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River Bend Station - Unit 1
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Dear Sir or Madam,

Enclosed is the River Bend Station (RBS) Annual Radiological Environmental Operating Report for the period January 1, 2008, through December 31, 2008. This report is submitted in accordance with the RBS Technical Specifications, Section 5.6.2.

Should you have any questions regarding the enclosed information, please contact Mr. David Lorfing at (225) 381-4157.

Sincerely,

David N. Lorfing

DNL/wjf
enclosure

JEAS
NPR

Radiological Environmental Operating Report for 2008

Page 2 of 2

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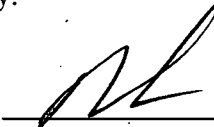
RIVER BEND STATION
ANNUAL RADIOLOGICAL ENVIRONMENTAL
OPERATING REPORT FOR 2008

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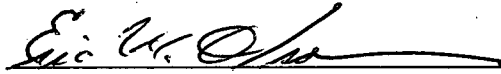

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ATTACHMENT 1

**2008 RADIOLOGICAL MONITORING REPORT
SUMMARY OF MONITORING RESULTS**

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Summary

The Annual Radiological Environmental Operating Report presents data obtained through analyses of environmental samples collected for the River Bend Station (RBS) Radiological Environmental Monitoring Program (REMP) for the period January 1, 2008 through December 31, 2008. This report fulfills a requirement specified in RBS Technical Requirements Manual (TRM) 5.6.2 as required by Technical Specification 5.6.2 of Appendix A to RBS License Number NPF-47. During 2008, REMP results remained at background levels, as has been the case in previous years.

All required lower limit of detection (LLD) capabilities were achieved in all sample analyses during 2008. No measurable levels of radiation above baseline levels were detected in the vicinity of River Bend Station. The 2008 Radiological Environmental Monitoring Program thus substantiated the adequacy of source control and effluent monitoring at River Bend Station with no observed impact of plant operations on the environment.

Radiological Environmental Monitoring Program

RBS established the REMP prior to the station's becoming operational (1985) to provide data on background radiation and radioactivity normally present in the area. RBS has continued to monitor the environment by sampling air, water, sediment, fish and food products, as well as measuring direct radiation. RBS also samples milk if milk-producing animals used for human consumption are present within five miles (8 km) of the plant.

The REMP includes sampling indicator and control locations within an approximate 20 mile radius of the plant. The REMP utilizes indicator locations near the site to show any increases or buildup of radioactivity that might occur due to station operation, and control locations farther away from the site to indicate the presence of only naturally occurring radioactivity. RBS personnel compare indicator results with control and preoperational results to assess any impact RBS operation might have had on the surrounding environment.

In 2008, environmental samples were collected for radiological analysis. The results of indicator locations were compared with control locations and previous studies. It was concluded that overall, no significant relationship exists between RBS operation and effect on the area around the plant. The review of 2008 data, in many cases, showed radioactivity levels in the environment were undetectable in many locations and near background levels in significant pathways.

Harmful Effects or Irreversible Damage

The REMP monitoring did not detect any harmful effects or evidence of irreversible damage in 2008. Therefore, no analysis or planned course of action to alleviate problems was necessary.

Reporting Levels

RBS's review indicates that no samples equaled or exceeded reporting levels for radioactivity concentration in environmental samples, as outlined in RBS Technical Requirements Manual Table 3.12.1-2, when averaged over any calendar quarter. Therefore, 2008 results did not result in any Radiological Monitoring Program Special Reports.

Radioactivity Not Attributable to RBS

The RBS REMP detected no radioactivity attributable to other sources during year 2008. Following the radioactive plume release due to reactor core degradation at the Chernobyl Nuclear Power Plant in 1986, RBS REMP detected I-131 in water, vegetation, and air samples. I-131 was also detected during 1998 in the wastewater treatment plant effluent. This was attributed to the medical treatment of a RBS employee. In 2006, Cs-137 was detected in upstream and downstream Mississippi River sediment samples. This activity was not present in the 2008 samples.

Comparison to Federal and State Programs

RBS personnel compared REMP data to federal and state monitoring programs as results became available. Historically, the programs used for comparison have included the U.S. Nuclear Regulatory Commission (NRC) TLD (Thermoluminescent Dosimeter) Direct Radiation Monitoring Network and the Environmental Radiological Laboratory – Department of Environmental Quality Laboratory Services Division (ERL-DEQLSD).

The NRC TLD Network Program was discontinued in 1998. Historically these results have compared to those from the RBS REMP. RBS TLD results continue to remain similar to the historical average and continue to verify that plant operation is not affecting the ambient radiation levels in the environment.

The ERL-DEQLSD and the RBS REMP entail similar radiological environmental monitoring program requirements. These programs include co-located air sample locations, and splitting or sharing sample media such as water, fish and food products. Both programs have obtained similar results over previous years.

Sample Deviations

◆ Milk

The REMP did not include milk sampling within five miles (8 km) of RBS in 2008 due to unavailability of milk-producing animals used for human consumption. The RBS Technical Requirements Manual requires collection of milk samples if available commercially within 8 km (5 miles) of the plant. RBS personnel collected vegetation

samples to monitor the ingestion pathway, as specified in RBS Technical Requirements Manual Table 3.12.1-1, because of milk unavailability.

◆ **Required Lower Limit of Detection (LLD) Values**

All LLDs during this reporting period were more conservative than the acceptable limits required by the RBS Technical Requirement Manual (TRM).

◆ **Sampling Deviations**

Listed below are sampling deviations that occurred during 2008. No LLD values were exceeded in the air sampling deviations. As described in footnote (a) to RBS Technical Requirements Manual Table 3.12.1-1, deviations are permitted from the required sampling schedule due to malfunction of equipment or other legitimate reasons.

