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Subject: Annual Radioactive Effluent Release Report for 2012
River Bend Station - Unit 1
License No. NPF-47
Docket No. 50-458

RBG-47359
RBF1-13-0060

Dear Sir or Madam,

Enclosed is the River Bend Station (RBS) Annual Radioactive Effluent Release Report for the period January 1, 2012, through December 31, 2012. This report is submitted in accordance with the RBS Technical Specifications, Section 5.6.3.

Should you have any questions regarding the enclosed information, please contact Mr. Joseph Clark at (225) 381-4177.

Sincerely,

A handwritten signature in black ink, appearing to be "JAC", written over a horizontal line.

JAC/wjf
enclosure

IE48
NRR

Annual Radioactive Effluent Release Report for 2012
RBG-47359
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2012 ANNUAL EFFLUENT RELEASE REPORT

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I. INTRODUCTION

This is the annual Radioactive Effluent Release Report for the period of January 1, 2012, through December 31, 2012. This report is submitted in accordance with Technical Specification 5.6.3 of Appendix A to River Bend Station (RBS) License Number NPF-47.

II. SUPPLEMENTAL INFORMATION

A. Regulatory Limits

1. 10CFR50, Appendix I Limits

a) Fission and Activation Gases

In accordance with Technical Requirement (TR) 3.11.2.2, the air dose due to noble gases released in gaseous effluent to areas at and beyond the SITE BOUNDARY shall be limited to:

$$\begin{aligned}
 D_{\text{Gamma-Air}} &= \text{gamma air dose from radioactive noble gases in millirad (mrad)} \\
 &= 3.17\text{E-}8 \sum_{i=1}^n M_i \overline{(X/Q)} Q_i \leq 5 \text{ mrad/qtr} \\
 &\leq 10 \text{ mrad/yr}
 \end{aligned}$$

$$\begin{aligned}
 D_{\text{Beta-Air}} &= \text{beta air dose from radioactive noble gases in millirad (mrad)} \\
 &= 3.17\text{E-}8 \sum_{i=1}^n N_i \overline{(X/Q)} Q_i \leq 10 \text{ mrad/qtr} \\
 &\leq 20 \text{ mrad/yr}
 \end{aligned}$$

b) Radioiodines (I-131 & I-133) and Particulate

In accordance with Technical Requirement 3.11.2.3, the dose to a MEMBER OF THE PUBLIC from radioiodines (I-131 and I-133), tritium (H-3) and all radionuclides in particulate form with half-lives greater than 8 days, in gaseous effluent releases to areas at and beyond the SITE BOUNDARY shall be limited to:

$$D_{\text{I\&8DP}\tau} = \text{Dose in mrem to the organ } (\tau) \text{ for the age group of interest from radioiodine (I-131, I-133, tritium, and 8 day particulate via the pathway}$$

of interest.)

$$= 3.17\text{E-}08 (F_o) \sum_{i=1}^n P_{it} (X/Q) Q_i \quad \text{and}$$

$$= 3.17\text{E-}08 (F_o) \sum_{i=1}^n R_{it} (D/Q) Q_i \quad \text{and}$$

$$D_{\tau} = \sum_{z=1}^n D_{I\&8DP\tau} \leq 7.5 \text{ mrem/qtr}$$

$$\leq 15 \text{ mrem/yr}$$

(above terms defined in the RBS ODCM)

c) Liquid Effluent

In accordance with Technical Requirement 3.11.1.2, the dose or dose commitment to a MEMBER OF THE PUBLIC from radioactive materials in liquid effluent released to UNRESTRICTED AREAS shall be limited to:

$$D_{it} = \frac{A_{it} \Delta t Q_i}{(DF) D_w}$$

and

$$D_{TOTAL\tau} = \sum_{i=1}^n D_{it}$$

$D_{TOTAL\tau}$ = Total dose commitment to the organ (τ) due to all releases during the desired time interval in mrem

and

$$D_{TOTAL} \quad \text{Total Body} \quad \leq 1.5 \text{ mrem/qtr}$$

$$\leq 3 \text{ mrem/yr}$$

$$D_{TOTAL} \quad \text{Any Organ} \quad \leq 5 \text{ mrem/qtr}$$

$$\leq 10 \text{ mrem/yr}$$

(above terms defined in RBS ODCM)

2. 40CFR190 Limits

In accordance with Technical Requirement 3.11.4, the annual (calendar year) dose or dose commitment to any MEMBER OF THE PUBLIC, due to releases of radioactivity and to radiation from uranium fuel cycle sources, shall be limited to:

\leq 25 mrem to the total body or any organ (except the thyroid)

\leq 75 mrem to the thyroid

3. Miscellaneous Limits

a. Technical Requirement 3.11.2.1 - Fission and Activation Gases

In accordance with Technical Requirement 3.11.2.1, the dose rate due to radioactive materials released in gaseous effluents from the site to areas at and beyond the SITE BOUNDARY shall be less than or equal to 500 millirems/year (mrem/yr) to the total body and less than or equal to 3000 mrem/yr to the skin:

DR_{TB} = Dose rate to the total body in mrem/yr

$$= \sum_{i=1}^n K_i \overline{(X/Q)} \cdot Q_i \leq 500 \text{ mrem/yr and}$$

DR_{SKIN} = Dose rate to the skin in mrem/yr

$$= \sum_{i=1}^n L_i + 1.1M_i \overline{(X/Q)} \cdot Q_i \leq 3000 \text{ mrem/yr}$$

(above terms defined in RBS ODCM)

b. Technical Requirement 3.11.2.1 - Radioiodine (I-131 & I-133) and Particulate

In accordance with Technical Requirement 3.11.2.1, the dose rate due to radioiodines, tritium, and all radionuclides in particulate form with half-lives greater than 8 days released in gaseous effluents from the site to areas at and beyond the SITE BOUNDARY shall be limited to less than or equal to 1500 mrem/yr to any organ:

$DR_{I\&8DP\tau}$ = Dose rate to the organ τ for the age pathway group of interest from Radioiodines (I-131 & I-133), tritium, and 8 day particulate via the inhalation pathway in mrem/yr.

$$DR_{I\&8DP\tau} = \sum_{i=1}^n P_i \overline{(X/Q)} Q_i \leq 1500 \text{ mrem/yr}$$

(above terms defined in RBS ODCM)

c. Technical Requirement 3.11.1.1 - Liquid Effluent

In accordance with Technical Requirement 3.11.1.1, the concentration of radioactive material released in liquid effluent to UNRESTRICTED AREAS shall be limited to ten times the concentrations specified in 10CFR20, Appendix B, Table 2, Column 2 for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to 2.0E-04 microcuries/milliliter total concentration.

d. Technical Requirement 3.11.2.5 - Ventilation Exhaust Treatment

In accordance with Technical Requirement 3.11.2.5, the VENTILATION EXHAUST TREATMENT SYSTEM shall be used to reduce radioactive materials in gaseous waste prior to their discharge when the projected doses, due to gaseous effluent releases to areas and beyond the SITE BOUNDARY would exceed 0.3 mrem to any organ in a 31-day period.

e. Technical Requirement 3.11.1.3 - Liquid Radwaste Treatment System

In accordance with Technical Requirement 3.11.1.3, the liquid radwaste treatment system shall be used to reduce the radioactive materials in liquid waste prior to their discharge when the projected doses, due to the liquid effluent, to UNRESTRICTED AREAS would exceed 0.06 mrem to the total body or 0.2 mrem to any organ in a 31-day period.

B. Effluent Concentration Limits

1. Gaseous Releases

The concentrations of radioactive gaseous releases are based on the dose rate restrictions in RBS Technical Requirements, rather than the Effluent Concentration Limits (ECL) listed in 10CFR20 Appendix B, Table 2, Column 1.

2. Liquid Releases

The Effluent Concentration Limits of radioactive materials in liquid effluents are limited to ten times 10CFR20, Appendix B, Table 2, Column 2.

C. Measurements and Approximations of Total Radioactivity

1. Gaseous Effluent

a. Fission and Activation Gases

Periodic grab samples are obtained from the Main Plant Exhaust Duct, Fuel Building Exhaust Vent and Radwaste Building Exhaust Vent. These samples are analyzed using high purity germanium detectors coupled to computerized pulse height analyzers. The sampling and analysis frequencies are described in Table 1F.

Sampling and analysis of these effluent streams provide noble gas radionuclide relative abundance that can then be applied to the noble gas gross activity and gross activity release rate to obtain nuclide specific activities and release rates. The noble gas gross activity released within a specific time period is determined by integrating the stack monitor release rate over the considered time period. If no activity was detected between the stack grab sample and a significant increase in hourly averages was recorded, the nuclide relative abundance of the last sample (or the last similar event), which indicated the presence of activity, was used to obtain nuclide specific activities. Correction factors for the monitors are derived and applied for each sampling period whenever noble gas radionuclides are detected in the effluent stream.

b. Particulate and Radioiodine (I-131 & I-133)

Particulates, Iodine-131 and Iodine-133 are continuously sampled from the three release points using a particulate filter and charcoal cartridge in line with a sample pump (stack monitor pump). These filters and charcoal cartridges are removed and analyzed in accordance with the frequencies specified in Table 1F. Analysis is performed to identify and quantify radionuclides using high purity germanium detectors coupled to computerized pulse height analyzers. Given the nuclide specific activity concentrations, process flow rate, and duration of the sample, the nuclide specific activity released to the environment can be obtained. Due to the continuous sampling process, it is assumed that the radioactive material is released to the environment at a constant rate within the sampling period. Strontium-89 and Strontium-90 (Sr-89 and Sr-90)

are quantitatively analyzed by counting by gas flow proportional counting. Gross alpha analysis is performed using a zinc sulfide scintillation counter.

c. Tritium

Tritium grab samples are obtained from the three gaseous release points at the specified frequencies listed in Table 1F using an ice bath condensation collection method. The collected sample is then analyzed using a liquid scintillation counter. Given the tritium concentration, process flow rate, and time period for which the sample is obtained, the tritium activity released to the environment can be determined. Due to the frequency of sampling, it is assumed that the tritium is released to the environment at a constant rate within the time period for which the sample is obtained.

d. Carbon-14 (C-14)

C-14 release details are discussed in Section VI.

e. Nickel-63

In the third quarter 2012, Nickel-63 was quantified in the Fuel Building composite stack samples.

2. Liquid Effluent

Representative grab samples are obtained from the appropriate sample recovery tank and analyzed prior to release of the tank in accordance with the frequencies listed in Table 2E. Analysis for gamma emitting nuclides (including dissolved and entrained noble gases) is performed using a high purity germanium detector coupled to a computerized pulse height analyzer. Tritium concentration is determined using a liquid scintillation counter. Strontium-89 and Strontium-90 are quantitatively analyzed by scintillation techniques (Cherenkov counting). Iron-55 is counted with a liquid scintillation counter after digestion of the iron. Gross alpha analysis is performed using a zinc sulfide scintillation counter. The activity of each nuclide released to the environment is determined from the nuclide specific concentration and total tank volume released.

D. Batch Releases

1. Liquid Effluents

Batch releases and receiving stream flow from River Bend Station during the reporting period of January 1, 2012, through December 31, 2012 are shown in Table 2D.

The Mississippi River stream flow is obtained by averaging data from the U. S. Army Corp of Engineers website using flow gauge data at Tarbert Landing.

2. Gaseous Effluents

There were no routine batch releases of gaseous effluents from River Bend Station during the reporting period of January 1, 2012, through December 31, 2012.

E. Abnormal Releases

There were no gaseous abnormal releases in 2012. A liquid abnormal release is suspected to have occurred in 2012.

On October 7, 2012, water was found leaking continuously from the ground and accumulating in a ditch on the south side of the plant near the Waste Water Treatment Plant (WWTP). Initial investigation believed that the source of the leak was domestic water. This was based on a pH sample, known buried piping in the area, and the fact that the waste water treatment plant pumps run intermittently. The leak was estimated to be about 5-gallons per minute.

Refueling Outage 17 started on February 16, 2013. Plant personnel noticed that the water leak had stopped, and later during the outage determined that no maintenance on the leak had been performed. A pump test of the WWTP effluent pumps was performed which revealed that the leaking line was actually the 4-inch greywater effluent line from the WWTP and not the domestic water line. The greywater effluent line takes treated wastewater (Outfall 201) from the WWTP to the Circulating Water System (CWS) blowdown line. The CWS blowdown line goes through permitted Outfall 001 to the Mississippi River. Both the greywater effluent line and the Circulating Water System (CWS) blowdown were secured to support plant maintenance activities on February 17, 2013. The flow stopped when the CWS blowdown line was secured for Refueling Outage 17.

The subsequent investigation determined that the reason for the constant flow at the leak location was due to a stuck open check valve (1PBS-V3014) and failed air-relief valve in the greywater discharge line. Check valve 1PBS-V3014 is designed to prevent backflow from the CWS blowdown line into the greywater effluent line. Check valve 1PBS-V3014 had a piece of wood stuck in it preventing the valve from seating correctly. As a

result, water from the CWS blowdown line backflowed into the 4-inch greywater effluent line from the WWTP and emerged from a below ground air-relief valve. The water that flowed out of the greywater effluent line appears to have stayed onsite in the plant ditch system and soaked into the ground. There was no evidence of flow to the surface waters (creeks) that would have gone offsite.

Liquid Radwaste System (LWS) discharges flow into the CWS blowdown line and this connection is upstream of the WWTP tie-in. Therefore, during periods of LWS discharging, some of the diluted radioactive water (containing tritium (H-3), cobalt-60 (Co-60) and some noble gases would have been able to leak onto the ground. A mud sample from beneath the ground surface in the leak area was obtained on March 17, 2013. The sample was counted wet with no specific soil geometry and showed detectable levels of Co-60 (2.4E-08 uCi/gm) (no water was available to perform tritium analysis). This indicated the possibility of CWS water backflowing through the pipe.

The activity of the LWS releases for the time period was reviewed. The dose to the public is negligible from this event. Even with extremely conservative assumptions, the maximum dose calculated is a small percentage of the 10CFR50 liquid effluent dose objectives.

River Bend Station has a groundwater monitoring program and has wells down gradient of the greywater piping leak location. The site conceptual hydrology model indicates a down-gradient flow generally to the southwest from the greywater piping leak to the Mississippi River. Currently a plan is being developed to remediate the contaminated soil around the leak path. In addition, any potential infiltration will be monitored by the RBS groundwater monitoring program. Contract geologists are reviewing this situation to determine if additional monitoring wells are required.

The River Bend Station site does not utilize ground water for drinking water use, and the nearest known drinking water user is many miles downstream in the Mississippi River below Baton Rouge, Louisiana. Due to the significant dilution volume of the Mississippi River, it is highly unlikely that any radioactivity that may enter the groundwater from the greywater piping leak will have any meaningful impact offsite.

Private wells south of the River Bend Station property line are not expected to be affected by this situation. The most recent information indicates all neighbors surrounding the station use the parish water supply for their primary source of drinking water. In addition, the direction of groundwater flow is not towards these wells.

River Bend Station made notifications in accordance with NEI 07-07. While the confirmation of this event occurred in 2013, it is being reported in this report since the leak began in 2012. Since any activity released would have been part of a permitted LWS batch release, the curies released are properly reported in the Table 2 series.

F. Estimate of Total Error

1. Liquid

The maximum error associated with sample collection, laboratory analysis, and discharge volume is collectively estimated to be:

Fission and Activation Products: $\pm 14.2\%$

Tritium: $\pm 14.2\%$

Dissolved and Entrained Noble Gases: $\pm 14.2\%$

Gross Alpha Radioactivity: $\pm 14.2\%$

2. Gaseous

The maximum error (not including sample line loss) associated with sample flow, process flow, sample collection, monitor accuracy and laboratory analysis are collectively estimated to be:

Noble Gases: $\pm 37.0\%$

Iodines : $\pm 18.6\%$

Particulate: $\pm 18.6\%$

Tritium: $\pm 18.2\%$

3. Determination of Total Error

The total error (i.e., collective error due to sample collection, laboratory analysis, sample flow, process flow, monitor accuracy, etc.) is calculated using the following equation:

$$E_T = \sqrt{((E_1)^2 + (E_2)^2 + \dots (E_n)^2)}$$

where:

E_T = total error

$E_1, E_2 \dots E_n$ = individual errors due to sample collection, laboratory analysis, sample flow, process flow, monitor accuracy, etc.

III. GASEOUS EFFLUENT SUMMARY INFORMATION

Refer to the Table 1 series for the summation of gaseous releases. It should be noted that an entry of "0.00E+00" Curie (Ci) or microcurie/second (uCi/sec) in this section indicates that the concentration of the particular radionuclide was below the Lower Limit of Detection (LLD) as listed in Table 1F. Also, any nuclide not appearing in the tables was < LLD for all four quarters.

IV. LIQUID EFFLUENT SUMMARY INFORMATION

Refer to the Table 2 series for the summation of liquid releases. It should be noted that an entry of "0.00E+00" Ci or uCi/ml in this section indicates that the concentration of the particular radionuclide was below the Lower Limit of Detection (LLD) as listed in Table 2E. Also, any nuclide not appearing in the tables was < LLD for all four quarters.

V. SOLID WASTE

Refer to Table 3, for Solid Waste and Irradiated Fuel Shipments.

VI. RADIOLOGICAL IMPACT ON MAN (40CFR190)

An assessment (see summary below) was made of radiation doses to the likely most-exposed member of the public from River Bend and other nearby uranium fuel cycle sources (none within five miles). The annual (calendar year) dose or dose commitment to any MEMBER OF THE PUBLIC, due to releases of radioactivity and to radiation from uranium fuel cycle sources, shall be limited to less than or equal to 25 mrem to the total body or any organ, except the thyroid, which shall be limited to less than or equal to 75 mrem.

Carbon-14 (C-14)

The bounding annual dose from C-14 was calculated using guidance from Regulatory Guide 1.21, Revision 2, NUREG-0016, and the methodology in Regulatory Guide 1.109. The C-14 source term of 11 curies was taken from the site calculation PR(C)-359-3A, Gaseous Releases per NUREG-0016 Revision 1. Carbon-14 does not have dose factors associated with standing on contaminated ground; therefore, no ground plane dose was calculated. There is no milk pathway within five miles of River Bend Station so this pathway is not evaluated. RBS does not take credit for decay in the X/Q. This calculation assumes the inhalation, meat and vegetation pathways are at the site boundary in the sector with the highest X/Q. The dose from liquid effluents is not calculated as the dose contribution from C-14 is considered to be insignificant as indicated in Regulatory Guide 1.21, Revision 2. According to EPRI 1021106, Estimation of Carbon-14 in Nuclear Power Plant Gaseous Effluents, 95% of the carbon released is in the form of carbon dioxide and this contributes

the highest dose to man. The ingestion pathway, specifically vegetation, is the most likely route of intake for man. An assumption has been made for gaseous releases that plants obtain all of their C-14 from carbon dioxide.

