Strontium-90 was not detected in the any of the samples tested in 2008.

Gamma Emitters

Gamma-emitting radionuclides associated with licensed plant operations were not detected at concentrations greater than their respective Lower Limits of Detection (LLDs) in any of the samples during 2008.

B. Drinking Water Well Survey

No drinking water well surveys were conducted in 2008.

C. Summary of Results – Inter-Laboratory Comparison Program

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

D. Leaks, Spills, and Releases

There are no new previously unidentified leaks or plumes at Byron Station. There have been no new leaks, spills or releases at Byron Station in 2008.

E. Trends

Well AR-4 has shown an overall decrease in tritium concentration since first sampled in 2006. In 2008, Wells AR-2 & AR-3 tritium concentrations decreased below the LLD value for the first time since sampling began in 2006.

F. Investigations

No investigations were initiated in 2008 due to anomalous sample results.

G. Actions Taken

1. Compensatory Actions

   No compensatory actions were initiated in 2008.

2. Installation of Monitoring Wells

   No new monitoring wells were installed in 2008.

3. Actions to Recover/Reverse Plumes

No actions were undertaken to recover/reverse plumes in 2008.

APPENDIX A

LOCATION DESIGNATION

TABLE A-1: Radiological Groundwater Protection Program - Sampling Locations, Distance and Direction, Byron Nuclear Generating Station, 2008

Site	Site Type	Temporary/Permanent	Distance and Direction
AR-1	Monitoring Well	Permanent	0.36 miles/NNW
AR-10	Monitoring Well	Permanent	0.28 miles/NE
AR-11	Monitoring Well	Permanent	1.36 miles/WNW
AR-2	Monitoring Well	Permanent	0.6 miles/NW
AR-3	Monitoring Well	Permanent	0.8 miles/NW
AR-4	Monitoring Well	Permanent	1.36 miles/WNW
AR-5	Monitoring Well	Permanent	1.92 miles/WNW
AR-6	Monitoring Well	Permanent	2.04 miles/WNW
AR-7	Monitoring Well	Permanent	0.04 miles/W
AR-8	Monitoring Well	Permanent	0.12 miles/S
AR-9	Monitoring Well	Permanent	0.24 miles/E
CAR-1	Monitoring Well	Permanent	2.25 miles/WNW
CAR-2	Monitoring Well	Permanent	1.52 miles/WNW
CAR-3	Monitoring Well	Permanent	0.16 miles/SE
DF-24 (EPA well)	Monitoring Well	Permanent	1.36 miles/WNW
GW-9	Monitoring Well	Permanent	0.9 miles/WNW
MW-1 (EPA well)	Monitoring Well	Permanent	0.6 miles/NW
MW-3 (EPA well)	Monitoring Well	Permanent	0.8 miles/NW
TW-13	Monitoring Well	Permanent	2.3 miles/WNW
TW-14	Monitoring Well	Permanent	2.25 miles/WNW
TW-15	Monitoring Well	Permanent	2.2 miles/WNW
Well 7	Monitoring Well	Permanent	0.4 miles/SE