Station	Sampling Period	Problem Description	Comment
AN1 AP1	02/12/08 to 02/26/08	Power Outage	Air sampler locations AP1 and AN1 were short 7.1 hours/each, for period 02/12/08 to 02/26/08 due to loss of the construction loop caused by severe weather. Samplers were operating normal at time of sample collection. Sample volume adequate to achieve required LLD for I-131 in analysis. No program impacts assessed due to this loss of sample volume. (CR-RBS-2008-1900)
AN1 AP1	03/11/08 to 03/25/08	Power Outage	Air sampler locations AP1 and AN1 were short 1.2 hours (0.4% volume) and 1.2 hours (0.4% volume) for period 03/11/08 to 03/25/08 due to the construction loop power outage. Sampler operating normal at time of sample collection. (CR-RBS-2008-2402)
AN1	3/25/08 to 4/08/08	Power Outage	Air Sampler location AN1 suffered an outage during the deployment period 3/25/08 to 4/08/08 due to tripped ground-fault breaker caused by lightning during a thunderstorm which occurred on Friday evening, 4/4/08. It had a volume loss of 25% or 83.0 hours for the two week period. All sample analyses have been completed meeting required LLDs. (CR-RBS-2008-2657)

Station	Sampling Period	Problem Description	Comment
AN1 AP1	04/21/08 to 05/06/08	Power Outage	Air sampler locations AP1 and AN1 were short 1.7 hours/each, for period 04/21/08 to 05/06/08 due to loss of the construction loop caused by severe weather. Samplers were operating normal at time of sample collection. Sample volume adequate to achieve required LLD for I-131 in analysis. No program impacts accessed due to this loss of sample volume. (CR-RBS-2008-3153)
AN1 AP1	06/17/08 to 07/01/08	Power Outage	Air sampler locations AP1 and AN1 were short 5.1 hours/each, for period 06/17/08 to 07/01/08 due to loss of the construction loop caused by severe weather. Samplers were operating normal at time of sample collection. Sample volume adequate to achieve required LLD for I-131 in analysis. No program impacts accessed due to this loss of sample volume. (CR-RBS-2008-4612)
AN1 AP1	07/15/08 to 07/28/08	Power Outage	Air sampler locations AP1 and AN1 were short 0.6 hours, each, for period 07/15/08 to 07/28/08 due to lost of the construction loop caused by severe weather. Samplers were operating normal at time of sample collection. Sample volume adequate to achieve required LLD for I-131 in analysis. No program impacts accessed due to this loss of sample volume. (CR-RBS-2008-4614)
AN1 AP1 AQS2 AGC	8/26/08 to 9/9/08	Power Outage	Air sampler locations AP1 (site boundary), AN1 (site boundary), ASQ2 (St. Francisville) and AGC (Zachary) had a 91.4 hours (27.3 % volume), 91.3 hours (27.2 % volume), 187 hours(55.7 % volume) and a 18.7 hour (5.6% volume) outage due to local power interruptions caused by Hurricane Gustav during sampling period 8/26/08 to 9/9/08. Samplers operating normal at time of power restoration. Volume of sample adequate to achieve required LLD for I-131. No program impacts accessed due to this loss of sample volume. (CR-RBS-2008-5325)

Station	Sampling Period	Problem Description	Comment
TM1	3 rd Quarter	TLD Missing	During inspection tour, TM1 TLD was found to be missing. The electrical pole was replaced during Hurricane GUSTAV power restoration. No other Environmental TLDs were missing. (CR-RBS-2008-5361)
TP1	3 rd Quarter	TLD Missing	During performance of REMP-1 Surveillance, TLD change out, TP1 TLD was found to be missing. An inspection tour was done, Two weeks earlier and TLD was present. (CR-RBS-2008-6134)

Missed Samples

No samples were missed during 2008.

Unavailable Results

Results of one TLD from the third quarter 2008 from location TP1 was unavailable due to the TLD being missing. This deviation is noted above.

Program Modifications

RBS made no modifications to the REMP during the year 2008.

Attachments

Attachment 1 contains results of air, TLD, water, sediment, fish, food products and special samples collected in 2008. TLDs were analyzed by AREVA. All remaining samples were analyzed by RBS Environmental Laboratory. Attachment 1 also contains RBS' participation in the Interlaboratory Comparison Program during the year 2008.

1.0 Introduction

1.1 Radiological Environmental Monitoring Program

RBS established the REMP to ensure that plant operating controls properly function to minimize any associated radiation endangerment to human health or the environment. The REMP is designed for:

- Analyzing important pathways for anticipated types and quantities of radionuclides released into the environment.
- Considering the possibility of a buildup of long-lived radionuclides in the environment and identifying physical and biological accumulations that may contribute to human exposures.
- Considering the potential radiation exposure to plant and animal life in the environment surrounding RBS.
- Correlating levels of radiation and radioactivity in the environment with radioactive releases from station operation.

1.2 Pathways Monitored

The airborne, direct radiation, waterborne and ingestion pathways, as seen in Figure 1-1, are monitored as required by the RBS Technical Requirements Manual 3.12.1. A description of the RBS REMP sample locations utilized to monitor exposure pathways are described in Table 1.1 and shown in Figures 1-2 and 1-3. RBS may occasionally supplement this program with additional sampling in order to provide a comprehensive and well-balanced program.

Section 2.0 of this report provides a discussion of 2008 sampling results with Section 3.0 providing a summary of results for the monitored exposure pathways.

1.3 Land Use Census

RBS personnel conduct a land use census biannually, as required by RBS Technical Requirements Manual 3.12.2. The last land use census was performed in 2008. The next scheduled Land Use Census will be performed in 2010. Section 2.8 of this report contains a narrative on the results of the 2008 land use census.