Dose not including C-14:

Organ	mrem
Total Body	5.33E-02
Skin	5.05E-02
Thyroid	9.69E-02
Other Organ	5.34E-02

Bounding Dose from C-14 only:

Organ	mrem
Total Body	9.39E-01
Skin	0.00E+00
Thyroid	9.39E-01
Other Organ (Bone)	4.70E+00

In addition, an assessment of doses was made for members of the public due to their activities inside the site boundary. Parameters and assumptions used to make this determination can be found in Table 4. The results of the calculations can be found in Table 5. The maximally exposed member of the public was an employee staying at RBS during the week and is conservatively calculated to have stayed at least four days per week for 50 weeks. It should be noted that liquid effluent pathway dose was not considered since these individuals would not engage in activities that would allow exposure to this pathway.

VII. METEOROLOGICAL DATA

See Tables 6 and 7 for the cumulative joint frequency distributions and annual average data for continuous releases. The meteorological recovery for 2012 was 98 %.

VIII. RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION OPERABILITY

The minimum number of channels required to be OPERABLE as described in Table 3.3.11.2-1 of Technical Requirement 3.3.11.2 were, if inoperable at any time in the period

January 1, 2012, through December 31, 2012, restored to operable status within the required time. Reporting of inoperable channels is therefore not required in this report. During year 2012 there were no required entries for either TLCO 3.3.11.2 or TLCO 3.3.11.3 Action E.2.

RMS-RE107 was listed under LCO 1-TS-12-RMS-RE107 INOP-107 from May 2, 2012, until May 20, 2012, due to a tagout for installation of an above ground temporary Liquid Radwaste System discharge line. At the request of Radwaste management, RMS-RE107 bypass switch was tagged in bypass to allow for opening LWS-AOV257 for system draining. There was no problem with RMS-RE107 and Action E was not entered, even though the LCO was longer than 14 days. The LCO was for tracking purposes only. There was no discharge because the line was being worked on by EC-35300.

IX. RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION OPERABILITY

The minimum number of channels required to be OPERABLE as described in Table 3.3.11.3-1 of Technical Requirement 3.3.11.3 were, if inoperable at any time in the period January 1, 2012, through December 31, 2012, restored to operable status within the required time. Reporting of inoperable channels is therefore not required in this report.

X. LIQUID HOLD UP TANKS

The maximum quantity of radioactive material, excluding tritium and dissolved or entrained noble gases, contained in any unprotected outdoor tank during the period of January 1, 2012, through December 31, 2012 was less than or equal to the 10 curie limit as required by Technical Specification 5.5.8.b.

XI. RADIOLOGICAL ENVIRONMENTAL MONITORING

There were no changes to the Radiological Environmental Monitoring Program during the reporting period January 1, 2012, through December 31, 2012.

XII. LAND USE CENSUS

The Land Use Census for 2012 was conducted in accordance with procedure ESP-8-051, as required by Technical Requirements Manual (TRM) (TR 3.12.2).

A garden census is not conducted pursuant to the note in the TRM (TRCO 3.12.2) that allows the sampling of broadleaf vegetation in the highest calculated average ground-level D/Q sector near site boundary in lieu of the garden census.

The milk animal census identified no milk animals within 8 km (5 miles) of River Bend site.

This information was verified by the County Agents from West Feliciana, East Feliciana and Pointe Coupee parishes.

No locations were identified in 2012 that would yield a calculated dose or dose commitment greater than those currently calculated in Requirement TSR 3.11.2.3.1.

The County Agents also confirmed that there was no commercial harvesting of crawfish within the five-mile radius downstream of RBS. This data is collected to further support the possibility of removing invertebrates from the liquid dose conversion factors. This information represents several land use census periods that show crawfish consumption from the waters immediately affected by RBS does not occur. RBS conservatively uses the invertebrate pathway although not required by NUREG-0133 liquid dose factor methodology for fresh water nuclear power plants.

An evaluation of ground water usage down gradient of River Bend Station was conducted during this Land Use Census period. It verified that no residents down gradient of RBS utilize ground water as a significant source of drinking water, and confirms there is no drinking water pathway between River Bend Station and the Mississippi River.

XIII. OFFSITE DOSE CALCULATION MANUAL (ODCM)

There were no changes to the ODCM in 2012.

XIV. MAJOR CHANGES TO RADIOACTIVE LIQUID, GASEOUS, AND SOLID WASTE TREATMENT SYSTEMS

Engineering has performed a review of the Asset Suite database to evaluate non-administrative design changes completed or partially completed during 2012 involving the subject systems (i.e. changes classified as evaluations or nuclear changes). These design changes were then reviewed to determine if there have been any major changes to the subject systems. The review was based on a major change being defined as a modification which affected the method of processing or the effluent from the system. Also, to be a "major change" the change must have affected the USAR.

The Engineering Changes (EC's) to liquid, solid or gaseous radwaste systems implemented during this time period were:

- EC 41790 Enclosure to provide equivalent pressure boundary protection for damaged section of pipe LWS-004-586.
- EC 40118 Revised the temperature setpoint for the Offgas Recombiner temperature controllers shown on the setpoint data sheet to match operating procedure.
- EC 35300 Rev. 0 T-Mod for Temporary Blowdown line

- EC 37021 T-Mod ECN for Temporary Blowdown to revise the described location for tie-in point.
- EC 37092 T-Mod ECN for Temporary Blowdown line to provide instructions to facilitate installation.
- EC 37615 T-Mod ECN for Temporary Blowdown line to provide additional test criteria.
- EC 38729 T-Mod for a temporary program change to temperature recorder N64-TRSR602 to accommodate failure of another recorder. This T-Mod has been removed.

No EC was identified as being completed during this time period that modified any radioactive waste system major component such that the processing method or effluent was changed. Also no changes were identified affecting the method of processing solid, liquid or gaseous waste or the isotopic composition or the quantity of liquid, solid, or gaseous waste as described in the USAR.

In conclusion, no design changes were completed during the specified time period that constituted a major change to either the liquid, solid or gaseous radwaste treatment systems.

XV. PROCESS CONTROL PROGRAM (PCP)

There were no revisions to the PCP (EN-RW-105) in 2012.

XVI. INDUSTRY GROUND WATER PROTECTION INITIATIVE (GPI) – FINAL GUIDANCE DOCUMENT (NEI 07-07) OBJECTIVE ANNUAL REPORTING

Ground water samples for gamma radiation and tritium were taken in support of the GPI. These samples are not part of the Radiological Environmental Monitoring Program. The sample results for 2012 are located in Table 8.

River Bend Station made one notification in accordance with NEI 07-07 for the leak described in the Abnormal Release section of this report. While the confirmation of this event and actual notification occurred in 2013, it is being included in this report since the leak began in 2012. Since any activity released would have been part of a permitted LWS batch release, the curies released are properly reported in Table 2.

The wells with positive activity in Table 8 are associated with the notification made in December 2011. All of the remaining samples taken in support of the GPI meet the Lower Limit of Detection indicated in the Technical Requirement 3.12.1 (Environmental LLDs) except for some gamma samples in the third quarter 2012. The failure to meet the required LLDs was due to equipment availability and laboratory capacity. The samples affected by this are denoted by an asterisk (*) in Table 8. The radiological ground water monitoring

program is separate and distinct from the Radiological Environmental Monitoring Program (REMP). The short lived gamma isotopes have not been identified in previous samples and these isotopes are not expected to be a dose contributor to the public due to their short half-life.

TABLE 1A
GASEOUS EFFLUENTS - SUMMATION OF ALL RELEASES

REPORT FOR 2012	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
1. Total Release	Ci	9.06E+00	1.98E+01	3.30E+00	2.26E+00	3.44E+01
2. Avg. Release Rate	uCi/sec	1.15E+00	2.52E+00	4.16E-01	2.85E-01	1.09E+00
3. % Applicable Limit % (1)		2.57E-01	2.02E-01	8.19E-02	1.06E-01	3.23E-01
Iodine-131						
1. Total Release	Ci	2.22E-04	2.80E-04	2.82E-04	3.47E-04	1.13E-03
2. Avg. Release Rate	uCi/sec	2.83E-05	3.57E-05	3.54E-05	4.36E-05	3.58E-05
3. % Applicable Limit % (2)		9.42E-02	1.19E-01	1.21E-01	1.47E-01	2.41E-01
Particulates Half Life >= 8 days						
1. Total Release	Ci	5.10E-04	1.91E-04	1.10E-04	4.27E-05	8.54E-04
2. Avg. Release Rate	uCi/sec	6.48E-05	2.43E-05	1.38E-05	5.37E-06	2.70E-05
3. % Applicable Limit % (2)		2.11E-02	1.99E-02	2.84E-02	3.50E-02	5.25E-02
Tritium						
1. Total Release	Ci	3.86E+00	3.83E+00	3.33E+00	3.90E+00	1.49E+01
2. Avg. Release Rate	uCi/sec	4.90E-01	4.87E-01	4.18E-01	4.91E-01	4.72E-01
3. % Applicable Limit % (2)		8.34E-02	7.03E-02	6.91E-02	7.92E-02	1.51E-01
Carbon-14						
1. Total Release	Ci	2.73E+00	2.73E+00	2.77E+00	2.77E+00	1.10E+01
2. Avg. Release Rate	uCi/sec	3.50E-01	3.49E-01	3.48E-01	3.48E-01	3.49E-01
3. % Applicable Limit % (2)		1.56E+01	1.56E+01	1.58E+01	1.58E+01	3.13E+01

- 1) Either the gamma air dose limit of 5 mrads/qtr or beta air dose limit of 10 mrads/qtr (T.R. 3.11.2.2.a), which ever is most limiting.
- 2) The % of applicable limit is determined by comparing the dose contribution to the critical organ limits of TRM 3.11.2.3

TABLE 1B
GASEOUS EFFLUENTS - GROUND RELEASES - CONTINUOUS MODE

REPORT FOR 2012	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
XE-133	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
XE-133M	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
XE-135	Ci	1.13E+00	5.82E-01	9.12E-01	4.87E-01	3.11E+00
XE-135M	Ci	1.81E+00	1.02E+00	2.43E-01	8.51E-01	3.92E+00
		-----	-----	-----	-----	-----
Totals for Period...	Ci	2.94E+00	1.60E+00	1.16E+00	1.34E+00	7.03E+00
Iodines						
I-131	Ci	0.00E+00	0.00E+00	1.07E-06	0.00E+00	1.07E-06
I-133	Ci	0.00E+00	0.00E+00	0.00E+00	3.29E-06	3.29E-06
		-----	-----	-----	-----	-----
Totals for Period...	Ci	0.00E+00	0.00E+00	1.07E-06	3.29E-06	4.36E-06
Particulates Half Life >= 8 days						
CE-141	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CO-57	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CO-58	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CO-60	Ci	0.00E+00	0.00E+00	0.00E+00	5.90E-07	5.90E-07
CR-51	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CS-137	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FE-59	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MN-54	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NB-95	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NI-63	Ci	1.35E-08	0.00E+00	4.56E-06	6.81E-08	4.65E-06
RU-103	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-106	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
SR-89	Ci	0.00E+00	6.00E-07	1.60E-08	0.00E+00	6.16E-07
ZN-65	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
		-----	-----	-----	-----	-----

Totals for Period...	Ci	1.35E-08	6.00E-07	4.58E-06	6.58E-07	5.86E-06
Tritium						
H-3	Ci	1.03E+00	8.19E-01	8.37E-01	9.58E-01	3.64E+00

TABLE 1C
GASEOUS EFFLUENTS - GROUND RELEASES - BATCH MODE

REPORT FOR 2012	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
XE-133	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
XE-135	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
XE-135M	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
		-----	-----	-----	-----	-----
Totals for Period...	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Iodines						
I-131	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
I-133	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
		-----	-----	-----	-----	-----
Totals for Period...	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Particulates Half Life >= 8 days						
BA-140	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CO-60	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MN-54	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
SR-89	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
SR-90	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ZN-65	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
		-----	-----	-----	-----	-----
Totals for Period...	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Tritium						
H-3	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
		-----	-----	-----	-----	-----
Totals for Period...	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TABLE 1D
GASEOUS EFFLUENTS - MIXED MODE RELEASES - CONTINUOUS MODE

REPORT FOR 2012	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
AR-41	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
KR-85	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
KR-85M	Ci	1.80E-01	0.00E+00	0.00E+00	2.84E-01	4.64E-01
KR-87	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
KR-88	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
XE-131M	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
XE-133	Ci	6.13E-02	2.64E+00	0.00E+00	0.00E+00	2.70E+00
XE-133M	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
XE-135	Ci	1.63E+00	1.02E+01	5.74E-01	3.39E-01	1.27E+01
XE-135M	Ci	4.24E+00	5.39E+00	1.57E+00	3.02E-01	1.15E+01
XE-137	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
XE-138	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
		-----	-----	-----	-----	-----
Totals for Period...	Ci	6.11E+00	1.82E+01	2.14E+00	9.25E-01	2.74E+01
Iodines						
I-131	Ci	2.22E-04	2.80E-04	2.81E-04	3.47E-04	1.13E-03
I-133	Ci	1.82E-03	1.71E-03	2.46E-03	2.98E-03	8.96E-03
		-----	-----	-----	-----	-----
Totals for Period...	Ci	2.04E-03	1.99E-03	2.74E-03	3.33E-03	1.01E-02
Particulates Half Life >= 8 days						
BA-140	Ci	2.62E-04	1.03E-04	5.84E-05	2.50E-06	4.26E-04
CE-139	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CE-141	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CO-58	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CO-60	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CR-51	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CS-134	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CS-137	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FE-59	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MN-54	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RU-103	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
SR-89	Ci	2.47E-04	8.83E-05	4.70E-05	3.96E-05	4.22E-04
SR-90	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ZN-65	Ci	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
-----	-----	-----	-----	-----	-----	-----
Totals for Period...	Ci	5.09E-04	1.91E-04	1.05E-04	4.21E-05	8.48E-04
Tritium						
H-3	Ci	2.82E+00	3.01E+00	2.49E+00	2.94E+00	1.13E+01
		-----	-----	-----	-----	-----
Carbon-14						
C-14	Ci	2.73E+00	2.73E+00	2.77E+00	2.77E+00	1.10E+01

TABLE 1E
SUPPLEMENTAL INFORMATION
GASEOUS EFFLUENTS - BATCH MODE

REPORT FOR 2012	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Number of releases		0	0	0	0	0
Total release time	minutes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Maximum release time	minutes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Average release time	minutes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Minimum release time	minutes	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TABLE 1F
RADIOACTIVE GASEOUS WASTE SAMPLING AND ANALYSIS PROGRAM

Gaseous Release Type	Sampling Frequency	Minimum Analysis Frequency	Type of Activity Analysis	Lower Limit of Detection (LLD) uCi/ml
A. Main Plant Exhaust Duct	M Grab Sample	M	Principal Gamma Emitters	1.00E-04
			H-3	1.00E-06
B. Fuel Building Ventilation Exhaust Duct	M Grab Sample	M	Principal Gamma Emitters	1.00E-04
			H-3	1.00E-06
C. Radwaste Building Ventilation Exhaust Duct	M Grab Sample	M	Principal Gamma Emitters	1.00E-04
D. All Release Types as listed in A, B, & C above	Continuous	W Charcoal Sample	I-131	1.00E-12
			I-133	1.00E-10
	Continuous	W Particulate Sample	Principal Gamma Emitters (I-131, Others)	1.00E-11
	Continuous	M Composite Particulate Sample	Gross Alpha	1.00E-11
	Continuous	Q Composite Particulate Sample	Sr-89, Sr-90	1.00E-11
	Continuous	Noble Gas Monitor	Noble Gases Gross Beta or Gamma	1.00E-06

W = At least once per 7 days

M = At least once per 31 days

Q = At least once per 92 days

TABLE 1G
GASEOUS ANNUAL DOSE SUMMARY REPORT

=== I&P DOSE LIMIT ANALYSIS =====

Period-Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit

Q1 - T.Spec Any Organ	CHILD	THYROID	1.49E-02	7.50E+00	1.99E-01
Q2 - T.Spec Any Organ	CHILD	THYROID	1.57E-02	7.50E+00	2.10E-01
Q3 - T.Spec Any Organ	CHILD	THYROID	1.64E-02	7.50E+00	2.18E-01
Q4 - T.Spec Any Organ	CHILD	THYROID	1.96E-02	7.50E+00	2.62E-01
Yr - T.Spec Any Organ	CHILD	THYROID	6.67E-02	1.50E+01	4.45E-01

Carbon-14 (Bounding calculation)

Q1 - T.Spec Any Organ	CHILD	BONE	1.17E+00	7.50E+00	1.56E+01
Q2 - T.Spec Any Organ	CHILD	BONE	1.17E+00	7.50E+00	1.56E+01
Q3 - T.Spec Any Organ	CHILD	BONE	1.18E+00	7.50E+00	1.58E+01
Q4 - T.Spec Any Organ	CHILD	BONE	1.18E+00	7.50E+00	1.58E+01
Yr - T.Spec Any Organ	CHILD	BONE	4.70E+00	1.50E+01	3.13E+01

=== NG DOSE LIMIT ANALYSIS =====

Period-Limit	Dose (mrad)	Limit (mrad)	% of Limit

Q1 - T.Spec Gamma	1.29E-02	5.00E+00	2.57E-01
Q1 - T.Spec Beta	6.29E-03	1.00E+01	6.29E-02
Q2 - T.Spec Gamma	1.01E-02	5.00E+00	2.02E-01
Q2 - T.Spec Beta	6.25E-03	1.00E+01	6.25E-02
Q3 - T.Spec Gamma	4.10E-03	5.00E+00	8.19E-02
Q3 - T.Spec Beta	3.51E-03	1.00E+01	3.51E-02
Q4 - T.Spec Gamma	5.28E-03	5.00E+00	1.06E-01
Q4 - T.Spec Beta	2.61E-03	1.00E+01	2.61E-02
Yr - T.Spec Gamma	3.23E-02	1.00E+01	3.23E-01
Yr - T.Spec Beta	1.87E-02	2.00E+01	9.33E-02

TABLE 2A
LIQUID EFFLUENTS - SUMMATION OF ALL RELEASES

REPORT FOR 2012	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Products						
1. Total Release	Ci	0.00E+00	4.91E-05	1.12E-05	1.71E-06	6.20E-05
2. Avg. Diluted Conc. uCi/ml		0.00E+00	3.84E-11	8.62E-12	1.26E-12	1.15E-11
3. % Applicable Limit % (1)		0.00E+00	9.34E-04	3.46E-04	1.76E-05	4.47E-04
Tritium						
1. Total Release	Ci	0.00E+00	1.26E+01	1.88E+01	7.44E+00	3.89E+01
2. Avg. Diluted Conc. uCi/ml		0.00E+00	9.81E-06	1.45E-05	5.47E-06	7.23E-06
3. % Applicable Limit % (1)		0.00E+00	2.39E-02	5.66E-02	7.26E-03	2.77E-02
Dissolved and Entrained Gases						
1. Total Release	Ci	0.00E+00	4.00E-03	6.87E-03	2.71E-03	1.36E-02
2. Avg. Diluted Conc. uCi/ml		0.00E+00	3.11E-09	5.28E-09	1.99E-09	2.53E-09
3. % Applicable Limit % (2)		0.00E+00	1.56E-03	2.64E-03	9.96E-04	1.27E-03
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						
		0.00E+00	1.54E+06	2.47E+06	8.30E+05	4.84E+06
Volume of dil. water liters						
		1.43E+09	1.28E+09	1.30E+09	1.36E+09	5.37E+09

(1) The most limiting dose compared to the total body and critical organ limits of TRM 3.11.1.2.a.