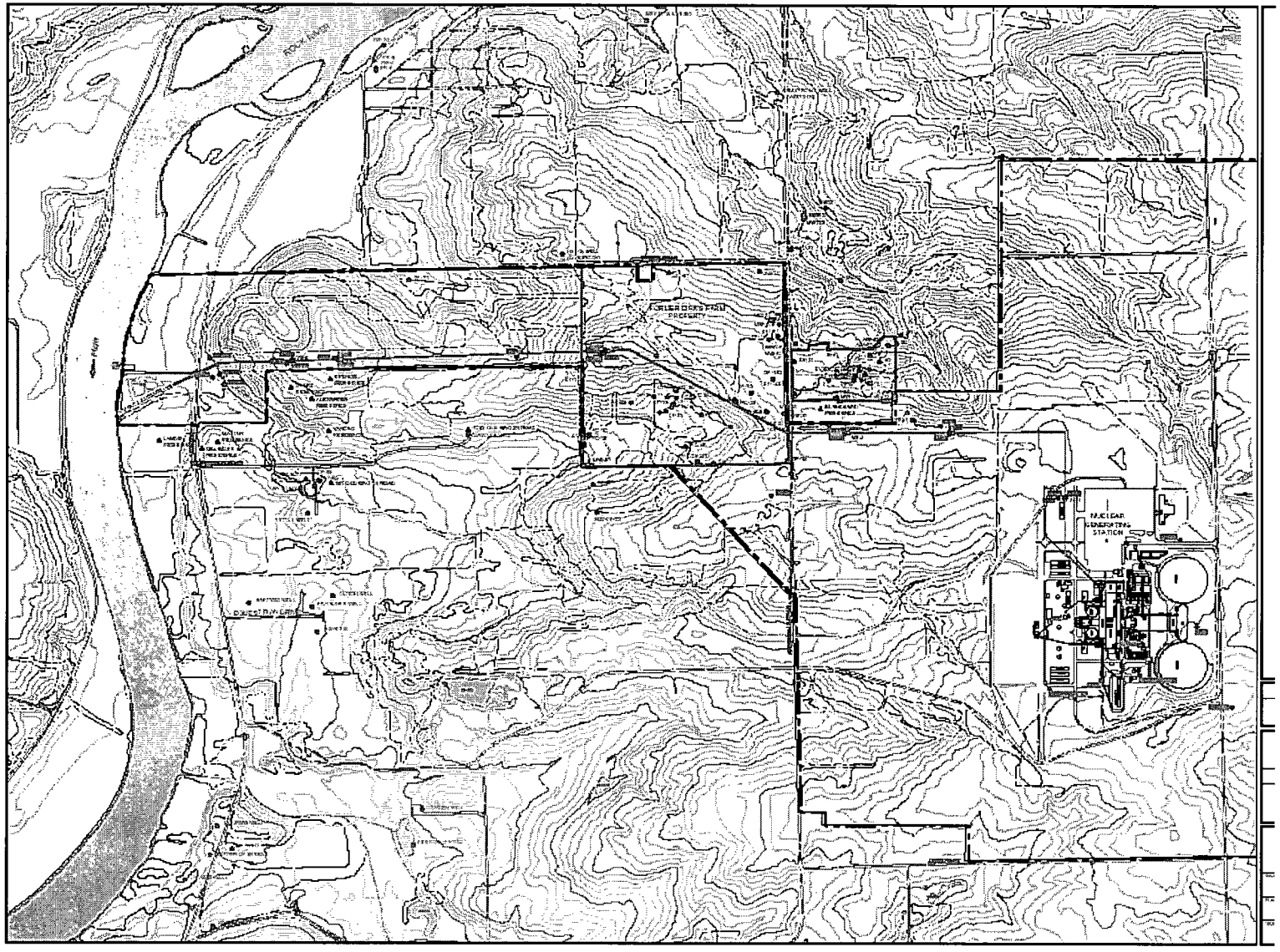

Figure A-1
Monitoring Well Locations, Byron Nuclear Generating Station, 2008

APPENDIX B

DATA TABLES

TABLE B-I.1 CONCENTRATIONS OF TRITIUM AND STRONTIUM IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF BYRON NUCLEAR GENERATION STATION, 2008

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

SITE	COLLECTION PERIOD	H-3	SR-90
AR-1	06/02/08	< 187	
AR-1	09/30/08	< 163	< 1.5
AR-10	06/02/08	189 ± 117	
AR-10	09/30/08	< 160	< 0.7
AR-11	05/28/08	1220 ± 187	
AR-11	10/01/08	1280 ± 189	< 1.4
AR-2	05/29/08	< 186	
AR-2	10/01/08	< 169	< 0.7
AR-3	01/08/08	757 ± 154	
AR-3	02/12/08	390 ± 118	
AR-3	03/18/08	413 ± 119	
AR-3	05/29/08	< 186	
AR-3	10/01/08	< 163	< 0.4
AR-4	05/28/08	2150 ± 278	
AR-4	05/28/08	1890 ± 264	
AR-4	10/01/08	1910 ± 250	< 0.6
AR-5	05/28/08	< 184	
AR-5	10/01/08	< 166	< 0.6
AR-6	05/28/08	< 188	
AR-6	10/01/08	< 171	< 0.5
AR-7	06/02/08	207 ± 118	
AR-7	06/02/08	228 ± 121	
AR-7	06/30/08	< 169	
AR-7	09/30/08	< 161	< 0.8
AR-8	06/02/08	< 185	
AR-8	09/30/08	< 169	< 0.8
AR-9	06/02/08	< 189	
AR-9	09/30/08	< 164	< 0.9
CAR-1	05/28/08	< 187	
CAR-1	10/01/08	< 166	< 0.6
CAR-2	05/28/08	< 191	
CAR-2	10/01/08	< 158	< 0.8
CAR-3	06/02/08	< 185	
CAR-3	09/30/08	< 167	< 0.8
DF-24	05/28/08	< 188	
DF-24	10/01/08	< 167	
GW-9	05/29/08	< 181	
GW-9	10/02/08	< 163	< 0.4
MW-1	05/29/08	< 186	
MW-1	10/01/08	< 172	
MW-3	05/29/08	< 186	
MW-3	10/01/08	(1)	
TW-13	05/28/08	< 188	
TW-13	10/02/08	< 164	< 1.2
TW-14	05/28/08	< 186	
TW-14	10/02/08	< 168	< 0.4
TW-15	05/28/08	< 186	
TW-15	10/02/08	< 164	< 0.2
WELL 7	05/29/08	< 186	
WELL 7	10/02/08	< 150	< 0.9