Table 1.1

Radiological Environmental Sampling Program

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Airborne	<p>Radioiodine and Particulates 2 samples from close to the 2 SITE BOUNDARY locations, in different sectors, of the highest calculated annual average ground level D/Q.</p>	<p>AN1 (0.9 km W) - RBS site Hwy 965; 0.4 km south of Activity Center.</p> <p>AP1 (0.9 km WNW) – Behind River Bend Station Activity Center.</p>	Continuous sampler operation with sample collection every two weeks, or more frequently if required by dust loading.	<p>Radioiodine Canisters – I-131 analysis every two weeks.</p> <p>Air Particulate – Gross beta radioactivity analysis following filter change.</p>
	<p>Radioiodine and Particulates 1 sample from the vicinity of a community having the highest calculated annual average ground level D/Q.</p>	<p>AQS2 (5.8 km NW) - St. Francis Substation on US Hwy. (Bus.) 61 in St. Francisville.</p>		
	<p>Radioiodine and Particulates 1 sample from a control location, as for example 15 - 30 km distance and in the least prevalent wind direction.</p>	<p>AGC (17.0 km SE) – Entergy Service Center compound in Zachary. (Control)</p>		
Direct Radiation	<p>TLDs One ring of stations, one in each meteorological sector in the general area of the SITE BOUNDARY.</p>	<p>TA1 (1.7 km N) - River Bend Training Center.</p> <p>TB1 (0.5 km NNE) - Utility pole near River Bend Station cooling tower yard area.</p> <p>TC1 (1.7 km NE) - Telephone pole at Jct. US Hwy. 61 and Old Highway 61.</p>	Quarterly	mR exposure quarterly.

Table 1.1

Radiological Environmental Sampling Program

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Direct Radiation	<p>TLDs One ring of stations, one in each meteorological sector in the general area of the SITE BOUNDARY.</p>	<p>TD1 (1.6 km ENE) – Stub pole along WF7, 150m S of Jct. WF7 and US Hwy. 61.</p> <p>TE1 (1.3 km E) – Stub pole along WF7, 1 km S of Jct. WF7 and US Hwy. 61.</p> <p>TF1 (1.3 km ESE) – Stub pole along WF7, 1.6 km S of Jct. WF7 and US Hwy. 61.</p> <p>TG1 (1.6 km SE) – Stub pole along WF7, 2 km S of Jct. WF7 and US Hwy. 61.</p> <p>TH1 (1.7 km SSE) – Stub pole at power line crossing of WF7 (near Grants Bayou).</p> <p>TJ1 (1.5 km S) – Stub pole near River Bend Station Gate #23 on Powell Station Road (LA Hwy. 965).</p> <p>TK1 (0.9 km SSW) – Utility pole on Powell Station Road (LA Hwy. 965), 20 m S of River Bend Station River Access Road.</p> <p>TL1 (1.0 km SW) – First utility pole on Powell Station Road (LA Hwy. 965) S of former Illinois Central Gulf RR crossing.</p>	Quarterly	mR exposure quarterly.

Table 1.1

Radiological Environmental Sampling Program

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Direct Radiation	<p><u>TLDs</u> One ring of stations, one in each meteorological sector in the general area of the SITE BOUNDARY.</p>	<p>TM1 (0.9 km WSW) - Third utility pole on Powell Station Road (LA Hwy. 965) N of former Illinois Central Gulf RR crossing.</p> <p>TN1 (0.9 km W) - Utility pole along Powell Station Road (LA Hwy. 965), near garden and AN1 air sampler location.</p> <p>TP1 (0.9 km WNW) - Behind River Bend Station Activity Center at AP1 air sampler location.</p> <p>TQ1 (0.6 km NW) - Across from MA-1 on RBS North Access Road.</p> <p>TR1 (0.8 km NNW) - River Bend Station North Access Road across from Main Plant entrance.</p>	Quarterly	mR exposure quarterly.
	<p><u>TLDs</u> The balance of the stations (8) to be placed in special interest areas such as population centers, nearby residences, schools, and in 1 or 2 areas to serve as control locations.</p>	<p>TAC (15.8 km N) - Utility pole at Jct. of US Hwy. 61 and LA Hwy. 421, 7.9 km north of Bains. (Control)</p> <p>TCS (12.3 km NE) - Utility pole at gate to East Louisiana State Hospital in Jackson. (Special)</p> <p>TEC (16.0 km E) - Stub pole at jct. of Hwy. 955 and Greenbrier Road, 4.8 km North of Jct. of Hwys 955 and 964. (Control)</p>		

Table 1.1

Radiological Environmental Sampling Program

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Direct Radiation	<p>TLDs The balance of the stations (8) to be placed in special interest areas such as population centers, nearby residences, schools, and in 1 or 2 areas to serve as control locations.</p>	<p>TGS (17.0 km SE) – Entergy Service Center compound in Zachary. (Special)</p> <p>TNS (6.0 km W) – Utility pole with electrical meter at west bank ferry landing (LA Hwy. 10). (Special)</p> <p>TQS1 (4.0 km NW) – Utility pole front of Pentecostal church (opposite West Feliciana Parish Hospital) near Jct. US Hwy. 61 and Commerce Street. (Special)</p> <p>TQS2 (5.8 km NW) – St. Francis Substation on business US Hwy. 61 in St. Francisville. (Special)</p> <p>TRS (9.2 km NNW) - Stub pole at Jct. of US Hwy. 61 and WF2 near Bains (West Feliciana High School). (Special)</p>	Quarterly	mR exposure quarterly.
Waterborne	<p>Surface Water 1 sample upstream and 1 sample downstream.</p>	<p>SWU (5.0 km W) - Mississippi River about 4 km upstream from the plant liquid discharge outfall, near LA Hwy. 10 ferry crossing.</p> <p>SWD (7.75 km S) - Mississippi River about 4 km downstream from plant liquid discharge outfall, near paper mill.</p>	Grab samples quarterly	Gamma isotopic analysis, and tritium analysis quarterly.