(2) Technical Requirement 3.11.1.1 limit of 2.00E-04 uCi/ml for dissolved and entrained noble gases in liquid effluent.

TABLE 2B
LIQUID EFFLUENTS - CONTINUOUS MODE

REPORT FOR 2012	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
** No Nuclide Activities **	
 Tritium						
** No Nuclide Activities **	
 Dissolved and Entrained Gases						
** No Nuclide Activities **	
 Gross Alpha Radioactivity						
** No Nuclide Activities **	

TABLE 2C
LIQUID EFFLUENTS - BATCH MODE

REPORT FOR 2012	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Fission and Activation Gases						
CO-60	Ci	0.00E+00	4.91E-05	1.12E-05	1.71E-06	6.20E-05
		-----	-----	-----	-----	-----
Totals for Period...	Ci	0.00E+00	4.91E-05	1.12E-05	1.71E-06	6.20E-05
Tritium						
H-3	Ci	0.00E+00	1.26E+01	1.88E+01	7.44E+00	3.83E+01
		-----	-----	-----	-----	-----
Totals for Period...	Ci	0.00E+00	1.26E+01	1.88E+01	7.44E+00	3.83E+01
Dissolved and Entrained Gases						
XE-133	Ci	0.00E+00	1.82E-03	2.87E-03	9.65E-04	5.64E-03
XE-133M	Ci	0.00E+00	8.04E-06	3.64E-05	0.00E+00	4.45E-05
XE-135	Ci	0.00E+00	2.15E-03	3.96E-03	1.75E-03	7.85E-03
		-----	-----	-----	-----	-----
Totals for Period...	Ci	0.00E+00	4.01E-03	6.87E-03	2.72E-03	1.36E-02
Gross Alpha Radioactivity						
** No Nuclide Activities **	

TABLE 2D
EFFLUENT AND WASTE DISPOSAL REPORT
SUPPLEMENTAL INFORMATION
LIQUID EFFLUENTS - BATCH MODE

REPORT FOR 2012	Units	QTR 1	QTR 2	QTR 3	QTR 4	YEAR
-----	-----	-----	-----	-----	-----	-----
Number of releases		0	28	45	15	87
Total release time	minutes	0.00E+00	7.56E+03	1.26E+04	4.26E+03	2.44E+04
Maximum release time	minutes	0.00E+00	3.45E+02	3.24E+02	3.16E+02	3.45E+02
Average release time	minutes	0.00E+00	2.80E+02	2.79E+02	2.84E+02	2.80E+02
Minimum release time	minutes	0.00E+00	2.18E+02	2.39E+02	2.53E+02	2.18E+02

		<u>QTR 1</u>	<u>QTR 2</u>	<u>QTR 3</u>	<u>QTR 4</u>
Average Mississippi River stream flow during periods of release of effluent into a flowing stream	ft ³ /sec	649,912	398,934	162,067	192,989

TABLE 2E
RADIOACTIVE LIQUID WASTE SAMPLING AND ANALYSIS PROGRAM

Liquid Release Type	Sampling Frequency	Minimum Analysis Frequency	Type of Activity Analysis	Lower Limit of Detection (LLD) uCi/ml
A. Batch Waste Release (Liquid Radwaste Recovery Sample Tanks)	P Each Batch	P Each Batch	Principal Gamma Emitters: <u>except</u> for Ce-144	5.00E-07
				5.00E-06
			I-131	1.00E-06
	P One Batch/M	M	Dissolved and Entrained Gases (Gamma Emitters)	1.00E-05
	P Each Batch	M Composite	H-3	1.00E-05
			Gross Alpha	1.00E-07
	P Each Batch	Q Composite	Sr-89, Sr-90	5.00E-08
			Fe-55	1.00E-06

P = Prior to each radioactive release

M = At least once per 31 days

Q = At least once per 92 days

Table 2F
LIQUID ANNUAL DOSE SUMMARY REPORT

Report for: 2012

Release ID: 10 All Liquid Release Points

Liquid Receptor

=== SITE DOSE LIMIT ANALYSIS =====

Period - Limit	Age Group	Organ	Dose (mrem)	Limit (mrem)	Max % of Limit
-----	-----	-----	-----	-----	-----
Qtr 1 - T.Spec Any Organ	ADULT	GILLI	0.00E+00	5.00E+00	0.00E+00
Qtr 1 - T.Spec Total Body	ADULT	TBODY	0.00E+00	1.50E+00	0.00E+00
Qtr 2 - T.Spec Any Organ	ADULT	GILLI	4.06E-04	5.00E+00	8.12E-03
Qtr 2 - T.Spec Total Body	ADULT	TBODY	3.64E-04	1.50E+00	2.43E-02
Qtr 3 - T.Spec Any Organ	ADULT	GILLI	8.65E-04	5.00E+00	1.73E-02
Qtr 3 - T.Spec Total Body	ADULT	TBODY	8.50E-04	1.50E+00	5.67E-02
Qtr 4 - T.Spec Any Organ	ADULT	GILLI	1.10E-04	5.00E+00	2.19E-03
Qtr 4 - T.Spec Total Body	ADULT	TBODY	1.09E-04	1.50E+00	7.26E-03
2012 - T.Spec Any Organ	ADULT	GILLI	8.77E-04	1.00E+01	8.77E-03
2012 - T.Spec Total Body	ADULT	TBODY	8.37E-04	3.00E+00	2.79E-02

TABLE 3

EFFLUENT AND WASTE DISPOSAL ANNUAL REPORT 2012 YEAR
SOLID WASTE AND IRRADIATED FUEL SHIPMENTS
Reporting Period from 01/01/12 to 12/31/12

A. Solid Waste Shipped for Burial or Disposal (Not Irradiated Fuel)

1. <u>Type of Waste</u>	<u>Units</u>	<u>12 Month Period</u>	<u>Waste Class</u>	<u>Estimated Error %</u>
Spent Resins, Filter	m3	5.32E+01	A	± 25%
Sludges, Evaporator	Ci	4.50E+01	A	
Bottoms, Etc.	m3	0.00E+00	B	
	Ci	0.00E+00	B	
	m3	5.38E+00	C	
	Ci	2.14E+03	C	
<hr/>				
Dry Compressible Wastes,	m3	1.95E+02	A	± 25%
Contaminated Equipment	Ci	3.17E-01	A	
Etc.				
<hr/>				
Irradiated Components,	m3	0.00E+00		
Control Rods, Etc.	Ci	0.00E+00		
<hr/>				
Other	m3	7.14E+00	A	± 25%
(Water, EHC, Waste Oil,	Ci	1.07E-01	A	
etc.)				

Note: Volume considered being the total disposal volume of the container.

Radwaste Estimated Error %:

Waste types considered are processed solid waste (i.e. resin, filter media) and non-compactible/compactible dry active waste.

1. Possible Errors

- a. Volume
- b. Representative Sampling
- c. Instrument/Counting
- d. Dose to Curie Calculations

2. Volume Error

Level indication for processed resins can be determined to +/- 0.5 inches. This correlates to approximately 1.0%. Container manufacturer stated design tolerance allows for 1.0% deviation from container dimensions. Volume error is not applicable to dry active waste.

3. Representative Sampling Error

Sampling error for processed resins is based upon obtaining a representative sample from the waste being processed using an iso-lock sampler. Sampling

error from dry active waste is based upon obtaining a representative sample from the material being packaged. This error is estimated to be +/- 10% for all waste types, which is consistent with industry standards.

4. Instrument/Counting Error

The error caused by sample geometry, counting time, sample activity and instrument background is estimated to be +/- 10%. The error for radiological survey instrumentation is estimated to be +/- 20%. This error is applicable to all waste types.

5. Dose to Curie Calculations Error

The Dose to Curie method used to calculate activity suffers from analytical accuracy in that certain important parameters are neglected. These parameters are geometry of package, measuring instrument characteristics, build-up, internal attenuation effect, and external media attenuation. An activity correction factor is applied to provide adjustment for these factors. This error is applicable to all waste types.

2. Estimates of Major Nuclides by Waste Stream

Resins, Filters, Evaporator Bottoms, Etc. (Min 1%)			Dry Compressible Wastes, Contaminated Equipment, Etc. (Min 1%)			Other Water, EHC, Waste Oil, Etc. (Min 1%)		
Isotope	% Abundance	Curies	Isotope	% Abundance	Curies	Isotope	% Abundance	Curies
FE-55	82.633	1.80E+03	FE-55	61.668	1.95E-01	FE-55	62.464	6.71E-02
CO-60	9.163	2.00E+02	CO-60	32.331	1.02E-01	CO-60	31.137	3.34E-02
SR-90	2.735	5.96E+01	CS-137	1.968	6.23E-03	CS-137	2.224	2.39E-03
NI-63	2.708	5.91E+01	MN-54	1.292	4.09E-03	MN-54	1.155	1.24E-03
ZN-65	1.064	2.32E+01	NI-63	1.035	3.28E-03	NI-63	1.051	1.13E-03

Determined by Measurement & Correlation.

Packaged in Strong, Tight Liners.

No Solidification Agent or Absorbent Used.

3. Solid Waste Disposition

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
13	Truck	Energy Solutions (Bear Creek) - Oak Ridge, TN
4	Truck	Studsvik Processing Facility (Erwin) - Erwin, TN
3	Truck	Energy Solutions, LLC (Clive Disposal Facility - Containerized) - Clive, UT

B. Irradiated Fuel Shipments Disposition

No Irradiated Components, Control Rods, Etc. were shipped in 2012

<u>Number of Shipments</u>	<u>Mode of Transportation</u>	<u>Destination</u>
0	N/A	N/A

TABLE 4
DOSES TO A MEMBER OF THE PUBLIC INSIDE SITE BOUNDARY
ASSUMPTIONS/PARAMETERS

MEMBER OF THE PUBLIC	LOCATION	DISTANCE ⁽¹⁾ METERS	SECTOR	DURATION (HR/YEAR) ⁽²⁾
People Entering Site Without Consent	Alligator Bayou	2500	SW	40
National Guard	Activity Center	994	WNW	0 ⁽³⁾
Workers staying onsite	Activity Center Trailer City	994	WNW	2400 ⁽⁴⁾
Deer Hunters	Activity Center	994	WNW	256 ⁽⁵⁾

- (1) The approximate distances from main plant vent exhaust to location.
- (2) Liquid dose pathway is not considered due to the nature of activities that individuals are engaged in.
- (3) National Guard/State Police are being evaluated, if applicable, for dose while stationed on site as members of the public. The adult age group is the only age group considered in this category. No National Guard in 2012.
- (4) Workers have been permitted to stay long term at the Activity Center Trailer City beginning April 10, 2007. During refueling outages additional workers were on site for about 60 days. The long term individuals will be the receptors for this pathway. For 2012, this conservative estimate is based on 12 hours per day, 4 days per week for 50 weeks, totaling 2400 hours. The adult age group is the only age group considered for this activity.
- (5) Employees are allowed to deer hunt on company property. Since the hunters are spread out all over the site, those workers are conservatively evaluated at the activity center using occupancy information provided by the Bow Club. In 2012, these worker's dose is not greater than Trailer City.

TABLE 5
DOSES TO MEMBERS OF THE PUBLIC ON SITE
FROM GASEOUS RELEASES 2012

	<u>Critical Organ Dose Annual (mrem)</u>	<u>Total Body Dose Annual (mrem)</u>	<u>Skin Dose Annual (mrem)</u>	<u>Annual Duration Factor</u>
Alligator Bayou	2.49E-05	1.30E-05	2.18E-05	4.57E-03
Workers staying onsite	3.04E-03	8.27E-03	1.39E-02	2.92E-02
Deer Hunters	3.24E-04	8.83E-04	1.49E-03	2.74E-01

TABLE 6
2012 YEAR METEOROLOGICAL DATA - JOINT FREQUENCY TABLES

RIVER BEND STATION
JOINT FREQUENCY TABLE
ALL STABILITY CLASSES

FROM 1/01/12 0:00 TO 12/31/12 23:00

PRIMARY SENSORS - 30 FOOT
WIND SPEED (METERS/SECOND)

WIND	.22-	.51-	.76-	1.1-	1.6-	2.1-	3.1-	5.1-	7.1-	10.1-	13.1-	>18	TOT.
DIR	.50	.75	1.0	1.5	2.0	3.0	5.0	7.0	10.0	13.0	18.0		
N	109	92	89	147	119	214	90	2	1	0	0	0	863
NNE	97	57	67	109	113	103	37	8	2	0	0	0	593
NE	72	68	72	110	99	76	13	2	0	0	0	0	512
ENE	71	101	69	76	59	51	6	0	0	0	0	0	433
E	52	90	75	70	41	11	0	0	0	0	0	0	339
ESE	30	83	98	124	78	43	0	0	0	0	0	0	456
SE	16	77	133	271	208	214	27	2	0	0	0	0	948
SSE	24	43	80	185	156	249	126	10	0	0	0	0	873
S	18	27	48	124	124	200	113	10	0	0	0	0	664
SSW	20	28	52	116	83	104	66	1	0	0	0	0	470
SW	17	41	61	66	51	69	12	0	0	0	0	0	317
WSW	17	29	42	48	57	63	9	1	0	0	0	0	266
W	23	39	32	54	65	87	10	0	0	0	0	0	310
WNW	42	55	55	57	53	75	19	1	0	0	0	0	357
NW	59	122	49	70	70	90	68	11	0	0	0	0	539
NNW	63	116	73	92	56	127	83	4	0	0	0	0	614
TOTAL	730	1068	1095	1719	1432	1776	679	52	3	0	0	0	8554

NUMBER OF CALMS: 79
NUMBER OF INVALID HOURS: 151
NUMBER OF VALID HOURS: 8633
TOTAL HOURS FOR THE PERIOD: 8784

RIVER BEND STATION
JOINT FREQUENCY TABLE
STABILITY CLASS A
FROM 1/01/12 0:00 TO 12/31/12 23:00

PRIMARY SENSORS - 30 FOOT
WIND SPEED (METERS/SECOND)

WIND	.22-	.51-	.76-	1.1-	1.6-	2.1-	3.1-	5.1-	7.1-	10.1-	13.1-	>18	TOT.
DIR	.50	.75	1.0	1.5	2.0	3.0	5.0	7.0	10.0	13.0	18.0		
N	0	0	0	1	3	13	1	0	0	0	0	0	18
NNE	0	0	0	1	4	14	7	1	0	0	0	0	27
NE	0	0	0	3	10	23	2	1	0	0	0	0	39
ENE	0	0	0	0	14	15	1	0	0	0	0	0	30
E	0	0	0	1	6	6	0	0	0	0	0	0	13
ESE	0	1	0	3	11	12	0	0	0	0	0	0	27
SE	0	0	0	4	27	58	8	0	0	0	0	0	97
SSE	0	0	0	1	7	24	15	1	0	0	0	0	48
S	0	0	1	0	4	11	13	0	0	0	0	0	29
SSW	0	0	0	0	3	6	4	0	0	0	0	0	13
SW	0	0	0	2	1	3	1	0	0	0	0	0	7
WSW	0	0	0	1	1	3	0	0	0	0	0	0	5
W	0	0	0	1	1	2	1	0	0	0	0	0	5
WNW	0	0	0	0	0	0	0	0	0	0	0	0	0
NW	0	0	0	0	1	0	3	0	0	0	0	0	4
NNW	0	0	0	0	0	8	3	0	0	0	0	0	11
TOTAL	0	1	1	18	93	198	59	3	0	0	0	0	373

NUMBER OF CALMS: 0
NUMBER OF INVALID HOURS: 0
NUMBER OF VALID HOURS: 373
TOTAL HOURS FOR THE PERIOD: 373

RIVER BEND STATION
JOINT FREQUENCY TABLE
STABILITY CLASS B

FROM 1/01/12 0:00 TO 12/31/12 23:00

PRIMARY SENSORS - 30 FOOT
WIND SPEED (METERS/SECOND)

WIND	.22-	.51-	.76-	1.1-	1.6-	2.1-	3.1-	5.1-	7.1-	10.1-	13.1-	>18	TOT.
DIR	.50	.75	1.0	1.5	2.0	3.0	5.0	7.0	10.0	13.0	18.0		
N	0	0	1	0	1	8	10	0	0	0	0	0	20
NNE	0	0	0	1	5	7	1	0	0	0	0	0	14
NE	0	0	1	0	3	2	0	0	0	0	0	0	6
ENE	0	0	0	4	2	1	0	0	0	0	0	0	7
E	0	0	0	3	2	0	0	0	0	0	0	0	5
ESE	0	0	0	4	5	2	0	0	0	0	0	0	11
SE	0	0	0	3	10	13	1	0	0	0	0	0	27
SSE	0	0	0	2	7	12	7	2	0	0	0	0	30
S	0	0	0	0	2	9	10	1	0	0	0	0	22
SSW	0	0	0	0	3	4	4	0	0	0	0	0	11
SW	0	0	0	0	1	4	1	0	0	0	0	0	6
WSW	0	0	0	0	3	4	0	0	0	0	0	0	7
W	0	0	0	1	1	5	0	0	0	0	0	0	7
WNW	0	0	1	0	0	2	1	0	0	0	0	0	4
NW	0	0	0	0	1	3	3	0	0	0	0	0	7
NNW	0	0	0	0	0	4	10	0	0	0	0	0	14
TOTAL	0	0	3	18	46	80	48	3	0	0	0	0	198

NUMBER OF CALMS: 0

NUMBER OF INVALID HOURS: 0

NUMBER OF VALID HOURS: 198

TOTAL HOURS FOR THE PERIOD: 198

RIVER BEND STATION
JOINT FREQUENCY TABLE
STABILITY CLASS C

FROM 1/01/12 0:00 TO 12/31/12 23:00

PRIMARY SENSORS - 30 FOOT
WIND SPEED (METERS/SECOND)

WIND	.22-	.51-	.76-	1.1-	1.6-	2.1-	3.1-	5.1-	7.1-	10.1-	13.1-	>18	TOT.
DIR	.50	.75	1.0	1.5	2.0	3.0	5.0	7.0	10.0	13.0	18.0		
N	0	0	1	0	3	10	6	1	0	0	0	0	21
NNE	0	0	0	0	2	13	5	0	0	0	0	0	20
NE	0	0	0	2	8	7	1	0	0	0	0	0	18
ENE	0	0	0	1	6	2	0	0	0	0	0	0	9
E	0	0	0	3	1	0	0	0	0	0	0	0	4
ESE	0	0	0	4	5	2	0	0	0	0	0	0	11
SE	0	0	0	1	4	14	1	0	0	0	0	0	20
SSE	0	0	1	1	10	17	11	1	0	0	0	0	41
S	0	0	0	1	2	12	12	0	0	0	0	0	27
SSW	0	0	0	1	1	5	3	0	0	0	0	0	10
SW	0	0	0	0	1	3	0	0	0	0	0	0	4
WSW	0	0	0	1	0	5	0	0	0	0	0	0	6
W	0	0	0	0	1	7	1	0	0	0	0	0	9
WNW	0	0	0	0	2	4	3	0	0	0	0	0	9
NW	0	0	0	0	1	6	7	0	0	0	0	0	14
NNW	0	0	1	1	1	4	8	1	0	0	0	0	16
TOTAL	0	0	3	16	48	111	58	3	0	0	0	0	239