(1) No sample was collected due to the well being dry.

TABLE B-I.2 **CONCENTRATIONS OF GAMMA EMITTERS IN GROUNDWATER SAMPLES COLLECTED IN THE VICINITY OF BYRON NUCLEAR GENERATION STATION, 2008**

RESULTS IN UNITS OF PCI/LITER ± 2 SIGMA

STC	COLLECTION PERIOD	Be-7	K-40	Mn-54	Co-58	Fe-59	Co-60	Zn-65	Nb-95	Zr-95	Cs-134	Cs-137	Ba-140	La-140
AR-1	09/30/08	< 30	< 51	< 2	< 2	< 6	< 2	< 5	< 3	< 5	< 2	< 2	< 45	< 14
AR-10	09/30/08	< 27	< 19	< 2	< 3	< 6	< 2	< 5	< 3	< 5	< 2	< 2	< 45	< 15
AR-11	10/01/08	< 23	< 48	< 2	< 2	< 6	< 2	< 4	< 3	< 4	< 2	< 2	< 38	< 13
AR-2	10/01/08	< 26	< 45	< 2	< 3	< 7	< 2	< 5	< 3	< 5	< 2	< 3	< 39	< 11
AR-3	10/01/08	< 22	< 35	< 2	< 3	< 6	< 3	< 4	< 3	< 5	< 2	< 2	< 33	< 12
AR-4	10/01/08	< 25	< 19	< 2	< 3	< 7	< 2	< 5	< 3	< 5	< 2	< 2	< 39	< 11
AR-5	10/01/08	< 27	89 ± 44	< 2	< 3	< 7	< 2	< 5	< 3	< 5	< 2	< 2	< 39	< 15
AR-6	10/01/08	< 20	64 ± 33	< 2	< 2	< 5	< 2	< 3	< 2	< 4	< 2	< 2	< 36	< 12
AR-7	09/30/08	< 32	71 ± 37	< 3	< 3	< 8	< 2	< 6	< 4	< 6	< 3	< 3	< 47	< 13
AR-8	09/30/08	< 24	< 17	< 2	< 2	< 6	< 2	< 4	< 3	< 4	< 2	< 2	< 40	< 12
AR-9	09/30/08	< 22	< 16	< 2	< 2	< 6	< 2	< 4	< 3	< 4	< 2	< 2	< 38	< 13
CAR-1	10/01/08	< 16	< 11	< 1	< 2	< 4	< 1	< 3	< 2	< 3	< 1	< 1	< 24	< 7
CAR-2	10/01/08	< 32	< 27	< 3	< 3	< 7	< 3	< 6	< 4	< 6	< 3	< 3	< 45	< 14
CAR-3	09/30/08	< 21	< 15	< 2	< 2	< 6	< 2	< 3	< 2	< 4	< 2	< 2	< 37	< 13
GW-9	10/02/08	< 25	< 17	< 2	< 2	< 5	< 2	< 4	< 2	< 4	< 2	< 2	< 34	< 11
TW-13	10/02/08	< 28	98 ± 36	< 2	< 3	< 6	< 2	< 5	< 3	< 5	< 2	< 2	< 40	< 11
TW-14	10/02/08	< 25	< 17	< 2	< 2	< 6	< 2	< 4	< 3	< 5	< 2	< 2	< 33	< 11
TW-15	10/02/08	< 19	48 ± 26	< 2	< 2	< 4	< 2	< 3	< 2	< 3	< 2	< 2	< 26	< 8
WELL 7	10/02/08	< 31	< 49	< 2	< 3	< 7	< 3	< 5	< 4	< 6	< 3	< 3	< 47	< 14