Table 1.1

Radiological Environmental Sampling Program

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Waterborne	<p>Groundwater Samples from 1 or 2 sources only if likely to be affected.</p>	<p>WU (~470 m NNE) - Upland Terrace Aquifer well upgradient from plant.</p> <p>WD (~470 m SW) - Upland Terrace Aquifer well downgradient from plant.</p>	Semiannually	Gamma isotopic and tritium analysis semiannually.
	<p>Sediment From Shoreline 1 sample from downstream area with existing or potential recreational value.</p>	<p>SEDD (7.75 km S) - Mississippi River about 4 km downstream from plant liquid discharge outfall, near paper mill.</p>	Annually	Gamma isotopic analysis annually.
Ingestion	<p>Milk If commercially available, 1 sample from milking animals within 8 km distant where doses are calculated to be greater than 1 mrem per year.</p> <p>1 sample from milking animals at a control location 15 - 30 km distant when an indicator location exists.</p>	Currently, no available milking animals within 8 km of RBS.	Quarterly when animals are on pasture.	Gamma isotopic and I-131 analysis quarterly when animals are on pasture.
	<p>Fish and Invertebrates 1 sample of a commercially and/or recreationally important species in vicinity of plant discharge area.</p> <p>1 sample of similar species in area not influenced by plant discharge.</p>	<p>FD (7.75 km S) - One sample of a commercially and/or recreationally important species from downstream area influenced by plant discharge.</p> <p>FU (4.0 km WSW) - One sample of a commercially and/or recreationally important species from upstream area not influenced by plant discharge.</p>	Annually	Gamma isotopic analysis on edible portions annually

Table 1.1

Radiological Environmental Sampling Program

Exposure Pathway	Requirement	Sample Point Description, Distance and Direction	Sampling and Collection Frequency	Type and Frequency Of Analyses
Ingestion	<p>Food Products 1 sample of one type of broadleaf vegetation grown near the SITE BOUNDARY location of highest predicted annual average ground level D/Q if milk sampling is not performed.</p> <p>1 sample of similar broadleaf vegetation grown 15 – 30 km distant, if milk sampling is not performed.</p>	<p>GN1 (0.9 km W) – Sampling will be performed in accordance with Table 3.12.1-1 Section 4.a of the Technical Requirements Manual.</p> <p>GQC (32.0 km NW) - One sample of similar vegetables from LA State Penitentiary at Angola. (Control)</p>	Quarterly during the growing season.	Gamma isotopic and I-131 analysis quarterly.