NUMBER OF CALMS: 1
NUMBER OF INVALID HOURS: 0
NUMBER OF VALID HOURS: 240
TOTAL HOURS FOR THE PERIOD: 240

RIVER BEND STATION
JOINT FREQUENCY TABLE
STABILITY CLASS D

FROM 1/01/12 0:00 TO 12/31/12 23:00

PRIMARY SENSORS - 30 FOOT
WIND SPEED (METERS/SECOND)

WIND	.22-	.51-	.76-	1.1-	1.6-	2.1-	3.1-	5.1-	7.1-	10.1-	13.1-	>18	TOT.
DIR	.50	.75	1.0	1.5	2.0	3.0	5.0	7.0	10.0	13.0	18.0		
N	1	4	9	35	65	143	72	1	1	0	0	0	331
NNE	0	4	10	41	62	57	19	7	2	0	0	0	202
NE	2	5	17	40	34	28	6	1	0	0	0	0	133
ENE	0	7	9	33	22	16	4	0	0	0	0	0	91
E	2	8	17	35	28	3	0	0	0	0	0	0	93
ESE	2	9	20	44	31	13	0	0	0	0	0	0	119
SE	1	8	18	77	80	71	10	2	0	0	0	0	267
SSE	2	3	14	53	54	119	76	6	0	0	0	0	327
S	1	2	8	27	38	106	64	8	0	0	0	0	254
SSW	1	3	13	26	43	67	47	1	0	0	0	0	201
SW	1	5	14	25	32	48	9	0	0	0	0	0	134
WSW	1	1	8	29	49	47	9	0	0	0	0	0	144
W	0	3	5	35	61	71	7	0	0	0	0	0	182
WNW	0	0	7	30	40	65	13	0	0	0	0	0	155
NW	1	4	10	34	54	69	51	9	0	0	0	0	232
NNW	2	3	4	31	30	93	61	3	0	0	0	0	227
TOTAL	17	69	183	595	723	1016	448	38	3	0	0	0	3092

NUMBER OF CALMS: 3
NUMBER OF INVALID HOURS: 0
NUMBER OF VALID HOURS: 3095
TOTAL HOURS FOR THE PERIOD: 3095

RIVER BEND STATION
JOINT FREQUENCY TABLE
STABILITY CLASS E

FROM 1/01/12 0:00 TO 12/31/12 23:00

PRIMARY SENSORS - 30 FOOT

WIND SPEED (METERS/SECOND)

WIND	.22-	.51-	.76-	1.1-	1.6-	2.1-	3.1-	5.1-	7.1-	10.1-	13.1-	>18	TOT.
DIR	.50	.75	1.0	1.5	2.0	3.0	5.0	7.0	10.0	13.0	18.0		
N	7	16	26	54	36	40	1	0	0	0	0	0	180
NNE	4	18	22	41	37	12	5	0	0	0	0	0	139
NE	6	16	24	51	33	14	4	0	0	0	0	0	148
ENE	5	12	30	20	12	13	1	0	0	0	0	0	93
E	3	27	28	22	4	2	0	0	0	0	0	0	86
ESE	6	28	36	60	26	14	0	0	0	0	0	0	170
SE	3	29	56	140	84	57	7	0	0	0	0	0	376
SSE	4	15	32	76	72	76	17	0	0	0	0	0	292
S	1	10	25	77	69	60	14	1	0	0	0	0	257
SSW	7	14	33	74	32	21	7	0	0	0	0	0	188
SW	8	17	27	34	16	11	1	0	0	0	0	0	114
WSW	8	14	24	15	4	4	0	1	0	0	0	0	70
W	4	6	17	14	1	2	1	0	0	0	0	0	45
WNW	4	10	20	16	11	4	2	1	0	0	0	0	68
NW	7	19	14	26	12	11	4	2	0	0	0	0	95
NNW	3	12	18	30	21	18	1	0	0	0	0	0	103
TOTAL	80	263	432	750	470	359	65	5	0	0	0	0	2424

NUMBER OF CALMS: 3

NUMBER OF INVALID HOURS: 0

NUMBER OF VALID HOURS: 2427

TOTAL HOURS FOR THE PERIOD: 2427

RIVER BEND STATION
JOINT FREQUENCY TABLE
STABILITY CLASS F

FROM 1/01/12 0:00 TO 12/31/12 23:00

PRIMARY SENSORS - 30 FOOT
WIND SPEED (METERS/SECOND)

WIND	.22-	.51-	.76-	1.1-	1.6-	2.1-	3.1-	5.1-	7.1-	10.1-	13.1-	>18	TOT.
DIR	.50	.75	1.0	1.5	2.0	3.0	5.0	7.0	10.0	13.0	18.0		
N	11	6	18	29	8	0	0	0	0	0	0	0	72
NNE	17	8	19	23	3	0	0	0	0	0	0	0	70
NE	11	13	17	11	9	1	0	0	0	0	0	0	62
ENE	18	21	6	10	3	3	0	0	0	0	0	0	61
E	20	28	19	4	0	0	0	0	0	0	0	0	71
ESE	7	36	34	8	0	0	0	0	0	0	0	0	85
SE	5	30	47	44	3	1	0	0	0	0	0	0	130
SSE	8	17	28	49	6	1	0	0	0	0	0	0	109
S	6	11	13	15	8	2	0	0	0	0	0	0	55
SSW	5	8	2	13	1	1	1	0	0	0	0	0	31
SW	4	15	16	4	0	0	0	0	0	0	0	0	39
WSW	6	9	8	1	0	0	0	0	0	0	0	0	24
W	6	14	6	2	0	0	0	0	0	0	0	0	28
WNW	15	11	20	8	0	0	0	0	0	0	0	0	54
NW	12	21	6	7	1	0	0	0	0	0	0	0	47
NNW	11	16	13	17	4	0	0	0	0	0	0	0	61
TOTAL	162	264	272	245	46	9	1	0	0	0	0	0	999

NUMBER OF CALMS: 12

NUMBER OF INVALID HOURS: 0

NUMBER OF VALID HOURS: 1011

TOTAL HOURS FOR THE PERIOD: 1011

RIVER BEND STATION
JOINT FREQUENCY TABLE
STABILITY CLASS G

FROM 1/01/12 0:00 TO 12/31/12 23:00

PRIMARY SENSORS - 30 FOOT
WIND SPEED (METERS/SECOND)

WIND	.22-	.51-	.76-	1.1-	1.6-	2.1-	3.1-	5.1-	7.1-	10.1-	13.1-	>18	TOT.
DIR	.50	.75	1.0	1.5	2.0	3.0	5.0	7.0	10.0	13.0	18.0		
N	90	66	34	28	3	0	0	0	0	0	0	0	221
NNE	76	27	16	2	0	0	0	0	0	0	0	0	121
NE	53	34	13	3	2	1	0	0	0	0	0	0	106
ENE	48	61	24	8	0	1	0	0	0	0	0	0	142
E	27	27	11	2	0	0	0	0	0	0	0	0	67
ESE	15	9	8	1	0	0	0	0	0	0	0	0	33
SE	7	10	12	2	0	0	0	0	0	0	0	0	31
SSE	10	8	5	3	0	0	0	0	0	0	0	0	26
S	10	4	1	4	1	0	0	0	0	0	0	0	20
SSW	7	3	4	2	0	0	0	0	0	0	0	0	16
SW	4	4	4	1	0	0	0	0	0	0	0	0	13
WSW	2	5	2	1	0	0	0	0	0	0	0	0	10
W	13	16	4	1	0	0	0	0	0	0	0	0	34
WNW	23	34	7	3	0	0	0	0	0	0	0	0	67
NW	39	78	19	3	0	1	0	0	0	0	0	0	140
NNW	47	85	37	13	0	0	0	0	0	0	0	0	182
TOTAL	471	471	201	77	6	3	0	0	0	0	0	0	1229

NUMBER OF CALMS: 60

NUMBER OF INVALID HOURS: 0

NUMBER OF VALID HOURS: 1289

TOTAL HOURS FOR THE PERIOD: 1289

RIVER BEND STATION
JOINT FREQUENCY TABLE
ALL STABILITY CLASSES

FROM 1/01/12 0:00 TO 12/31/12 23:00

PRIMARY SENSORS - 150 FOOT
WIND SPEED (METERS/SECOND)

WIND	.22-	.51-	.76-	1.1-	1.6-	2.1-	3.1-	5.1-	7.1-	10.1-	13.1-	>18	TOT.
DIR	.50	.75	1.0	1.5	2.0	3.0	5.0	7.0	10.0	13.0	18.0		
N	2	3	6	33	52	216	368	39	3	0	0	0	722
NNE	4	6	14	31	58	189	258	14	1	0	0	0	575
NE	3	5	9	36	39	138	180	21	3	0	0	0	434
ENE	2	12	10	41	58	159	155	39	9	0	0	0	485
E	5	8	16	58	65	150	157	40	3	0	0	0	502
ESE	1	9	9	29	42	259	648	101	10	0	0	0	1108
SE	3	4	8	30	45	169	247	49	17	2	0	0	574
SSE	1	1	11	29	59	214	263	67	12	0	0	0	657
S	2	5	15	37	82	249	299	43	5	0	0	0	737
SSW	0	6	13	29	58	211	200	47	2	0	0	0	566
SW	1	6	4	25	47	138	97	12	2	0	0	0	332
WSW	1	6	7	39	65	184	74	13	1	0	0	0	390
W	5	4	7	24	71	161	97	9	3	0	0	0	381
WNW	0	5	4	21	34	105	125	30	15	0	0	0	339
NW	2	5	6	20	33	94	128	43	9	8	0	0	348
NNW	3	3	10	27	43	123	214	36	12	5	0	0	476
TOTAL	35	88	149	509	851	2759	3510	603	107	15	0	0	8626

NUMBER OF CALMS: 7
NUMBER OF INVALID HOURS: 151
NUMBER OF VALID HOURS: 8633
TOTAL HOURS FOR THE PERIOD: 8784

RIVER BEND STATION
JOINT FREQUENCY TABLE
STABILITY CLASS A

FROM 1/01/12 0:00 TO 12/31/12 23:00

PRIMARY SENSORS - 150 FOOT
WIND SPEED (METERS/SECOND)

WIND	.22-	.51-	.76-	1.1-	1.6-	2.1-	3.1-	5.1-	7.1-	10.1-	13.1-	>18	TOT.
DIR	.50	.75	1.0	1.5	2.0	3.0	5.0	7.0	10.0	13.0	18.0		
N	0	0	0	0	0	2	19	2	0	0	0	0	23
NNE	0	0	0	0	0	6	17	3	0	0	0	0	26
NE	0	0	0	0	0	9	20	0	0	0	0	0	29
ENE	0	0	0	0	1	9	29	2	0	0	0	0	41
E	0	0	0	0	1	4	19	2	0	0	0	0	26
ESE	0	1	0	0	2	16	49	18	2	0	0	0	88
SE	0	0	0	0	0	9	25	4	1	0	0	0	39
SSE	0	0	0	0	0	7	8	7	1	0	0	0	23
S	0	0	0	0	1	9	10	6	0	0	0	0	26
SSW	0	0	0	0	0	1	7	2	0	0	0	0	10
SW	0	0	0	0	0	2	1	2	0	0	0	0	5
WSW	0	0	0	0	1	1	2	1	0	0	0	0	5
W	0	0	0	1	0	0	2	0	0	0	0	0	3
WNW	0	0	0	0	0	1	1	0	0	0	0	0	2
NW	0	0	0	0	1	3	4	4	0	0	0	0	12
NNW	0	0	0	0	0	2	4	5	2	2	0	0	15
TOTAL	0	1	0	1	7	81	217	58	6	2	0	0	373

NUMBER OF CALMS: 0

NUMBER OF INVALID HOURS: 0

NUMBER OF VALID HOURS: 373

TOTAL HOURS FOR THE PERIOD: 373

RIVER BEND STATION
JOINT FREQUENCY TABLE
STABILITY CLASS B

FROM 1/01/12 0:00 TO 12/31/12 23:00

PRIMARY SENSORS - 150 FOOT

WIND SPEED (METERS/SECOND)

WIND	.22-	.51-	.76-	1.1-	1.6-	2.1-	3.1-	5.1-	7.1-	10.1-	13.1-	>18	TOT.
DIR	.50	.75	1.0	1.5	2.0	3.0	5.0	7.0	10.0	13.0	18.0		
N	0	0	0	1	2	4	7	5	0	0	0	0	19
NNE	0	0	0	0	0	4	3	0	0	0	0	0	7
NE	0	0	0	1	1	4	4	0	0	0	0	0	10
ENE	0	0	0	0	0	5	2	1	0	0	0	0	8
E	0	0	0	0	1	5	2	0	0	0	0	0	8
ESE	0	0	0	0	2	5	14	1	0	0	0	0	22
SE	0	0	0	1	1	6	10	2	0	0	0	0	20
SSE	0	0	0	0	0	7	6	7	2	0	0	0	22
S	0	0	0	0	0	8	13	2	0	0	0	0	23
SSW	0	0	0	0	0	1	10	2	0	0	0	0	13
SW	0	0	0	0	0	1	4	0	0	0	0	0	5
WSW	0	0	0	0	0	1	2	0	0	0	0	0	3
W	0	0	0	0	0	2	2	2	0	0	0	0	6
WNW	0	0	0	0	0	1	3	1	0	0	0	0	5
NW	0	0	0	0	0	1	4	5	0	0	0	0	10
NNW	0	0	0	0	0	3	11	3	0	0	0	0	17
TOTAL	0	0	0	3	7	58	97	31	2	0	0	0	198

NUMBER OF CALMS: 0

NUMBER OF INVALID HOURS: 0

NUMBER OF VALID HOURS: 198

TOTAL HOURS FOR THE PERIOD: 198

RIVER BEND STATION
JOINT FREQUENCY TABLE
STABILITY CLASS C

FROM 1/01/12 0:00 TO 12/31/12 23:00

PRIMARY SENSORS - 150 FOOT
WIND SPEED (METERS/SECOND)

WIND	.22-	.51-	.76-	1.1-	1.6-	2.1-	3.1-	5.1-	7.1-	10.1-	13.1-	>18	TOT.
DIR	.50	.75	1.0	1.5	2.0	3.0	5.0	7.0	10.0	13.0	18.0		
N	0	0	0	0	0	6	12	4	1	0	0	0	23
NNE	0	0	0	2	0	2	13	0	0	0	0	0	17
NE	0	0	0	0	0	6	12	3	0	0	0	0	21
ENE	0	0	0	0	0	6	5	0	0	0	0	0	11
E	0	0	0	0	0	3	1	2	0	0	0	0	6
ESE	0	0	0	0	1	10	19	1	0	0	0	0	31
SE	0	0	0	0	1	5	7	1	1	0	0	0	15
SSE	0	0	0	2	0	5	14	6	1	0	0	0	28
S	0	0	0	1	0	5	11	6	0	0	0	0	23
SSW	0	0	0	0	0	4	7	2	0	0	0	0	13
SW	0	0	0	0	0	0	0	0	0	0	0	0	0
WSW	0	0	0	0	0	2	8	0	0	0	0	0	10
W	0	0	0	0	0	1	2	0	0	0	0	0	3
WNW	0	0	0	0	1	3	6	3	2	0	0	0	15
NW	0	0	0	0	0	1	7	2	0	0	0	0	10
NNW	0	0	0	0	1	1	6	4	1	0	0	0	13
TOTAL	0	0	0	5	4	60	130	34	6	0	0	0	239

NUMBER OF CALMS: 1
NUMBER OF INVALID HOURS: 0
NUMBER OF VALID HOURS: 240
TOTAL HOURS FOR THE PERIOD: 240

RIVER BEND STATION
JOINT FREQUENCY TABLE
STABILITY CLASS D

FROM 1/01/12 0:00 TO 12/31/12 23:00

PRIMARY SENSORS - 150 FOOT
WIND SPEED (METERS/SECOND)

WIND	.22-	.51-	.76-	1.1-	1.6-	2.1-	3.1-	5.1-	7.1-	10.1-	13.1-	>18	TOT.
DIR	.50	.75	1.0	1.5	2.0	3.0	5.0	7.0	10.0	13.0	18.0		
N	2	1	4	19	22	91	156	25	2	0	0	0	322
NNE	0	1	2	10	24	69	71	9	1	0	0	0	187
NE	0	3	5	13	24	46	39	7	3	0	0	0	140
ENE	0	1	1	16	15	44	40	14	6	0	0	0	137
E	1	1	3	11	20	32	32	14	0	0	0	0	114
ESE	0	1	4	9	16	83	104	35	5	0	0	0	257
SE	0	2	5	10	13	57	65	21	13	2	0	0	188
SSE	0	0	2	11	20	72	93	39	8	0	0	0	245
S	0	1	5	7	25	55	113	16	4	0	0	0	226
SSW	0	0	6	9	22	60	68	37	1	0	0	0	203
SW	0	3	1	11	12	40	48	7	0	0	0	0	122
WSW	0	1	1	14	32	80	38	10	1	0	0	0	177
W	2	1	5	12	45	93	63	6	1	0	0	0	228
WNW	0	2	0	8	17	45	63	22	11	0	0	0	168
NW	0	0	1	11	18	41	63	27	8	8	0	0	177
NNW	0	0	1	12	29	35	94	24	6	3	0	0	204
TOTAL	5	18	46	183	354	943	1150	313	70	13	0	0	3095

NUMBER OF CALMS: 0

NUMBER OF INVALID HOURS: 0

NUMBER OF VALID HOURS: 3095

TOTAL HOURS FOR THE PERIOD: 3095

RIVER BEND STATION
JOINT FREQUENCY TABLE
STABILITY CLASS E

FROM 1/01/12 0:00 TO 12/31/12 23:00

PRIMARY SENSORS - 150 FOOT
WIND SPEED (METERS/SECOND)

WIND	.22-	.51-	.76-	1.1-	1.6-	2.1-	3.1-	5.1-	7.1-	10.1-	13.1-	>18	TOT.
DIR	.50	.75	1.0	1.5	2.0	3.0	5.0	7.0	10.0	13.0	18.0		
N	0	0	0	5	17	54	89	2	0	0	0	0	167
NNE	1	3	7	13	18	49	77	1	0	0	0	0	169
NE	2	1	1	11	11	27	57	9	0	0	0	0	119
ENE	1	2	4	15	22	34	32	13	3	0	0	0	126
E	2	3	8	19	19	42	55	18	3	0	0	0	169
ESE	0	1	3	9	12	65	216	42	3	0	0	0	351
SE	2	0	1	9	11	51	90	21	2	0	0	0	187
SSE	0	0	4	4	15	50	110	8	0	0	0	0	191
S	0	0	1	7	17	107	116	13	1	0	0	0	262
SSW	0	1	2	7	20	81	88	4	1	0	0	0	204
SW	0	1	1	5	17	53	37	3	1	0	0	0	118
WSW	0	2	1	6	11	51	16	2	0	0	0	0	89
W	0	0	0	4	6	25	17	1	2	0	0	0	55
WNW	0	1	1	7	3	21	19	4	2	0	0	0	58
NW	0	3	2	5	8	15	25	5	1	0	0	0	64
NNW	1	2	5	5	7	32	40	0	3	0	0	0	95
TOTAL	9	20	41	131	214	757	1084	146	22	0	0	0	2424

NUMBER OF CALMS: 3

NUMBER OF INVALID HOURS: 0

NUMBER OF VALID HOURS: 2427

TOTAL HOURS FOR THE PERIOD: 2427

RIVER BEND STATION
JOINT FREQUENCY TABLE
STABILITY CLASS F

FROM 1/01/12 0:00 TO 12/31/12 23:00

PRIMARY SENSORS - 150 FOOT
WIND SPEED (METERS/SECOND)

WIND	.22-	.51-	.76-	1.1-	1.6-	2.1-	3.1-	5.1-	7.1-	10.1-	13.1-	>18	TOT.
DIR	.50	.75	1.0	1.5	2.0	3.0	5.0	7.0	10.0	13.0	18.0		
N	0	0	0	4	4	13	47	0	0	0	0	0	68
NNE	3	1	1	1	4	26	27	1	0	0	0	0	64
NE	0	0	2	6	1	22	27	1	0	0	0	0	59
ENE	1	1	2	5	9	22	18	6	0	0	0	0	64
E	1	1	1	10	14	26	26	3	0	0	0	0	82
ESE	1	1	0	3	4	35	174	4	0	0	0	0	222
SE	0	1	1	6	10	19	30	0	0	0	0	0	67
SSE	1	0	0	3	6	36	17	0	0	0	0	0	63
S	0	1	3	11	13	22	29	0	0	0	0	0	79
SSW	0	2	3	4	4	29	11	0	0	0	0	0	53
SW	0	1	1	2	8	18	2	0	1	0	0	0	33
WSW	0	0	2	3	8	18	5	0	0	0	0	0	36
W	1	2	0	1	5	10	3	0	0	0	0	0	22
WNW	0	0	1	3	1	10	8	0	0	0	0	0	23
NW	0	1	0	3	5	13	9	0	0	0	0	0	31
NNW	1	1	2	2	2	15	21	0	0	0	0	0	44
TOTAL	9	13	19	67	98	334	454	15	1	0	0	0	1010

NUMBER OF CALMS: 1
NUMBER OF INVALID HOURS: 0
NUMBER OF VALID HOURS: 1011
TOTAL HOURS FOR THE PERIOD: 1011

RIVER BEND STATION
JOINT FREQUENCY TABLE
STABILITY CLASS G

FROM 1/01/12 0:00 TO 12/31/12 23:00

PRIMARY SENSORS - 150 FOOT
WIND SPEED (METERS/SECOND)

WIND	.22-	.51-	.76-	1.1-	1.6-	2.1-	3.1-	5.1-	7.1-	10.1-	13.1-	>18	TOT.
DIR	.50	.75	1.0	1.5	2.0	3.0	5.0	7.0	10.0	13.0	18.0		
N	0	2	2	4	7	46	38	1	0	0	0	0	100
NNE	0	1	4	5	12	33	50	0	0	0	0	0	105
NE	1	1	1	5	2	24	21	1	0	0	0	0	56
ENE	0	8	3	5	11	39	29	3	0	0	0	0	98
E	1	3	4	18	10	38	22	1	0	0	0	0	97
ESE	0	5	2	8	5	45	72	0	0	0	0	0	137
SE	1	1	1	4	9	22	20	0	0	0	0	0	58
SSE	0	1	5	9	18	37	15	0	0	0	0	0	85
S	2	3	6	11	26	43	7	0	0	0	0	0	98
SSW	0	3	2	9	12	35	9	0	0	0	0	0	70
SW	1	1	1	7	10	24	5	0	0	0	0	0	49
WSW	1	3	3	16	13	31	3	0	0	0	0	0	70
W	2	1	2	6	15	30	8	0	0	0	0	0	64
WNW	0	2	2	3	12	24	25	0	0	0	0	0	68
NW	2	1	3	1	1	20	16	0	0	0	0	0	44
NNW	1	0	2	8	4	35	38	0	0	0	0	0	88
TOTAL	12	36	43	119	167	526	378	6	0	0	0	0	1287

NUMBER OF CALMS: 2
NUMBER OF INVALID HOURS: 0
NUMBER OF VALID HOURS: 1289
TOTAL HOURS FOR THE PERIOD: 1289

TABLE 7
ATMOSPHERIC DISPERSION AND DEPOSITION RATES FOR
THE MAXIMUM INDIVIDUAL DOSE CALCULATIONS

Analysis	Location (meters)	Ground Level Releases	Mixed Mode Releases
Gamma air dose (3) and Beta Air Dose	994 m WNW (Containment)	CHI/Q - 421.0	CHI/Q - 33.1
Maximum Receptor (4)	994 m WNW	CHI/Q - 421.0	CHI/Q - 33.1
Resident		D/Q - 50.3	D/Q - 18.0
Garden			
Meat animal			
Immersion			
Milk animal (5)	7,000 m WNW	CHI/Q - 3.58 D/Q - 0.38	CHI/Q - .870 D/Q - .223
Other on-site Receptors	115 m ENE	CHI/Q - 5977.0 D/Q - 529.7	CHI/Q - 407.5 D/Q - 46.9
	275 m N	CHI/Q - 1644.0 D/Q - 345.6	CHI/Q - 169.1 D/Q - 68.4
	2500 SW	CHI/Q - 34.45 D/Q - 3.35	CHI/Q - 4.65 D/Q - 1.40

Notes:

(1) All CHI/Q = 10^{-7} sec/m³

(2) All D/Q = 10^{-9} m⁻²

(3) Maximum offsite location (property boundary) with highest CHI/Q (unoccupied).

(4) Maximum hypothetical occupied offsite location with highest CHI/Q and D/Q.

(5) No milk animal within 5 miles radius, hypothetical location in worst sector.

(6) Other onsite receptors

(7) Revisions to X/Q and D/Q can be performed using NUREG/CR-2919, XOQDOQ, Computer Program for the Meteorological Evaluation of Routine Effluent Releases at Nuclear Power Stations

TABLE 8
GROUNDWATER MONITORING WELL SAMPLE RESULTS

GROUND WATER SAMPLES (H-3) - RBS

LLD			3000	
LAB ID	LOCATION	DATE	TRITIUM	
20120031	MW-100	1/10/2012	< 677	
20120032	MW-04	1/9/2012	< 679	
20120034	PZ-02	1/9/2012	< 680	
20120035	PZ-03	1/10/2012	< 677	
20120036	PZ-01	1/10/2012	51,679	+/- 1117.81
20120037	PZ-01 DUP	1/10/2012	55,206	+/- 1150.9
20120053	MW-04	1/18/2012	< 683	
20120054	PZ-02	1/18/2012	< 629	
20120055	MW-100	1/18/2012	< 718	
20120056	PZ-03	1/18/2012	< 725	
20120058	PZ-01	1/18/2012	46,478	+/- 1063.71
20120059	PZ-01 DUP	1/18/2012	46,648	+/- 1077.42
20120094	MW-04	1/26/2012	< 638	
20120095	MW-100	1/26/2012	< 641	
20120096	PZ-02	1/26/2012	< 639	
20120097	PZ-01	1/26/2012	56,850	+/- 1159

LLD			3000	
LAB ID	LOCATION	DATE	TRITIUM	
20120098	PZ-01 DUP	1/26/2012	56,751	+/- 1165.08
20120136	MW-02	2/7/2012	< 626	
20120137	MW-02 DUP	2/7/2012	< 624	
20120138	MW-04	2/7/2012	< 623	
20120139	MW-06	2/7/2012	< 623	
20120140	MW-10	2/7/2012	< 626	
20120141	MW-102	2/7/2012	< 625	
20120143	MW-100	2/7/2012	< 624	
20120144	PZ-03	2/7/2012	< 629	
20120151	MW-18	2/8/2012	< 655	
20120152	MW-08	2/8/2012	< 656	
20120153	MW-19	2/8/2012	< 655	
20120154	SW-104	2/8/2012	< 653	
20120155	SW-103	2/8/2012	< 664	
20120156	SW-102	2/9/2012	< 652	
20120157	SW-101	2/9/2012	< 654	
20120158	PZ-02	2/9/2012	< 654	
20120159	PZ-01	2/9/2012	54,568	+/- 1150.71
20120160	PZ-01 DUP	2/9/2012	55,032	+/- 1150.98

LLD			3000	
LAB ID	LOCATION	DATE	TRITIUM	
20120290	PZ-02	2/28/2012	< 666	
20120291	PZ-01	2/28/2012	52,122	+/- 1117.03
20120351	MW-04	3/13/2012	< 681	
20120352	PZ-01	3/13/2012	48,267	+/- 1087.98
20120353	PZ-01 DUP	3/13/2012	48,019	+/- 1087.98
20120478	MW-04	4/17/2012	< 1,224	
20120479	PZ-01	4/17/2012	47,262	+/- 1860.76
20120480	PZ-01 DUP	4/17/2012	47,702	+/- 1869.71
20120494	MW-104	4/18/2012	< 1,238	
20120495	MW-104 DUP	4/18/2012	< 1,272	
20120509	MW-106 DUP	4/20/2012	633	+/- 187.31
20120510	MW-106	4/20/2012	700	+/- 190.34
20120513	MW-108 DUP	4/20/2012	< 1,073	
20120514	MW-108	4/20/2012	< 1,074	
20120518	MW-110	4/19/2012	50,518	+/- 1908.78
20120519	MW-110 DUP	4/19/2012	50,981	+/- 1918.28
20120586	MW-104	5/1/2012	< 647	
20120587	MW-110	5/1/2012	49,390	+/- 1092.52
20120588	MW-108	5/1/2012	< 647	

LLD			3000
LAB ID	LOCATION	DATE	TRITIUM
20120595	MW-104	4/18/2012	< 638
20120596	MW-108	4/20/2012	< 639
20120598	MW-106	5/3/2012	< 648
20120608	MW-111	5/3/2012	< 655
20120609	MW-111 DUP	5/3/2012	< 652
20120610	MW-107	5/3/2012	< 652
20120611	MW-107 DUP	5/3/2012	< 654
20120612	MW-103	5/3/2012	< 654
20120613	MW-103 DUP	5/3/2012	< 659
20120699	PZ-03	5/22/2012	< 662
20120700	MW-100	5/22/2012	< 663
20120701	MW-04	5/22/2012	< 664
20120702	PZ-02	5/22/2012	< 664
20120703	MW-10	5/22/2012	< 665
20120704	SW-101	5/22/2012	< 666
20120705	SW-102	5/22/2012	< 662
20120706	SW-103	5/22/2012	< 665
20120707	MW-19	5/23/2012	< 668
20120708	SW-104	5/23/2012	< 635

LLD			3000	
LAB ID	LOCATION	DATE	TRITIUM	
20120709	MW-18	5/23/2012	< 637	
20120710	MW-08	5/23/2012	< 636	
20120711	MW-02	5/23/2012	< 637	
20120712	MW-104	5/23/2012	< 636	
20120713	MW-111	5/23/2012	< 639	
20120714	MW-110	5/23/2012	58,122	+/- 1169.27
20120715	MW-110 DUP	5/23/2012	57,850	+/- 1182.59
20120717	MW-102	5/23/2012	< 655	
20120718	MW-06	5/23/2012	< 667	
20120719	MW-107	5/23/2012	< 653	
20120720	MW-106	5/23/2012	< 658	
20120721	MW-108	5/23/2012	< 659	
20120722	MW-103	5/23/2012	< 657	
20120723	PZ-01	5/23/2012	45,711	+/- 1049.75
20120724	PZ-01 DUP	5/23/2012	44,328	+/- 1047.96
20120746	MW-114	5/30/2012	1,265	+/- 363.8
20120747	MW-114 DUP	5/30/2012	1,256	+/- 361.8
20120753	MW-112	5/31/2012	9,477	+/- 669.19
20120754	MW-112 DUP	5/31/2012	10,084	+/- 688.29

LLD			3000	
LAB ID	LOCATION	DATE	TRITIUM	
20120755	MW-116	5/31/2012	17,018	+/- 861.88
20120756	MW-116 DUP	5/31/2012	17,300	+/- 868.97
20120773	MW-120	6/4/2012	< 657	
20120774	MW-120 DUP	6/4/2012	< 653	
20120781	MW-118	6/5/2012	1,531	+/- 337.97
20120782	MW-118 DUP	6/5/2012	1,311	+/- 329.07
20120785	MW-122	6/5/2012	< 672	
20120786	MW-122 DUP	6/5/2012	< 700	
20120790	MW-114	6/5/2012	1,296	+/- 330
20120791	MW-114 DUP	6/5/2012	1,304	+/- 331.59
20120792	MW-112	6/5/2012	7,292	+/- 507.3
20120793	MW-112 DUP	6/5/2012	7,228	+/- 490.91
20120794	MW-116	6/5/2012	18,365	+/- 698.16
20120795	MW-116 DUP	6/5/2012	18,271	+/- 701.23
20120887	MW-107	6/25/2012	< 696	
20120888	MW-106	6/25/2012	< 735	
20120889	MW-120	6/25/2012	< 708	
20120890	MW-111	6/25/2012	< 714	
20120891	MW-110	6/25/2012	34,858	+/-943.65

LLD			3000	
LAB ID	LOCATION	DATE	TRITIUM	
20120892	MW-118	6/25/2012	3,192	+/-386.23
20120893	MW-122	6/26/2012	< 709	
20120895	MW-116	6/26/2012	17,135	+/- 682.87
20120897	MW-04	6/26/2012	< 701	
20120898	MW-114	6/26/2012	1,417	+/- 321.41
20120900	MW-103	6/26/2012	< 731	
20120901	PZ-01	6/26/2012	38,985	+/- 986.62
20120902	MW-112	6/26/2012	6,711	+/- 499.51
20120943	MW-04	7/16/2012	< 692	
20120944	MW-106	7/16/2012	< 613	
20120945	MW-110	7/18/2012	30,859	+/-966.45
20120946	MW-110 DUP	7/18/2012	33,740	+/- 1002.92
20120947	MW-112	7/16/2012	6,089	+/-483.23
20120949	MW-114	7/17/2012	1,481	+/- 319.50
20120950	MW-116	7/17/2012	16,313	+/-711.51
20120951	MW-116 DUP	7/17/2012	17,003	+/- 725.68
20120952	MW-118	7/17/2012	2,638	+/- 393.95
20120953	MW-120	7/17/2012	< 685	
20120954	MW-122	7/17/2012	< 585	

LLD			3000	
LAB ID	LOCATION	DATE	TRITIUM	
20120955	PZ-01	7/17/2012	38,808	+/- 1064.59
20120964	MW-128	7/18/2012	< 579	
20120969	MW-134	7/18/2012	< 566	
20120970	MW-130	7/18/2012	< 645	
20121007	MW-132	7/23/2012	< 671	
20121009	MW-124	7/23/2012	432,733	+/-4179.58
20121010	MW-124 DUP	7/23/2012	406,935	+/- 3580.22
20121011	MW-126	7/23/2012	2,301	+/-421.52
20121012	MW-126 DUP	7/23/2012	3,992	+/- 415.67
20121061	MW-124	8/7/2012	457,082	+/- 3587.50
20121062	MW-124 DUP	8/7/2012	462,831	+/- 3618.52
20121063	MW-126	8/7/2012	4,099	+/- 424.60
20121064	MW-126 DUP	8/7/2012	5,428	+/- 464.43
20121067	MW-130	8/7/2012	< 614	
20121068	MW-130 DUP	8/7/2012	< 597	
20121069	MW-132	8/7/2012	< 619	
20121070	MW-132 DUP	8/7/2012	< 599	
20121071	MW-134	8/7/2012	< 613	
20121072	MW-134 DUP	8/7/2012	< 605	

LLD			3000	
LAB ID	LOCATION	DATE	TRITIUM	
20121093	MW-137	8/14/2012	12,042	+/- 634.59
20121094	MW-137 DUP	8/14/2012	12,290	+/- 640.07
20121135	MW-15	8/20/2012	< 590	
20121137	MW-12	8/20/2012	< 588	
20121144	MW-16	8/20/2012	< 591	
20121145	MW-21	8/20/2012	< 591	
20121146	PZ-2	8/20/2012	< 591	
20121155	MW-03	8/21/2012	< 605	
20121156	MW-05	8/21/2012	< 603	
20121157	MW-01	8/21/2012	< 606	
20121158	MW-17	8/21/2012	< 602	
20121159	MW-100	8/21/2012	< 604	
20121160	PZ-03	8/21/2012	< 605	
20121161	MW-124	8/21/2012	338,882	+/- 5341.26
20121162	MW-126	8/21/2012	2,300	+/- 624.32
20121163	MW-130	8/21/2012	< 634	
20121164	MW-128	8/21/2012	< 630	
20121165	MW-132	8/21/2012	< 636	
20121166	MW-14	8/21/2012	< 638	

LLD			3000	
LAB ID	LOCATION	DATE	TRITIUM	
20121167	MW-20	8/21/2012	< 636	
20121168	SW-104	8/21/2012	< 631	
20121169	SW-103	8/21/2012	< 636	
20121170	SW-102	8/21/2012	< 636	
20121171	MW-134	8/21/2012	< 634	
20121173	MW-10	8/22/2012	< 545	
20121174	MW-04	8/22/2012	< 549	
20121175	MW-04 DUP	8/22/2012	< 546	
20121176	MW-141	8/22/2012	1,177	+/- 294.06
20121177	MW-141 DUP	8/22/2012	1,112	+/- 290.79
20121178	MW-111	8/22/2012	< 546	
20121179	MW-111 DUP	8/22/2012	< 545	
20121180	MW-102	8/22/2012	< 548	
20121181	MW-18	8/22/2012	< 701	
20121182	MW-08	8/22/2012	< 550	
20121183	MW-19	8/22/2012	< 766	
20121184	T-14	8/22/2012	< 635	
20121185	MW-02	8/22/2012	< 535	
20121186	MW-09	8/22/2012	< 763	

LLD			3000	
LAB ID	LOCATION	DATE	TRITIUM	
20121187	MW-06	8/22/2012	< 646	
20121188	MW-107	8/22/2012	< 537	
20121189	MW-107 DUP	8/22/2012	< 535	
20121190	MW-104	8/22/2012	< 536	
20121191	MW-108	8/22/2012	< 537	
20121192	MW-139	8/22/2012	1,579	+/- 325.88
20121193	MW-139 DUP	8/22/2012	1,551	+/- 323.48
20121194	MW-103	8/22/2012	1,122	+/- 286.24
20121195	MW-103 DUP	8/22/2012	1,453	+/- 307.89
20121196	MW-07	8/22/2012	< 558	
20121197	MW-11	8/22/2012	< 561	
20121198	MW-13	8/22/2012	< 559	
20121199	SW-101	8/22/2012	< 558	
20121352	MW-148	10/1/2012	< 571	
20121353	MW-148 DUP	10/1/2012	< 568	
20121363	MW-146	10/2/2012	7,403	+/- 512.06
20121366	MW-144	10/1/2012	< 569	
20121369	MW-142	10/2/2012	< 571	
20121372	MW-125	10/3/2012	545,774	+/- 3897.95