FIGURE 1-1
EXPOSURE PATHWAYS

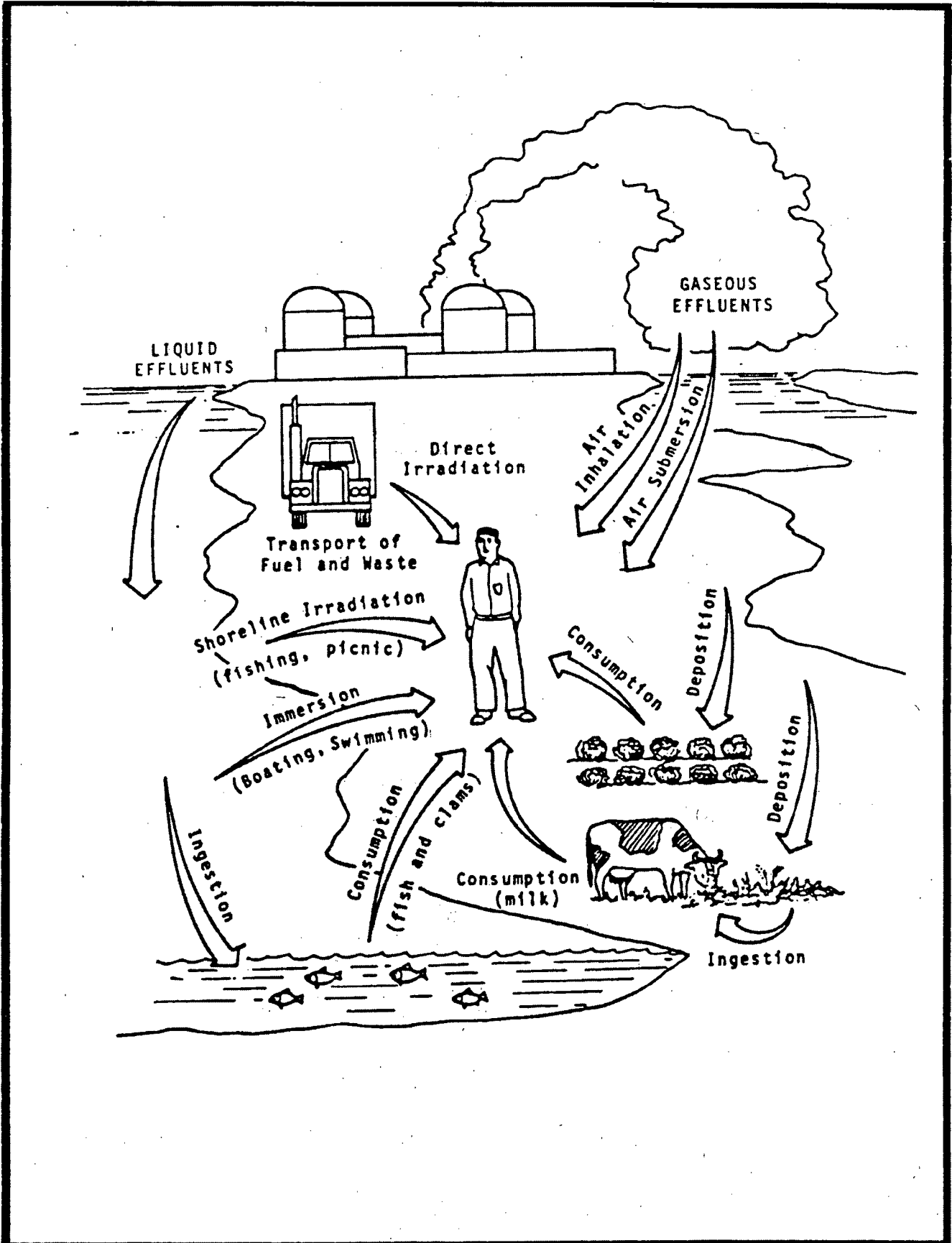


FIGURE 1-2
 SAMPLE COLLECTION SITES – NEAR FIELD

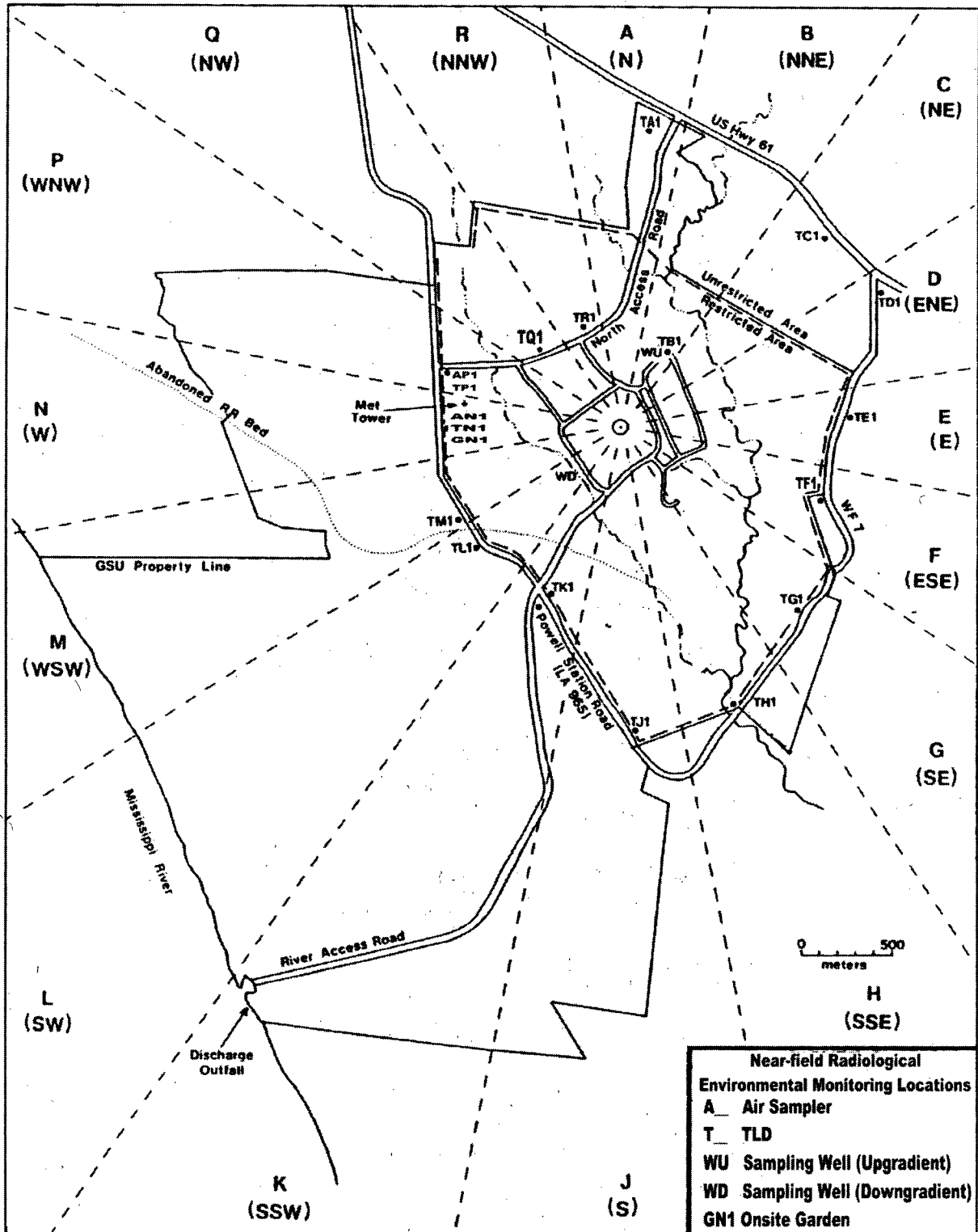
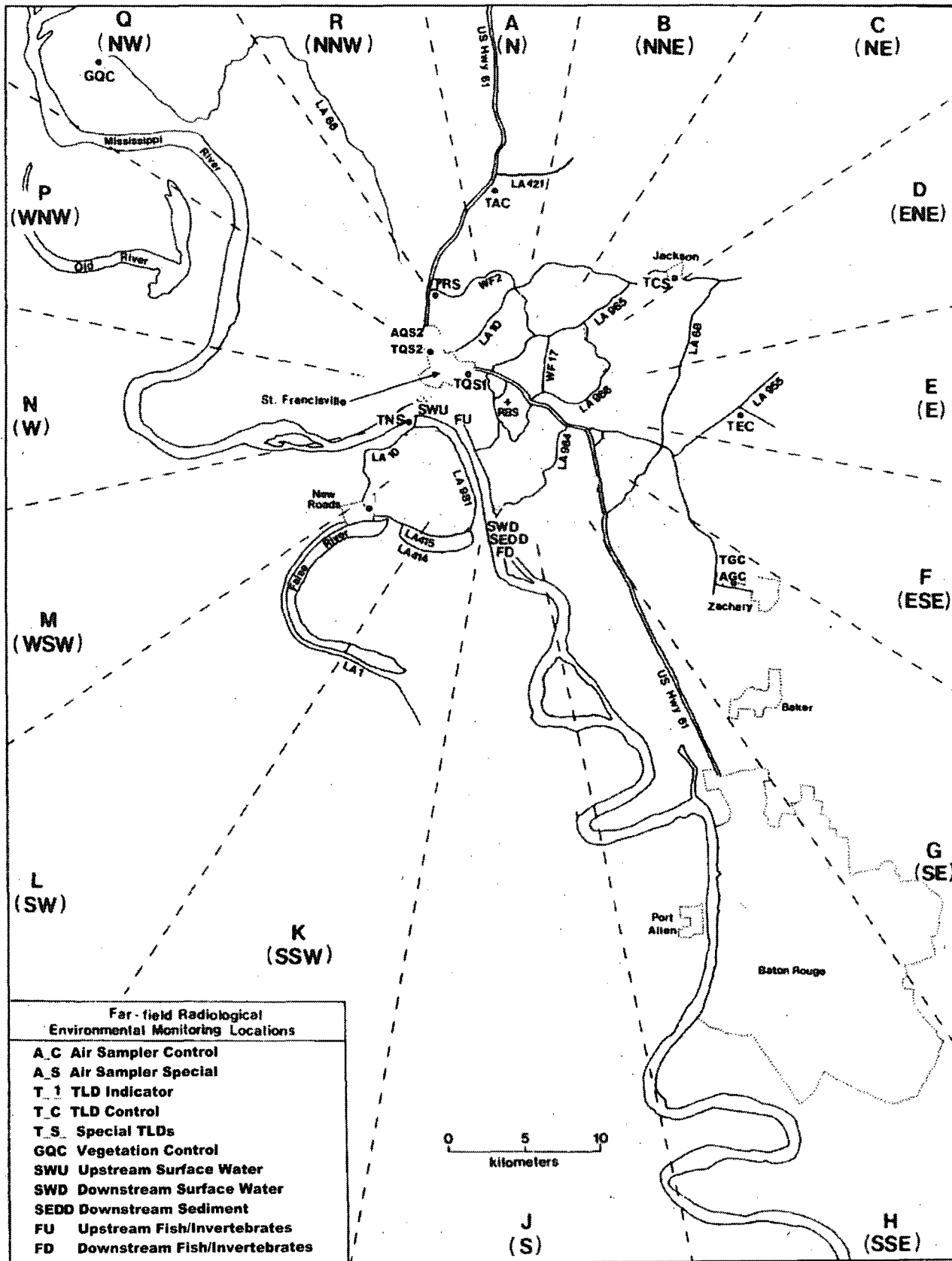


FIGURE 1-3
SAMPLE COLLECTION SITES-FAR FIELD



2.0 Interpretation and Trends of Results

2.1 Air Particulate and Radioiodine Sample Results

Iodine-131 was not detected in the radioiodine cartridges during 2008, as has been the case in previous years. Indicator gross beta air particulate results for 2008 were similar to preoperational and operational levels as seen below. Results are reported as annual average pCi/m³ (picocuries per cubic meter).

<u>Monitoring Period</u>	<u>Result</u>
Preoperational	0.030
2008	0.023
2007	0.024
2006	0.024
2005	0.022
2004	0.018

Table 3.1 provides a comparison of the indicator and control location mean values, which further emphasizes that the airborne pathway continues to remain at background levels. Figure 2-2 also shows a comparison of indicator results from 2008 versus control location data from 1986 to 2007. Two indicator results for 2008 were out of the three-sigma levels. A review of the gross beta counter quality control data indicated no anomalies that would account for these readings.

2.2 Thermoluminescent Dosimetry Sample Results

Gamma radiation exposure in the reporting period compares to previous years. Figure 2-1 compares quarterly indicator results for 2008 with control location data from 1986 to 2007. One fourth quarter indicator result was above the upper control three-sigma limit and the average for the fourth quarter was slightly higher than the previous quarters. Overall precision for 2008 appears to be improved from 2007.

RBS normalizes measured exposure to 90 days and relies on comparison of the indicator locations to the control as a measure of plant impact. RBS's comparison of the inner ring and special interest area TLD results to the controls, as seen in Table 3.1, indicates that the ambient radiation levels are unaffected by plant operations. Therefore, levels continue to remain at or near background.

The results of one TLD from the third quarter 2008 from location TP1 was unavailable due to that TLD being missing at change out. Also, TLD TM1 was found to be missing during an inspection tour following Hurricane Gustav and replaced. TM1 was in the field for 36 days versus 98 days for the other TLDs for third quarter. These deviations are noted in the appropriate section above.

2.3 Water Sample Results

Analytical results for 2008 surface water and groundwater samples were similar to those reported in previous years.

Surface water samples were collected from two locations (indicator and control) and analyzed for gamma radionuclides and tritium. Gamma radionuclides were below detectable limits at the indicator and control locations. Tritium was also below detectable limits at all locations. Listed below is a comparison of 2008 results from the indicator location as compared to the preoperational and previous operational years. Results are reported as annual average pCi/l (picocuries per liter).

<u>Radionuclide</u>	<u>2008</u>	<u>2003 – 2007</u>	<u>Preoperational</u>
Gammas	<LLD	<LLD	<LLD
Tritium	<LLD	<LLD	<LLD

Groundwater samples were collected from two locations (indicator and control) and analyzed for gamma radionuclides and tritium. Gamma radionuclides and Tritium were below detectable limits at the indicator and control locations. Listed below is a comparison of 2008 results from the indicator location as compared to the preoperational and previous operational years. Results are reported as annual average pCi/l.

<u>Radionuclide</u>	<u>2008</u>	<u>2003 – 2007</u>	<u>Preoperational</u>
Gammas	<LLD	<LLD	<LLD
Tritium	<LLD	<LLD	<LLD

Based on these comparisons, the operation of RBS had no impact on this pathway during 2008, and levels of radionuclides monitored for this pathway continue to remain similar to those obtained in operational and preoperational years.

2.4 Shoreline Sediment Sample Results

A shoreline sediment sample was collected from the indicator location in 2008 and analyzed for gamma radionuclides. RBS also samples a non-REMP upstream control sediment sample. A review of historical indicator and upstream sediment samples periodically shows Cs-137. No Cs-137 was indicated on the samples in 2008. Therefore, based on these measurements, RBS operations had no significant radiological impact upon the environment or public via this pathway.

2.5 Milk Sample Results

Milk samples were not collected during 2008 due to the unavailability of indicator locations within 5 miles (8 km) of RBS. Since there are no dairies within five miles of the RBS site, it is concluded RBS's operation had no impact on this pathway in 2008.