LLD			3000	
LAB ID	LOCATION	DATE	TRITIUM	
20121375	MW-139	10/3/2012	1,957	+/- 334.69
20121376	MW-141	10/3/2012	< 569	
20121377	MW-137	10/3/2012	40,426	+/-1082.94
20121421	MW-106	10/16/2012	< 598	
20121422	MW-107	10/16/2012	< 599	
20121423	MW-108	10/16/2012	< 599	
20121424	MW-104	10/16/2012	< 599	
20121425	MW-120	10/16/2012	< 599	
20121426	MW-04	10/16/2012	< 598	
20121427	MW-02	10/16/2012	< 596	
20121428	DUP MW-02	10/16/2012	< 597	
20121429	MW-102	10/16/2012	< 601	
20121430	DUP-MW-102	10/16/2012	< 600	
20121431	MW-137	10/16/2012	38,390	+/- 1060.80
20121432	MW-148	10/16/2012	< 627	
20121433	MW-146	10/16/2012	19,721	+/- 789.94
20121434	MW-144	10/16/2012	< 627	
20121437	MW-142	10/17/2012	< 626	
20121438	DUP-MW-142	10/17/2012	< 626	

LLD			3000	
LAB ID	LOCATION	DATE	TRITIUM	
20121439	MW-125	10/17/2012	568,839	+/- 4015.17
20121440	PZ-03	10/17/2012	< 625	
20121441	MW-100	10/17/2012	< 628	
20121443	MW-128	10/17/2012	< 626	
20121444	MW-130	10/17/2012	< 627	
20121445	MW-132	10/17/2012	< 624	
20121446	MW-134	10/17/2012	< 627	
20121447	SW-101	10/17/2012	< 606	
20121448	MW-10	10/17/2012	< 605	
20121449	MW-06	10/17/2012	< 603	
20121450	MW-08	10/17/2012	< 607	
20121451	SW-102	10/17/2012	< 609	
20121452	MW-18	10/17/2012	< 608	
20121453	SW-103	10/17/2012	< 608	
20121454	SW-104	10/17/2012	< 607	
20121455	MW-19	10/17/2012	< 606	
20121456	MW-111	10/17/2012	< 607	
20121457	PZ-02	10/17/2012	< 607	
20121458	MW-103	10/17/2012	1,025	+/- 306.05

LLD			3000	
LAB ID	LOCATION	DATE	TRITIUM	
20121459	PZ-01	10/17/2012	19,340	+/- 780.38
20121460	PZ-01-DUP	10/17/2012	19,338	+/- 779.54
20121461	MW-110	10/17/2012	63,941	+/- 1366.60
20121462	MW-118	10/17/2012	3,644	+/- 409.24
20121463	MW-114	10/17/2012	2,300	+/-360.57
20121464	MW-112	10/17/2012	4,112	+/- 426.83
20121465	MW-139	10/17/2012	1,329	+/- 321.71
20121466	MW-124	10/18/2012	360,505	+/- 3196.39
20121467	MW-126	10/18/2012	1,476	+/- 331.45
20121476	MW-141	10/18/2012	< 609	
20121479	MW-122R	10/18/2012	< 604	
20121683	MW-153	11/21/2012	< 585	
20121684	DUP MW-153	11/21/2012	< 586	
20121685	MW-116	11/21/2012	22,702	+/- 835.79
20121785	MW-151	12/8/2012	1,713	+/- 336.60
20121786	DUP-MW-151	12/8/2012	1,456	+/- 326.00
20121809	MW-131	12/11/2012	< 604	
20121810	MW-131-D	12/11/2012	< 607	

GROUND MONITORING WELL SAMPLES (GAMMA) - RBS

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20120031	MW-100	1/10/2012	< 11.00	< 10.80	< 26.50	< 11.40	< 25.30	< 10.40	< 22.60	< 14.00	< 14.10	< 12.10	< 32.20	< 11.40
20120032	MW-04	1/9/2012	< 11.50	< 10.50	< 15.50	< 13.90	< 19.10	< 11.00	< 18.10	< 10.60	< 10.30	< 10.20	< 39.80	< 14.70
20120034	PZ-02	1/9/2012	< 10.10	< 8.31	< 19.00	< 7.95	< 27.30	< 8.91	< 17.40	< 7.18	< 10.20	< 10.80	< 30.10	< 7.95
20120035	PZ-03	1/10/2012	< 11.20	< 11.70	< 4.31	< 12.30	< 16.60	< 11.20	< 18.20	< 12.10	< 11.60	< 10.30	< 36.70	< 9.60
20120036	PZ-01	1/10/2012	< 8.98	< 6.97	< 15.80	< 10.40	< 12.60	< 9.23	< 14.30	< 9.55	< 9.60	< 9.84	< 37.60	< 13.00
20120037	PZ-01 DUP	1/10/2012	< 11.80	< 8.77	< 25.00	< 7.24	< 26.30	< 10.50	< 19.00	< 11.40	< 8.96	< 10.80	< 42.90	< 10.00
20120053	MW-04	1/18/2012	< 13.80	< 11.50	< 22.20	< 8.96	< 29.40	< 14.10	< 24.50	< 9.81	< 11.70	< 12.00	< 33.60	< 4.03
20120054	PZ-02	1/18/2012	< 7.98	< 7.07	< 14.00	< 5.18	< 15.80	< 9.82	< 11.50	< 8.17	< 8.25	< 8.43	< 28.00	< 14.70
20120055	MW-100	1/18/2012	< 13.30	< 8.63	< 19.60	< 12.90	< 24.10	< 11.90	< 21.60	< 9.75	< 10.40	< 11.30	< 36.80	< 9.64
20120056	PZ-03	1/18/2012	< 10.30	< 10.10	< 21.00	< 10.60	< 15.90	< 12.70	< 23.10	< 10.80	< 10.60	< 13.80	< 42.80	< 11.30
20120058	PZ-01	1/18/2012	< 12.90	< 10.90	< 23.80	< 14.70	< 20.00	< 11.30	< 17.50	< 9.09	< 9.10	< 10.20	< 37.40	< 11.00
20120059	PZ-01 DUP	1/18/2012	< 12.60	< 7.15	< 19.00	< 5.91	< 21.50	< 12.10	< 18.70	< 8.91	< 10.70	< 8.29	< 31.70	< 14.20

* - See Section XVI for details

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20120094	MW-04	1/26/2012	< 8.05	< 7.95	< 13.80	< 11.40	< 20.30	< 9.41	< 16.20	< 9.30	< 8.40	< 9.60	< 37.20	< 13.90
20120095	MW-100	1/26/2012	< 10.90	< 9.02	< 12.00	< 7.91	< 20.50	< 11.50	< 19.40	< 8.36	< 8.52	< 10.10	< 28.90	< 13.60
20120096	PZ-02	1/26/2012	< 8.84	< 6.85	< 15.50	< 7.76	< 18.40	< 9.00	< 11.80	< 7.57	< 8.96	< 9.10	< 29.90	< 11.80
20120097	PZ-01	1/26/2012	< 13.10	< 6.11	< 16.10	< 7.27	< 25.30	< 11.40	< 19.00	< 10.50	< 8.80	< 13.90	< 35.10	< 14.40
20120098	PZ-01 DUP	1/26/2012	< 10.40	< 7.24	< 13.10	< 7.72	< 29.90	< 11.20	< 17.70	< 9.66	< 9.87	< 13.40	< 30.80	< 13.50
20120136	MW-02	2/7/2012	< 9.46	< 9.34	< 24.70	< 8.59	< 25.10	< 10.80	< 17.90	< 11.50	< 7.87	< 13.00	< 37.90	< 14.00
20120137	MW-02 DUP	2/7/2012	< 11.90	< 11.30	< 16.60	< 10.90	< 20.70	< 12.20	< 18.60	< 11.40	< 7.07	< 11.10	< 35.70	< 13.70
20120138	MW-04	2/7/2012	< 12.90	< 9.65	< 13.50	< 8.81	< 15.10	< 10.10	< 19.60	< 10.40	< 6.85	< 12.50	< 40.00	< 11.10
20120139	MW-06	2/7/2012	< 9.57	< 9.44	< 15.50	< 9.09	< 22.90	< 10.20	< 20.90	< 11.60	< 9.36	< 10.10	< 36.50	< 14.96
20120140	MW-10	2/7/2012	< 12.00	< 12.80	< 21.80	< 9.40	< 27.50	< 9.76	< 17.60	< 11.30	< 12.10	< 12.10	< 39.50	< 13.70
20120141	MW-102	2/7/2012	< 10.10	< 11.40	< 16.10	< 11.00	< 25.40	< 12.10	< 19.70	< 11.60	< 11.00	< 11.20	< 39.90	< 13.20
20120143	MW-100	2/7/2012	< 9.70	< 9.58	< 17.90	< 12.80	< 20.00	< 7.54	< 15.20	< 8.73	< 9.70	< 10.80	< 29.00	< 14.80
20120144	PZ-03	2/7/2012	< 9.16	< 10.90	< 16.90	< 12.40	< 21.10	< 9.32	< 16.80	< 10.90	< 6.61	< 10.20	< 29.40	< 13.90

* - See Section XVI for details

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20120151	MW-18	2/8/2012	< 9.02	< 10.50	< 23.40	< 14.96	< 24.80	< 10.70	< 18.10	< 9.69	< 12.20	< 11.50	< 26.80	< 12.90
20120152	MW-08	2/8/2012	< 8.86	< 7.00	< 14.30	< 9.33	< 20.90	< 8.39	< 14.20	< 7.52	< 7.97	< 9.08	< 32.00	< 13.10
20120153	MW-19	2/8/2012	< 9.77	< 8.21	< 14.50	< 9.47	< 18.80	< 9.23	< 18.80	< 8.79	< 9.35	< 8.81	< 27.00	< 13.70
20120154	SW-104	2/8/2012	< 14.00	< 11.70	< 24.70	< 11.50	< 15.50	< 14.90	< 22.20	< 10.40	< 13.60	< 16.30	< 29.80	< 11.40
20120155	SW-103	2/8/2012	< 12.40	< 13.40	< 21.00	< 8.44	< 18.20	< 12.90	< 21.10	< 9.53	< 9.75	< 13.70	< 49.60	< 10.60
20120156	SW-102	2/9/2012	< 8.38	< 10.30	< 23.40	< 8.61	< 12.90	< 12.30	< 15.50	< 8.45	< 9.97	< 10.20	< 39.30	< 11.60
20120157	SW-101	2/9/2012	< 7.48	< 14.80	< 21.40	< 12.80	< 21.70	< 11.80	< 16.30	< 9.36	< 11.80	< 14.00	< 36.20	< 10.50
20120158	PZ-02	2/9/2012	< 10.70	< 9.59	< 21.80	< 11.10	< 22.00	< 12.70	< 17.60	< 11.90	< 9.84	< 12.50	< 27.90	< 13.50
20120159	PZ-01	2/9/2012	< 10.70	< 9.74	< 18.50	< 12.00	< 20.40	< 10.60	< 18.10	< 9.07	< 10.80	< 11.00	< 41.00	< 14.50
20120160	PZ-01 DUP	2/9/2012	< 7.52	< 12.90	< 21.60	< 8.62	< 21.10	< 11.80	< 14.20	< 12.00	< 7.76	< 8.89	< 24.20	< 13.40
20120290	PZ-02	2/28/2012	< 12.20	< 9.63	< 16.90	< 12.90	< 19.00	< 8.23	< 18.20	< 11.30	< 9.64	< 10.40	< 41.30	< 10.80
20120291	PZ-01	2/28/2012	< 12.30	< 9.53	< 19.80	< 11.80	< 22.40	< 12.60	< 20.90	< 9.88	< 8.22	< 13.00	< 35.70	< 9.76
20120351	MW-04	3/13/2012	< 13.30	< 9.87	< 13.70	< 12.00	< 25.30	< 11.70	< 22.50	< 9.13	< 10.10	< 12.10	< 36.00	< 4.06

* - See Section XVI for details

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20120352	PZ-01	3/13/2012	< 11.60	< 12.00	< 15.90	< 13.40	< 14.20	< 10.80	< 19.60	< 8.92	< 11.00	< 12.50	< 47.30	< 12.80
20120353	PZ-01 DUP	3/13/2012	< 11.80	< 8.32	< 18.90	< 10.10	< 19.10	< 8.64	< 19.00	< 10.40	< 7.28	< 11.40	< 33.90	< 13.60
20120478	MW-04	4/17/2012	< 8.85	< 14.10	< 24.20	< 8.89	< 24.80	< 12.90	< 18.40	< 11.20	< 8.42	< 13.80	< 40.50	< 14.10
20120479	PZ-01	4/17/2012	< 12.80	< 9.80	< 19.00	< 11.20	< 25.00	< 10.60	< 20.10	< 10.70	< 11.80	< 9.63	< 29.60	< 12.50
20120480	PZ-01 DUP	4/17/2012	< 4.76	< 9.59	< 21.80	< 11.40	< 21.30	< 12.30	< 18.50	< 11.10	< 10.20	< 9.96	< 36.30	< 14.40
20120494	MW-104	4/18/2012	< 13.40	< 11.20	< 19.80	< 11.00	< 21.80	< 14.80	< 18.00	< 8.31	< 9.45	< 13.00	< 33.30	< 13.70
20120495	MW-104 DUP	4/18/2012	< 11.60	< 10.80	< 24.50	< 3.08	< 29.20	< 10.30	< 19.80	< 10.10	< 10.60	< 10.60	< 43.20	< 13.20
20120510	MW-106	4/20/2012	< 7.20	< 9.12	< 12.60	< 6.69	< 12.80	< 6.69	< 9.80	< 7.05	< 7.12	< 7.66	< 31.00	< 14.60
20120514	MW-108	4/20/2012	< 11.50	< 9.76	< 19.20	< 13.30	< 18.70	< 11.80	< 19.00	< 12.90	< 10.20	< 10.00	< 41.90	< 13.30
20120518	MW-110	4/19/2012	< 8.97	< 8.02	< 21.00	< 8.86	< 19.10	< 9.25	< 17.80	< 9.74	< 9.10	< 9.74	< 35.20	< 14.60
20120586	MW-104	5/1/2012	< 14.00	< 9.35	< 18.40	< 9.53	< 23.90	< 9.98	< 19.70	< 10.80	< 11.90	< 12.80	< 43.20	< 11.90
20120587	MW-110	5/1/2012	< 11.20	< 7.83	< 12.30	< 10.60	< 19.90	< 10.10	< 15.60	< 8.98	< 8.92	< 9.16	< 31.80	< 14.60
20120588	MW-108	5/1/2012	< 8.36	< 11.70	< 13.70	< 8.82	< 19.80	< 10.60	< 16.50	< 8.59	< 8.54	< 8.11	< 30.00	< 13.40

* - See Section XVI for details

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20120598	MW-106	5/3/2012	< 12.10	< 11.90	< 22.90	< 10.60	< 23.20	< 14.50	< 16.00	< 11.30	< 11.70	< 11.70	< 36.60	< 11.20
20120608	MW-111	5/3/2012	< 9.72	< 8.12	< 16.20	< 8.76	< 15.00	< 7.55	< 12.70	< 7.79	< 8.19	< 8.38	< 23.00	< 12.90
20120610	MW-107	5/3/2012	< 7.91	< 8.94	< 16.30	< 8.61	< 29.50	< 12.80	< 17.90	< 6.42	< 8.61	< 9.76	< 37.20	< 8.18
20120612	MW-103	5/3/2012	< 9.01	< 10.50	< 13.70	< 8.99	< 26.90	< 9.72	< 20.60	< 10.20	< 8.99	< 12.70	< 31.70	< 13.70
20120699	PZ-03	5/22/2012	< 12.10	< 12.70	< 25.30	< 14.90	< 26.00	< 12.20	< 19.20	< 9.38	< 10.10	< 9.96	< 38.00	< 11.70
20120700	MW-100	5/22/2012	< 10.40	< 10.20	< 10.70	< 8.95	< 17.00	< 10.10	< 15.30	< 7.18	< 8.64	< 6.55	< 31.80	< 14.30
20120701	MW-04	5/22/2012	< 8.95	< 11.30	< 15.70	< 12.20	< 11.80	< 10.40	< 17.20	< 9.53	< 10.10	< 6.63	< 31.30	< 14.00
20120702	PZ-02	5/22/2012	< 8.97	< 11.90	< 19.20	< 7.69	< 17.80	< 9.89	< 12.90	< 7.88	< 8.72	< 7.81	< 31.80	< 11.90
20120703	MW-10	5/22/2012	< 10.50	< 10.70	< 18.90	< 14.40	< 21.90	< 11.10	< 18.50	< 9.19	< 10.50	< 11.10	< 38.40	< 12.70
20120704	SW-101	5/22/2012	< 6.86	< 6.77	< 12.70	< 9.11	< 14.20	< 7.43	< 11.70	< 8.69	< 6.19	< 9.56	< 26.00	< 14.50
20120705	SW-102	5/22/2012	< 13.50	< 10.50	< 17.60	< 8.91	< 17.00	< 9.65	< 14.40	< 7.90	< 10.50	< 5.50	< 27.70	< 14.70
20120706	SW-103	5/22/2012	< 8.01	< 9.77	< 19.10	< 6.14	< 25.90	< 7.04	< 15.10	< 10.60	< 10.10	< 9.99	< 37.10	< 12.60
20120707	MW-19	5/23/2012	< 11.40	< 9.57	< 19.90	< 12.70	< 18.80	< 10.80	< 14.80	< 11.40	< 11.90	< 11.70	< 47.30	< 14.00