2.6 Fish and Invertebrate Sample Results

Fish samples were collected from two locations (indicator and control) and analyzed for gamma radionuclides. In 2008, gamma radionuclides were below detectable limits, which is consistent with the preoperational and operational monitoring periods. Therefore, based on these measurements, RBS operations had no significant radiological impact upon the environment or public by this pathway.

2.7 Food Product Sample Results

Food product samples were collected when available from two locations (indicator and control) in 2008 and analyzed for gamma radionuclides in accordance with Table TRM 3.12-1. The 2008 levels remained undetectable, which is consistent with previous operational years. Therefore, since levels continue to remain at background, it can be concluded that plant operations is not impacting this pathway.

2.8 Land Use Census Results

The Land Use Census for 2008 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 (TLCO 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.

The resident census changes are noted in Table 2.1. Changes are primarily due to the use of a GPS instrument during field observations and satellite imagery in locating the resident's bearing and range from the reactor building, as compared to previous methods used in this process. See the comments in Table 2.1 for specific information regarding changes.

No locations were identified in 2008 that would yield a calculated dose or dose commitment greater than those currently calculated in Requirement TSR 3.11.2.3.

Table 2.1 contains data from the most recently completed Land Use Census.

2.9 Interlaboratory Comparison Results

RBS' Environmental Laboratory analyzed interlaboratory comparison samples to fulfill the requirements of Technical Requirements Manual 3.12.3. Attachment 8.1 contains these results. The interlaboratory comparison results indicated that 100% of the sample results for accuracy and precision were within the acceptable control limits.

**Table 2-1
Land Use Census Results
2008**

Item #	Sector	Nearest Residence	Range (km)	Nearest Milk Animal	Range (km)	Comment #
1	A (N)	5498 Hwy 61 St.Francisville, LA 70775	1.9	-	-	1
2	B (NNE)	4549 Old Hwy 61 St.Francisville, LA 70775	1.4	-	-	2
3	C (NE)	4553 Old Hwy 61 St.Francisville, LA 70775	1.5	-	-	3
4	D (ENE)	12657 Powell Station Rd. St.Francisville, LA 70775	1.4	-	-	
5	E (E)	4635 Hwy 61 St.Francisville, LA 70775	2.6	-	-	1
6	F (ESE)	12019 Fairview Way Jackson, LA 7748	2.6	-	-	4
7	G (SE)	3319 Hwy 964 Jackson, LA 70748	3.7	-	-	4
8	H (SSE)	11813 Powell Station Rd. St.Francisville, LA 70775	1.7	-	-	1
9	J (S)	11649 Powell Station Rd. St.Francisville, LA 70775	1.9	-	-	1
10	K (SSW)	8909 Hwy 981 New Roads, LA 70760	6.5	-	-	
11	L (SW)			-	-	5
12	M (WSW)			-	-	5
13	N (W)			-	-	6
14	P (WNW)	10426 Old Field Rd. St.Francisville, LA 70775	3.7	-	-	
15	Q (NW)	9537 Hwy 965 St.Francisville, LA 70775	1.3	-	-	
16	R (NNW)	9794 Hwy 965 St.Francisville, LA 70775	1.6	-	-	4

#	Comment
1	Change in distance from previous land use census due to using actual residence versus mailbox location.
2	Residence previously in sector C. Moved to sector B due to using actual residence location versus mailbox location.
3	New residence listing due to moving previous census residence to sector B.
4	New residence identified by satellite imagery and field observation. Coordinates marked per GPS or satellite imagery.
5	No residence located within 8 km distance in sectors L or M.
6	Address in previous census is no longer a residence. No other residence in this sector within 8 km.

FIGURE 2-1
TLD Indicator Results (2008) Versus Control Data (1986-2007)