* - See Section XVI for details

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20120708	SW-104	5/23/2012	< 13.30	< 11.50	< 12.10	< 10.40	< 24.10	< 11.00	< 13.50	< 9.44	< 9.13	< 10.00	< 42.90	< 14.70
20120709	MW-18	5/23/2012	< 8.96	< 9.25	< 15.80	< 7.33	< 28.00	< 9.59	< 16.00	< 8.24	< 10.40	< 10.20	< 33.50	< 9.29
20120710	MW-08	5/23/2012	< 14.70	< 11.70	< 17.50	< 10.10	< 26.80	< 11.70	< 20.20	< 9.43	< 13.30	< 11.90	< 33.30	< 9.68
20120711	MW-02	5/23/2012	< 8.23	< 9.02	< 13.40	< 8.24	< 19.50	< 8.44	< 15.70	< 8.39	< 6.29	< 9.06	< 33.00	< 12.30
20120712	MW-104	5/23/2012	< 10.30	< 12.00	< 29.00	< 11.70	< 26.00	< 14.10	< 24.40	< 12.40	< 13.90	< 9.96	< 27.30	< 14.80
20120713	MW-111	5/23/2012	< 9.82	< 9.35	< 16.50	< 10.80	< 18.50	< 9.94	< 17.60	< 9.98	< 9.44	< 11.60	< 39.10	< 14.50
20120714	MW-110	5/23/2012	< 10.90	< 8.09	< 17.80	< 10.30	< 26.50	< 9.76	< 14.90	< 8.86	< 9.33	< 8.70	< 32.10	< 8.39
20120715	MW-110 DUP	5/23/2012	< 9.46	< 8.27	< 17.00	< 10.60	< 22.00	< 10.10	< 15.50	< 10.80	< 11.00	< 9.77	< 36.50	< 14.80
20120717	MW-102	5/23/2012	< 11.30	< 9.63	< 16.10	< 10.20	< 27.10	< 11.60	< 18.50	< 9.70	< 10.20	< 11.40	< 34.50	< 14.70
20120718	MW-06	5/23/2012	< 10.80	< 12.90	< 20.20	< 6.44	< 21.10	< 11.10	< 15.40	< 10.70	< 12.00	< 9.17	< 33.20	< 14.80
20120719	MW-107	5/23/2012	< 9.15	< 8.70	< 10.60	< 10.60	< 23.00	< 6.77	< 16.30	< 10.20	< 10.10	< 9.20	< 29.90	< 12.50
20120720	MW-106	5/23/2012	< 13.80	< 9.88	< 13.80	< 11.90	< 29.50	< 13.80	< 21.30	< 9.82	< 13.50	< 8.63	< 39.70	< 14.50
20120721	MW-108	5/23/2012	< 8.34	< 9.49	< 21.20	< 12.10	< 18.40	< 9.11	< 17.30	< 13.20	< 9.98	< 10.40	< 40.60	< 14.40

* - See Section XVI for details

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20120722	MW-103	5/23/2012	< 12.40	< 12.30	< 18.70	< 9.47	< 21.20	< 11.80	< 15.40	< 10.40	< 10.80	< 9.68	< 50.70	< 14.60
20120723	PZ-01	5/23/2012	< 10.30	< 14.10	< 12.10	< 7.92	< 17.10	< 12.60	< 20.80	< 10.40	< 8.11	< 14.70	< 41.40	< 3.68
20120724	PZ-01 DUP	5/23/2012	< 11.30	< 11.20	< 24.50	< 8.89	< 27.30	< 10.30	< 15.70	< 11.70	< 9.24	< 13.80	< 27.40	< 13.10
20120746	MW-114	5/30/2012	< 9.05	< 9.75	< 28.20	< 10.30	< 13.90	< 13.90	< 18.10	< 9.23	< 7.77	< 11.60	< 31.70	< 10.30
20120747	MW-114 DUP	5/30/2012	< 9.18	< 10.90	< 19.10	< 9.75	< 18.50	< 11.60	< 13.30	< 10.60	< 7.23	< 10.30	< 39.00	< 14.80
20120753	MW-112	5/31/2012	< 8.35	< 8.96	< 16.70	< 8.58	< 24.70	< 9.18	< 15.50	< 8.45	< 8.42	< 10.70	< 30.30	< 14.10
20120754	MW-112 DUP	5/31/2012	< 10.70	< 10.50	< 20.00	< 12.90	< 24.70	< 12.70	< 27.00	< 11.00	< 9.88	< 11.90	< 39.10	< 13.60
20120755	MW-116	5/31/2012	< 12.10	< 8.79	< 23.00	< 7.27	< 23.20	< 12.70	< 17.10	< 10.80	< 9.39	< 8.97	< 39.10	< 14.90
20120756	MW-116 DUP	5/31/2012	< 11.60	< 8.98	< 19.60	< 12.10	< 19.00	< 10.30	< 18.20	< 9.16	< 9.33	< 11.20	< 35.80	< 14.30
20120773	MW-120	6/4/2012	< 7.77	< 9.77	< 14.60	< 9.29	< 22.80	< 9.04	< 15.90	< 7.31	< 9.54	< 8.22	< 25.30	< 13.90
20120774	MW-120 DUP	6/4/2012	< 9.23	< 11.10	< 15.60	< 9.28	< 10.80	< 11.30	< 14.80	< 8.77	< 8.62	< 6.78	< 34.80	< 13.60
20120781	MW-118	6/5/2012	< 11.30	< 12.20	< 21.90	< 10.20	< 21.80	< 10.50	< 17.10	< 8.88	< 9.52	< 11.40	< 34.10	< 14.90

* - See Section XVI for details

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20120782	MW-118 DUP	6/5/2012	< 10.20	< 10.30	< 20.70	< 9.84	< 20.80	< 11.40	< 15.80	< 9.40	< 10.50	< 10.40	< 33.00	< 14.80
20120785	MW-122	6/5/2012	< 10.10	< 9.53	< 9.12	< 9.12	< 21.50	< 10.50	< 9.37	< 8.92	< 9.37	< 9.39	< 31.70	< 12.30
20120786	MW-122 DUP	6/5/2012	< 7.35	< 6.81	< 14.10	< 9.04	< 14.60	< 9.43	< 13.40	< 6.99	< 8.08	< 7.77	< 28.60	< 11.60
20120790	MW-114	6/5/2012	< 11.20	< 11.50	< 16.40	< 10.60	< 23.80	< 10.90	< 14.90	< 10.10	< 9.93	< 10.80	< 27.20	< 14.40
20120791	MW-114 DUP	6/5/2012	< 6.82	< 8.27	< 16.20	< 5.97	< 24.50	< 12.20	< 16.20	< 9.41	< 6.04	< 10.00	< 34.30	< 13.70
20120792	MW-112	6/5/2012	< 7.69	< 9.77	< 13.60	< 8.10	< 25.00	< 8.33	< 16.90	< 7.75	< 11.80	< 12.00	< 17.40	< 10.90
20120793	MW-112 DUP	6/5/2012	< 9.71	< 9.55	< 18.80	< 9.24	< 21.80	< 11.50	< 16.50	< 8.80	< 8.79	< 11.00	< 34.70	< 14.30
20120794	MW-116	6/5/2012	< 11.90	< 9.87	< 17.10	< 9.74	< 25.30	< 11.10	< 21.10	< 11.20	< 11.30	< 14.30	< 41.30	< 11.80
20120795	MW-116 DUP	6/5/2012	< 9.28	< 8.00	< 15.50	< 10.50	< 15.80	< 9.70	< 14.70	< 7.51	< 8.90	< 9.42	< 29.40	< 12.80
20120887	MW-107	6/25/2012	< 13.70	< 8.04	< 21.50	< 13.60	< 23.40	< 11.90	< 18.00	< 13.30	< 12.20	< 11.70	< 47.60	< 13.20
20120888	MW-106	6/25/2012	< 7.09	< 6.30	< 12.30	< 6.62	< 16.50	< 8.52	< 13.20	< 8.76	< 6.80	< 5.46	< 31.00	< 13.00
20120889	MW-120	6/25/2012	< 9.30	< 7.71	< 14.60	< 8.34	< 28.80	< 8.12	< 16.20	< 11.50	< 7.66	< 10.70	< 39.50	< 13.10
20120890	MW-111	6/25/2012	< 10.90	< 9.54	< 17.10	< 8.26	< 21.00	< 10.00	< 15.20	< 10.40	< 8.47	< 9.82	< 36.00	< 13.10

* - See Section XVI for details

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20120891	MW-110	6/25/2012	< 12.30	< 11.80	< 12.10	< 12.30	< 21.40	< 14.00	< 17.40	< 14.98	< 10.50	< 13.30	< 49.10	< 13.60
20120892	MW-118	6/25/2012	< 11.60	< 8.92	< 13.90	< 8.82	< 13.10	< 9.59	< 11.70	< 9.68	< 9.62	< 12.10	< 35.20	< 13.90
20120893	MW-122	6/26/2012	< 9.64	< 9.09	< 13.80	< 9.13	< 24.30	< 12.70	< 20.30	< 11.50	< 9.42	< 12.40	< 35.70	< 14.40
20120895	MW-116	6/26/2012	< 7.41	< 6.72	< 13.40	< 8.01	< 16.80	< 8.40	< 13.20	< 9.75	< 7.45	< 7.32	< 30.10	< 11.70
20120897	MW-04	6/26/2012	< 9.63	< 12.90	< 6.88	< 7.15	< 27.80	< 8.68	< 21.30	< 14.50	< 8.13	< 11.80	< 52.60	< 13.20
20120898	MW-114	6/26/2012	< 12.30	< 9.21	< 18.60	< 10.60	< 23.10	< 10.90	< 18.50	< 9.76	< 8.69	< 10.30	< 38.60	< 13.70
20120900	MW-103	6/26/2012	< 10.00	< 7.27	< 14.20	< 8.07	< 18.30	< 8.29	< 15.70	< 9.27	< 8.20	< 7.67	< 31.40	< 14.00
20120901	PZ-01	6/26/2012	< 8.07	< 7.44	< 15.50	< 9.31	< 14.70	< 8.42	< 13.50	< 10.30	< 8.20	< 9.40	< 32.70	< 12.10
20120902	MW-112	6/26/2012	< 9.63	< 11.10	< 23.60	< 7.15	< 24.30	< 12.00	< 19.20	< 12.30	< 9.89	< 11.80	< 38.90	< 11.20
20120943	MW-04	7/16/2012	< 8.87	< 8.82	< 15.40	< 13.20	< 17.00	< 7.94	< 13.00	< 9.05	< 10.50	< 9.13	< 42.30	< 13.20
20120944	MW-106	7/16/2012	< 11.10	< 6.44	< 20.80	< 7.53	< 29.30	< 12.20	< 22.60	< 13.90	< 9.13	< 11.80	< 42.80	< 3.68
20120945	MW-110	7/18/2012	< 13.40	< 12.00	< 20.10	< 14.95	< 24.20	< 14.50	< 21.90	< 14.50	< 12.30	< 15.60	< 49.30	< 11.50
20120946	MW-110 DUP	7/18/2012	< 11.60	< 10.80	< 19.30	< 9.06	< 23.90	< 9.94	< 16.30	< 9.02	< 9.02	< 9.13	< 37.70	< 13.00

* - See Section XVI for details

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20120947	MW-112	7/16/2012	< 7.21	< 10.00	< 22.90	< 9.53	< 29.30	< 12.10	< 16.30	< 11.50	< 9.03	< 10.80	< 43.60	< 14.00
20120949	MW-114	7/17/2012	< 8.77	< 8.31	< 18.10	< 4.91	< 19.00	< 8.35	< 13.70	< 9.63	< 6.60	< 10.40	< 36.90	< 13.40
20120950	MW-116	7/17/2012	< 7.87	< 7.42	< 10.20	< 6.25	< 17.10	< 7.01	< 11.90	< 8.40	< 5.99	< 8.52	< 28.10	< 12.90
20120951	MW-116 DUP	7/17/2012	< 11.40	< 12.20	< 24.80	< 12.30	< 29.99	< 14.70	< 16.90	< 11.40	< 11.50	< 13.90	< 34.60	< 13.40
20120952	MW-118	7/17/2012	< 9.47	< 6.40	< 11.00	< 6.45	< 17.60	< 9.65	< 12.80	< 7.32	< 7.53	< 7.43	< 26.90	< 12.20
20120953	MW-120	7/17/2012	< 8.51	< 10.80	< 17.90	< 10.70	< 22.80	< 11.20	< 20.10	< 10.30	< 12.80	< 12.10	< 4.11	< 13.60
20120954	MW-122	7/17/2012	< 10.60	< 9.12	< 17.00	< 7.49	< 20.60	< 11.10	< 19.00	< 11.10	< 9.37	< 10.40	< 36.70	< 13.80
20120955	PZ-01	7/17/2012	< 8.94	< 5.66	< 14.00	< 6.28	< 13.70	< 8.46	< 11.30	< 7.97	< 6.91	< 9.44	< 27.20	< 13.20
20120964	MW-128	7/18/2012	< 10.60	< 12.30	< 23.60	< 8.12	< 26.60	< 5.17	< 13.70	< 11.10	< 7.84	< 10.30	< 36.20	< 14.50
20120969	MW-134	7/18/2012	< 13.80	< 10.80	< 19.80	< 11.60	< 24.10	< 12.10	< 19.80	< 14.10	< 10.00	< 11.80	< 45.50	< 10.00
20120970	MW-130	7/18/2012	< 7.90	< 9.75	< 16.30	< 11.40	< 26.30	< 9.87	< 16.80	< 8.75	< 10.70	< 9.54	< 21.00	< 11.30
20121007	MW-132	7/23/2012	< 9.40	< 10.70	< 13.70	< 8.07	< 14.50	< 8.52	< 17.30	< 9.71	< 8.82	< 8.51	< 30.00	< 12.40
20121008	DUP MW-132	7/23/2012	< 13.20	< 12.10	< 28.60	< 13.10	< 24.90	< 14.50	< 23.30	< 11.60	< 11.10	< 13.30	< 48.10	< 14.00

* - See Section XVI for details

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20121009	MW-124	7/23/2012	< 12.50	< 9.69	< 22.10	< 13.20	< 24.70	< 9.98	< 19.20	< 12.40	< 11.10	< 12.60	< 31.50	< 14.90
20121010	MW-124 DUP	7/23/2012	< 8.82	< 7.74	< 22.40	< 7.93	< 21.00	< 9.54	< 15.10	< 9.22	< 9.58	< 12.10	< 33.40	< 14.50
20121011	MW-126	7/23/2012	< 10.50	< 12.00	< 17.30	< 9.56	< 29.40	< 12.90	< 23.30	< 13.20	< 10.30	< 0.80	< 42.00	< 9.52
20121012	MW-126 DUP	7/23/2012	< 12.40	< 14.50	< 22.50	< 12.50	< 26.80	< 10.10	< 15.90	< 9.98	< 12.00	< 11.90	< 40.90	< 3.56
20121061	MW-124	8/7/2012	< 11.20	< 7.49	< 12.20	< 9.05	< 18.90	< 7.82	< 17.20	< 9.49	< 7.79	< 9.62	< 33.00	< 14.90
20121063	MW-126	8/7/2012	< 9.71	< 7.48	< 26.00	< 3.20	< 24.40	< 11.00	< 22.10	< 11.50	< 10.90	< 12.40	< 56.50	< 4.33
20121067	MW-130	8/7/2012	< 9.35	< 5.33	< 18.20	< 7.07	< 19.80	< 9.04	< 16.90	< 9.13	< 6.50	< 8.72	< 36.40	< 12.80
20121069	MW-132	8/7/2012	< 7.78	< 7.92	< 19.30	< 8.25	< 16.80	< 8.87	< 13.40	< 7.86	< 8.67	< 8.28	< 28.10	< 10.90
20121071	MW-134	8/7/2012	< 10.00	< 7.23	< 17.80	< 8.79	< 18.20	< 8.92	< 13.50	< 10.40	< 9.52	< 11.10	< 41.50	< 11.80
20121093	MW-137	8/14/2012	< 7.40	< 8.55	< 13.10	< 8.83	< 17.70	< 7.02	< 12.10	< 8.19	< 7.45	< 10.60	< 27.70	< 11.70
20121094	MW-137 DUP	8/14/2012	< 11.60	< 11.90	< 17.50	< 10.40	< 25.90	< 10.80	< 18.60	< 10.80	< 8.11	< 11.20	< 34.80	< 12.00
20121135	MW-15	8/20/2012	< 10.60	< 11.20	< 23.50	< 9.91	< 26.50	< 10.60	< 23.80	< 12.20	< 10.90	< 10.20	< 37.00	< 13.40
20121137	MW-12	8/20/2012	< 8.52	< 6.59	< 12.50	< 8.09	< 13.80	< 6.75	< 15.10	< 7.39	< 7.58	< 8.65	< 32.40	< 14.60

* - See Section XVI for details

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20121144	MW-16	8/20/2012	< 11.00	< 10.80	< 21.60	< 7.92	< 24.10	< 9.75	< 13.40	< 10.30	< 8.11	< 5.22	< 28.60	< 14.60
20121145	MW-21	8/20/2012	< 9.52	< 10.20	< 20.50	< 9.51	< 12.80	< 9.36	< 18.40	< 8.45	< 9.82	< 11.30	< 29.30	< 14.50
20121146	PZ-2	8/20/2012	< 9.69	< 12.00	< 19.60	< 12.80	< 26.60	< 7.11	< 14.90	< 11.50	< 7.62	< 11.00	< 40.60	< 14.00
20121155	MW-03	8/21/2012	< 11.80	< 11.00	< 14.30	< 10.60	< 23.90	< 10.40	< 14.70	< 9.47	< 9.56	< 8.68	< 21.70	< 14.80
20121156	MW-05	8/21/2012	< 5.65	< 5.63	< 18.20	< 9.65	< 16.50	< 9.82	< 17.50	< 7.32	< 9.61	< 9.33	< 40.50	< 14.50
20121157	MW-01	8/21/2012	< 10.30	< 7.87	< 23.70	< 9.02	< 19.90	< 11.30	< 22.10	< 13.40	< 8.65	< 10.00	< 44.20	< 14.00
20121158	MW-17	8/21/2012	< 12.20	< 11.60	< 22.00	< 7.92	< 17.20	< 11.80	< 19.00	< 10.50	< 7.55	< 14.30	< 40.90	< 13.50
20121159	MW-100	8/21/2012	< 9.04	< 7.69	< 25.60	< 8.72	< 21.20	< 10.80	< 20.10	< 9.08	< 9.41	< 11.20	< 27.00	< 13.90
20121160	PZ-03	8/21/2012	< 10.60	< 10.60	< 26.10	< 11.50	< 21.90	< 11.10	< 15.00	< 12.80	< 8.42	< 11.70	< 34.20	< 14.99
20121161	MW-124	8/21/2012	< 7.98	< 11.50	< 20.00	< 10.60	< 18.00	< 10.70	< 19.20	< 12.20	< 7.83	< 12.50	< 30.20	< 14.30
20121162	MW-126	8/21/2012	< 7.51	< 11.40	< 22.20	< 12.70	< 24.40	< 14.20	< 19.70	< 13.50	< 9.76	< 11.00	< 39.00	< 11.80
20121163	MW-130	8/21/2012	< 9.21	< 7.95	< 13.80	< 9.10	< 21.70	< 8.04	< 13.80	< 7.03	< 8.02	< 8.30	< 34.20	< 10.90
20121164	MW-128	8/21/2012	< 8.10	< 8.96	< 13.30	< 8.52	< 17.80	< 9.83	< 18.10	< 9.43	< 6.72	< 10.50	< 26.00	< 12.90

* - See Section XVI for details

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	C0-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20121165	MW-132	8/21/2012	< 5.96	< 6.53	< 10.90	< 5.99	< 12.80	< 6.71	< 12.80	< 9.63	< 6.95	< 6.55	< 26.50	< 12.20
20121166	MW-14	8/21/2012	< 8.26	< 9.40	< 14.20	< 7.43	< 12.90	< 11.50	< 18.50	< 14.60	< 9.22	< 8.37	< 41.80	< 12.30
20121167	MW-20	8/21/2012	< 10.20	< 10.90	< 15.70	< 12.50	< 14.80	< 9.81	< 12.70	< 14.98	< 8.82	< 8.28	< 41.30	< 12.20
20121168	SW-104	8/21/2012	< 7.41	< 9.42	< 10.60	< 8.38	< 16.30	< 9.02	< 14.70	< 12.50	< 5.32	< 8.58	< 35.80	< 10.60
20121169	SW-103	8/21/2012	< 7.91	< 8.12	< 18.00	< 8.60	< 16.50	< 10.40	< 13.40	< 14.90	< 7.34	< 10.50	< 32.40	< 13.00
20121171	MW-134	8/21/2012	< 7.87	< 8.14	< 15.40	< 7.40	< 15.90	< 12.10	< 15.80	< 14.90	< 9.18	< 9.44	< 44.60	< 14.30
20121173	MW-10	8/22/2012	< 4.47	< 4.05	< 10.10	< 4.13	< 9.46	< 5.94	< 7.83	< 12.20	< 3.71	< 4.52	< 27.20	< 10.20
20121174	MW-04	8/22/2012	< 4.87	< 4.38	< 10.80	< 5.18	< 9.93	< 5.85	< 9.60	< 13.90	< 4.52	< 4.50	< 29.70	< 11.10
20121175	MW-04 DUP	8/22/2012	< 3.84	< 3.46	< 8.12	< 3.89	< 8.35	< 4.55	< 7.70	< 11.80	< 3.93	< 4.11	< 33.10	< 11.10
20121176	MW-141	8/22/2012	< 11.10	< 9.50	*	< 13.90	< 28.30	*	< 28.80	*	< 11.10	< 12.80	*	*
20121177	MW-141 DUP	8/22/2012	< 8.47	< 11.90	< 7.99	< 8.47	< 25.10	*	< 21.20	*	< 12.50	< 12.50	*	*
20121178	MW-111	8/22/2012	< 11.00	< 13.30	*	< 13.70	< 17.20	*	< 28.00	*	< 10.90	< 12.50	*	*
20121179	MW-111 DUP	8/22/2012	< 10.70	< 12.00	< 29.40	< 7.00	< 29.00	*	< 24.50	*	< 9.84	< 12.00	*	*

* - See Section XVI for details

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20121180	MW-102	8/22/2012	< 9.33	< 12.40	< 23.40	< 7.99	< 29.90	*	< 23.70	*	< 8.86	< 12.90	*	*
20121181	MW-18	8/22/2012	< 11.40	< 12.80	< 21.10	< 8.95	< 29.30	< 14.60	< 22.80	*	< 12.40	< 12.60	*	*
20121182	MW-08	8/22/2012	< 14.40	< 14.60	*	< 14.10	< 28.70	*	< 24.70	*	< 10.10	< 12.10	*	*
20121183	MW-19	8/22/2012	< 11.70	< 13.40	*	< 10.10	< 21.50	*	< 26.30	*	< 9.37	< 10.00	*	*
20121184	T-14	8/22/2012	< 11.40	< 14.00	*	< 8.94	< 29.30	*	< 14.00	*	< 11.30	< 11.20	*	*
20121185	MW-02	8/22/2012	< 12.10	< 14.80	*	< 7.94	< 26.40	*	< 28.10	*	< 11.80	< 13.00	*	*
20121186	MW-09	8/22/2012	< 10.20	< 12.50	*	< 14.20	< 26.20	*	< 25.50	*	< 9.37	< 9.31	*	*
20121187	MW-06	8/22/2012	< 9.23	< 14.20	*	< 11.50	< 21.20	*	< 26.70	*	< 10.60	< 9.87	*	*
20121188	MW-107	8/22/2012	< 10.20	< 12.60	*	< 12.90	< 21.50	*	< 20.60	*	< 9.38	< 10.00	*	*
20121189	MW-107 DUP	8/22/2012	< 14.70	< 10.10	*	< 10.30	< 27.20	*	< 25.40	*	< 14.20	< 12.00	*	*
20121190	MW-104	8/22/2012	< 12.90	< 14.90	*	< 11.60	< 28.80	*	< 29.30	*	< 9.18	< 15.30	*	*
20121191	MW-108	8/22/2012	< 11.40	< 14.70	< 27.30	< 8.00	< 21.10	< 11.70	< 18.10	*	< 5.59	< 10.90	*	*

* - See Section XVI for details

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20121192	MW-139	8/22/2012	< 10.70	< 14.40	< 23.50	< 12.20	< 15.30	*	< 23.50	*	< 10.10	< 7.02	*	*
20121193	MW-139 DUP	8/22/2012	*	< 11.40	< 21.00	< 8.80	< 23.70	*	< 24.70	*	< 8.64	< 10.30	*	*
20121194	MW-103	8/22/2012	< 13.00	< 11.30	*	< 6.84	< 28.70	*	< 21.40	*	< 12.20	< 11.70	*	*
20121195	MW-103 DUP	8/22/2012	< 10.40	< 13.10	*	< 7.95	< 16.30	*	< 27.60	*	< 10.40	< 12.40	*	*
20121196	MW-07	8/22/2012	< 11.90	< 14.90	*	< 10.60	< 27.40	< 14.20	< 26.70	*	< 5.64	< 10.70	*	*
20121197	MW-11	8/22/2012	< 13.20	< 11.60	*	< 10.70	< 29.70	*	< 24.50	*	< 9.40	< 10.20	*	*
20121198	MW-13	8/22/2012	< 12.40	< 14.90	< 29.60	< 6.45	< 24.00	*	< 25.50	*	< 9.99	< 10.50	*	*
20121199	SW-101	8/22/2012	< 10.50	< 15.00	*	< 10.10	< 24.70	*	< 28.70	*	< 10.40	< 10.00	*	*
20121352	MW-148	10/1/2012	< 12.10	< 10.60	< 20.70	< 10.10	< 22.80	< 10.30	< 17.50	< 11.10	< 10.80	< 9.27	< 36.80	< 13.70
20121353	MW-148 DUP	10/1/2012	< 12.20	< 8.86	< 13.40	< 12.40	< 20.70	< 9.74	< 21.90	< 10.70	< 8.92	< 7.93	< 34.70	< 13.90
20121363	MW-146	10/2/2012	< 13.80	< 11.50	< 23.30	< 11.70	< 19.80	< 13.60	< 18.80	< 10.60	< 9.13	< 14.30	< 33.40	< 10.10
20121366	MW-144	10/1/2012	< 8.58	< 6.76	< 15.40	< 9.41	< 12.90	< 9.53	< 13.10	< 7.98	< 7.41	< 6.33	< 32.20	< 12.90
20121369	MW-142	10/2/2012	< 8.44	< 8.66	< 12.60	< 8.96	< 18.60	< 8.61	< 12.00	< 8.15	< 8.98	< 7.86	< 37.80	< 11.40
20121372	MW-125	10/3/2012	< 7.70	< 10.10	< 15.80	< 11.30	< 21.20	< 12.50	< 15.60	< 9.79	< 8.71	< 9.79	< 26.60	< 13.70
20121375	MW-139	10/3/2012	< 12.90	< 9.16	< 29.20	< 13.60	< 28.40	< 13.00	< 18.70	< 11.80	< 13.60	< 13.80	< 39.00	< 11.90

* - See Section XVI for details

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20121376	MW-141	10/3/2012	< 8.63	< 10.50	< 14.70	< 8.65	< 21.70	< 10.70	< 14.00	< 9.67	< 8.61	< 10.60	< 31.20	< 14.50
20121377	MW-137	10/3/2012	< 12.80	< 7.47	< 19.80	< 9.92	< 24.40	< 11.70	< 15.00	< 11.30	< 11.90	< 13.00	< 33.60	< 14.70
20121421	MW-106	10/16/2012	< 6.83	< 6.76	< 13.30	< 7.56	< 13.40	< 6.77	< 11.90	< 6.43	< 7.26	< 6.89	< 25.80	< 11.40
20121422	MW-107	10/16/2012	< 9.86	< 7.44	< 20.70	< 7.56	< 29.30	< 11.10	< 19.00	< 9.77	< 10.30	< 10.70	< 31.80	< 12.20
20121423	MW-108	10/16/2012	< 6.44	< 9.70	< 21.40	< 11.30	< 22.50	< 9.05	< 19.90	< 9.55	< 10.10	< 12.10	< 25.60	< 14.00
20121424	MW-104	10/16/2012	< 10.60	< 7.49	< 25.60	< 11.50	< 26.70	< 12.40	< 21.00	< 7.36	< 11.50	< 10.20	< 36.60	< 14.90
20121425	MW-120	10/16/2012	< 12.20	< 11.60	< 23.70	< 11.60	< 24.20	< 12.40	< 21.20	< 14.50	< 11.60	< 11.80	< 51.40	< 3.94
20121426	MW-04	10/16/2012	< 8.25	< 10.80	< 28.10	< 8.26	< 27.30	< 14.10	< 17.40	< 12.10	< 11.30	< 11.10	< 44.00	< 14.70
20121427	MW-02	10/16/2012	< 14.40	< 11.90	< 19.60	< 12.50	< 21.50	< 11.50	< 17.90	< 14.00	< 11.70	< 10.80	< 37.60	< 11.50
20121428	DUP MW-02	10/16/2012	< 6.89	< 7.18	< 15.70	< 7.84	< 19.20	< 6.77	< 15.50	< 9.03	< 6.00	< 8.63	< 27.00	< 11.10
20121429	MW-102	10/16/2012	< 7.07	< 7.09	< 12.50	< 8.69	< 15.20	< 8.92	< 12.30	< 9.92	< 5.16	< 9.43	< 29.10	< 13.50
20121430	DUP-MW-102	10/16/2012	< 8.80	< 8.40	< 23.90	< 9.29	< 14.30	< 9.40	< 15.30	< 9.78	< 8.28	< 8.85	< 30.40	< 11.70
20121431	MW-137	10/16/2012	< 8.82	< 10.40	< 18.30	< 9.02	< 19.90	< 12.00	< 19.80	< 14.00	< 9.61	< 11.30	< 34.60	< 14.10

* - See Section XVI for details

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20121432	MW-148	10/16/2012	< 10.20	< 7.65	< 19.10	< 9.13	< 22.70	< 12.80	< 20.00	< 11.30	< 8.71	< 13.90	< 30.00	< 13.50
20121433	MW-146	10/16/2012	< 8.89	< 9.42	< 15.80	< 9.95	< 27.60	< 8.57	< 12.00	< 8.75	< 10.60	< 12.30	< 34.60	< 13.30
20121434	MW-144	10/16/2012	< 11.60	< 8.76	< 20.10	< 2.91	< 24.20	< 12.80	< 16.50	< 12.50	< 7.55	< 10.60	< 32.60	< 13.30
20121437	MW-142	10/17/2012	< 11.40	< 7.41	< 19.60	< 11.00	< 21.80	< 14.40	< 16.60	< 7.31	< 10.90	< 15.70	< 44.30	< 14.10
20121438	DUP-MW-142	10/17/2012	< 10.60	< 14.60	< 20.30	< 11.00	< 24.40	< 14.20	< 16.80	< 14.50	< 10.60	< 13.00	< 47.20	< 11.90
20121439	MW-125	10/17/2012	< 12.20	< 10.90	< 26.20	< 9.99	< 29.20	< 11.60	< 17.60	< 9.83	< 10.40	< 13.30	< 35.10	< 12.70
20121440	PZ-03	10/17/2012	< 10.30	< 10.50	< 21.20	< 7.22	< 17.90	< 11.80	< 14.90	< 14.20	< 10.00	< 7.41	< 40.00	< 12.80
20121441	MW-100	10/17/2012	< 9.39	< 6.53	< 15.60	< 8.37	< 17.90	< 10.20	< 14.90	< 13.70	< 9.24	< 11.70	< 32.20	< 13.20
20121443	MW-128	10/17/2012	< 11.10	< 9.30	< 25.60	< 5.61	< 17.10	< 11.60	< 17.80	< 9.36	< 10.70	< 9.08	< 27.00	< 13.70
20121444	MW-130	10/17/2012	< 11.00	< 10.10	< 20.70	< 11.30	< 15.40	< 14.10	< 17.60	< 14.90	< 7.26	< 10.00	< 36.00	< 11.60
20121445	MW-132	10/17/2012	< 6.66	< 6.50	< 12.50	< 6.10	< 15.10	< 6.92	< 11.60	< 11.80	< 5.57	< 5.90	< 32.60	< 10.90
20121446	MW-134	10/17/2012	< 11.80	< 10.80	< 21.40	< 7.48	< 21.00	< 7.62	< 16.60	< 12.10	< 7.20	< 8.83	< 35.80	< 13.00
20121447	SW-101	10/17/2012	< 4.41	< 4.80	< 9.45	< 5.17	< 13.60	< 4.35	< 10.90	< 10.30	< 5.84	< 6.71	< 32.20	< 11.60

* - See Section XVI for details

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20121448	MW-10	10/17/2012	< 7.62	< 7.09	< 15.70	< 5.47	< 13.20	< 7.56	< 12.40	< 13.00	< 5.62	< 7.98	< 39.40	< 13.50
20121449	MW-06	10/17/2012	< 6.61	< 7.43	< 11.90	< 6.51	< 15.50	< 7.63	< 9.81	< 13.50	< 5.21	< 6.78	< 37.80	< 10.40
20121450	MW-08	10/17/2012	< 5.55	< 6.18	< 10.90	< 6.07	< 10.50	< 7.45	< 11.80	< 14.98	< 6.04	< 6.42	< 39.00	< 9.12
20121451	SW-102	10/17/2012	< 5.39	< 4.69	< 8.85	< 5.07	< 9.58	< 6.32	< 8.96	< 13.70	< 4.18	< 4.51	< 31.20	< 10.30
20121452	MW-18	10/17/2012	< 5.57	< 6.00	< 14.60	< 5.24	< 11.50	< 6.85	< 12.40	< 14.90	< 6.12	< 6.34	< 36.80	< 13.50
20121453	SW-103	10/17/2012	< 5.08	< 4.43	< 11.50	< 4.82	< 10.10	< 6.79	< 8.49	< 12.00	< 5.12	< 6.21	< 33.20	< 13.80
20121454	SW-104	10/17/2012	< 6.34	< 6.53	< 11.60	< 6.23	< 11.60	< 8.38	< 12.80	< 13.80	< 6.49	< 6.10	< 33.60	< 11.50
20121455	MW-19	10/17/2012	< 4.08	< 3.63	< 7.80	< 4.13	< 10.40	< 4.28	< 6.92	< 11.00	< 3.76	< 3.90	< 24.90	< 9.78
20121456	MW-111	10/17/2012	< 6.53	< 7.60	< 15.50	< 8.11	< 17.00	< 8.34	< 14.80	< 11.60	< 6.50	< 7.51	< 28.70	< 10.40
20121457	PZ-02	10/17/2012	< 5.18	< 6.14	< 11.40	< 5.62	< 13.10	< 5.31	< 10.40	< 9.14	< 4.93	< 6.17	< 25.80	< 12.50
20121458	MW-103	10/17/2012	< 7.51	< 7.23	< 15.70	< 6.49	< 16.20	< 9.81	< 18.10	< 13.80	< 5.86	< 8.87	< 35.10	< 14.70
20121459	PZ-01	10/17/2012	< 10.60	< 13.90	< 21.80	< 8.71	< 14.90	< 11.50	< 19.50	< 11.30	< 11.90	< 12.40	< 34.60	< 4.11
20121460	PZ-01-DUP	10/17/2012	< 4.99	< 5.74	< 10.70	< 6.00	< 13.10	< 7.70	< 14.40	< 9.93	< 6.88	< 6.56	< 26.20	< 12.40

* - See Section XVI for details

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20121461	MW-110	10/17/2012	< 10.70	< 14.00	< 21.40	< 12.40	< 20.90	< 14.80	< 16.80	< 10.80	< 9.89	< 11.50	< 39.10	< 14.50
20121462	MW-118	10/17/2012	< 3.90	< 3.91	< 6.90	< 4.24	< 7.25	< 4.81	< 7.05	< 11.60	< 3.14	< 4.36	< 20.70	< 7.68
20121463	MW-114	10/17/2012	< 6.49	< 6.32	< 10.60	< 5.92	< 12.30	< 7.74	< 9.70	< 9.15	< 5.35	< 6.21	< 33.80	< 14.40
20121464	MW-112	10/17/2012	< 8.18	< 8.87	< 12.60	< 6.37	< 16.00	< 8.21	< 16.80	< 13.80	< 7.25	< 8.38	< 32.30	< 12.30
20121465	MW-139	10/17/2012	< 5.59	< 5.72	< 11.30	< 4.08	< 12.10	< 6.65	< 8.87	< 8.63	< 4.80	< 5.13	< 22.90	< 9.76
20121466	MW-124	10/18/2012	< 11.20	< 11.00	< 16.00	< 8.51	< 18.00	< 11.20	< 16.10	< 7.53	< 11.20	< 12.30	< 34.90	< 12.90
20121467	MW-126	10/18/2012	< 10.30	< 5.28	< 4.41	< 7.14	< 17.10	< 11.90	< 16.30	< 10.60	< 10.00	< 12.90	< 30.00	< 11.30
20121476	MW-141	10/18/2012	< 7.52	< 6.93	< 17.40	< 9.01	< 16.90	< 10.10	< 13.60	< 13.30	< 8.09	< 9.12	< 53.50	< 14.80
20121479	MW-122R	10/18/2012	< 6.69	< 8.14	< 10.90	< 6.53	< 13.20	< 7.65	< 12.40	< 13.40	< 6.01	< 6.40	< 27.30	< 12.90
20121683	MW-153	11/21/2012	< 10.30	< 12.60	< 23.00	< 11.70	< 20.00	< 8.62	< 21.80	< 11.10	< 8.06	< 14.40	< 36.80	< 11.30
20121684	DUP MW-153	11/21/2012	< 12.50	< 11.60	< 18.80	< 8.50	< 29.70	< 11.00	< 18.80	< 10.40	< 10.80	< 14.40	< 34.10	< 13.10
20121685	MW-116	11/21/2012	< 11.10	< 11.30	< 22.80	< 10.80	< 26.90	< 13.20	< 22.80	< 11.60	< 10.30	< 12.00	< 40.60	< 14.40
20121785	MW-151	12/8/2012	< 11.50	< 11.80	< 18.60	< 7.65	< 16.30	< 9.53	< 14.50	< 10.40	< 10.70	< 10.10	< 30.60	< 13.20

* - See Section XVI for details

LLD (pCi/l)			15	15	30	15	30	15	30	15	15	18	60	15
LAB ID	LOCATION	DATE	MN-54	CO-58	FE-59	CO-60	ZN-65	NB-95	ZR-95	I-131	CS-134	CS-137	BA-140	LA-140
20121786	DUP-MW-151	12/8/2012	< 9.25	< 6.04	< 15.90	< 6.25	< 15.20	< 8.17	< 12.00	< 10.20	< 8.67	< 9.47	< 35.00	< 12.40
20121809	MW-131	12/11/2012	< 9.11	< 9.69	< 23.60	< 9.93	< 22.90	< 7.93	< 15.60	< 11.00	< 9.05	< 12.60	< 27.30	< 14.50
20121810	MW-131-D	12/11/2012	< 8.68	< 10.50	< 25.60	< 2.89	< 21.80	< 10.00	< 19.60	< 12.20	< 11.50	< 10.20	< 40.70	< 11.10