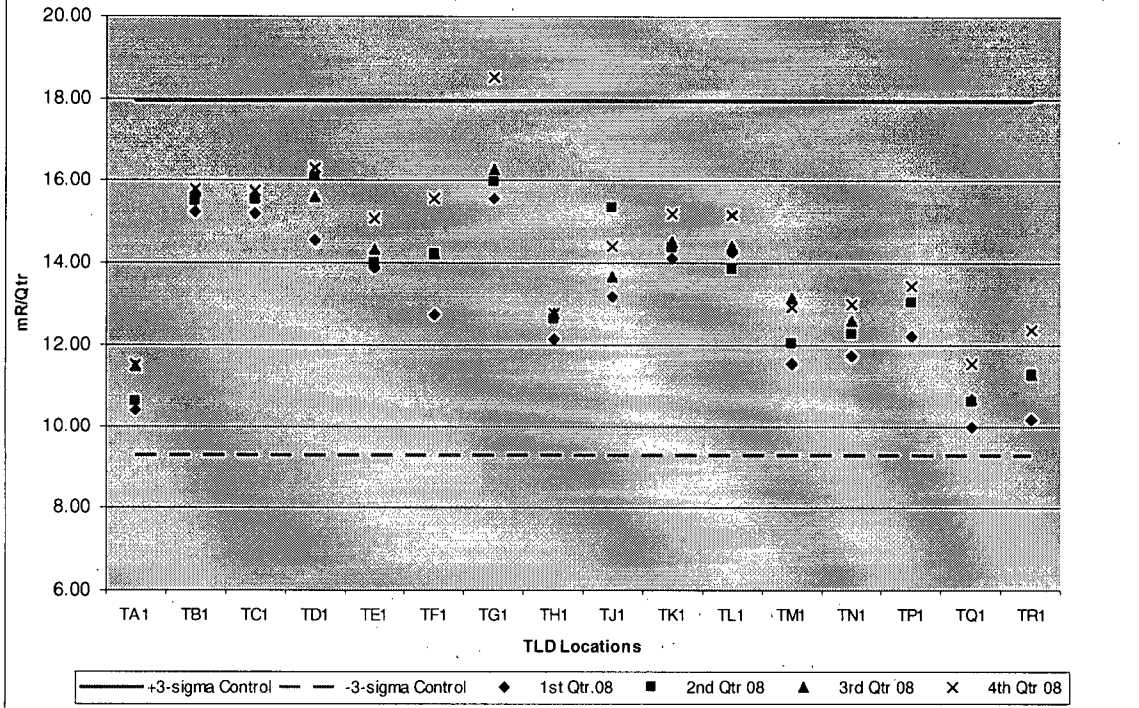
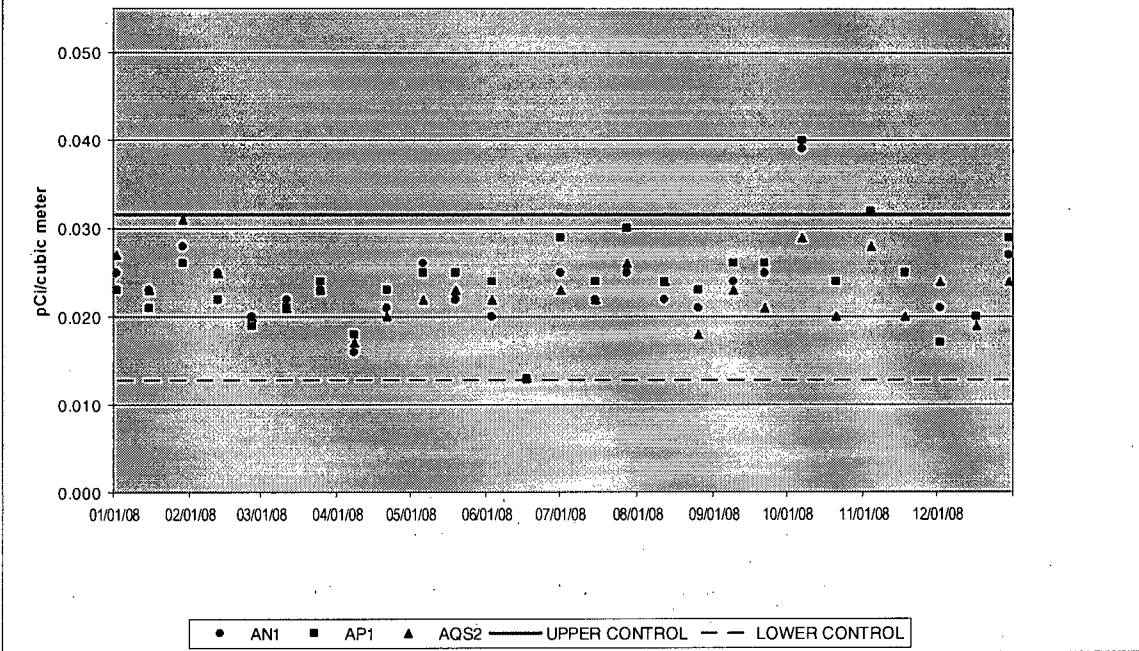


FIGURE 2-2
Gross Beta Indicator Results (2008) Versus Control Data (1986-2007)



3.0 Radiological Environmental Monitoring Program Summary

3.1 2008 Program Results Summary

Table 3.1 summarizes the 2008 REMP results. RBS personnel did not use values reported as less than the lower limit of detection (<LLD) when determining ranges and means for indicator and control locations.

TABLE 3.1

Radiological Environmental Monitoring Program Summary

Name of Facility: River Bend Station
 Location of Facility: West Feliciana Parish, Louisiana

Docket No: 50-458
 Reporting Period: January - December 2008

Sample Type (Units)	Type & Number of Analyses	LLD ^a	Indicator Locations Mean (F) ^b [Range]	Location with Highest Annual Mean		Control Locations Mean (F) ^b [Range]	Number of Nonroutine Results ^d
				Location ^c	Mean (F) ^b [Range]		
Air Particulates (pCi/m ³)	Gross Beta 108	0.01	0.023 (81 / 81) [0.013 - 0.040]	AP1 (0.9 km WNW)	0.024 (27 / 27) [0.013 - 0.040]	0.024 (27 / 27) [0.014 - 0.036]	0
Airborne Iodine (pCi/m ³)	I-131 108	0.07	<LLD	N/A	N/A	<LLD	0
Indicators TLDs (mR/Qtr)	Gamma 63	(e)	13.65 (63 / 63) [9.99 - 18.50]	TG1 (1.6 km SE)	16.58 (4 / 4) [15.57 - 18.50]	N/A	0
Special Interest TLDs (mR/Qtr)	Gamma 24	(e)	14.42 (24 / 24) [12.79 - 16.45]	TGS (17.0 km SE)	15.72 (4 / 4) [15.24 - 16.07]	N/A	0
Control TLDs (mR/Qtr)	Gamma 8	(e)	N/A	N/A	N/A	15.44 (8 / 8) [14.04 - 16.95]	0

TABLE 3.1

Radiological Environmental Monitoring Program Summary

Name of Facility: River Bend Station
 Location of Facility: West Feliciana Parish, Louisiana

Docket No: 50-458
 Reporting Period: January - December 2008

Sample Type (Units)	Type & Number of Analyses	LLD ^a	Indicator Location Mean (F) ^b [Range]	Location with Highest Annual Mean		Control Locations Mean (F) ^b [Range]	Number of Nonroutine Results ^d
				Location ^c	Mean (F) ^b [Range]		
Surface Water (pCi/L)	H-3 12	3000	<LLD	N/A	N/A	<LLD	0
	Gamma 12						
	Mn-54	15	<LLD	N/A	N/A	<LLD	0
	Co-58	15	<LLD	N/A	N/A	<LLD	0
	Fe-59	30	<LLD	N/A	N/A	<LLD	0
	Co-60	15	<LLD	N/A	N/A	<LLD	0
	Zn-65	30	<LLD	N/A	N/A	<LLD	0
	Zr-95	30	<LLD	N/A	N/A	<LLD	0
	Nb-95	15	<LLD	N/A	N/A	<LLD	0
	I-131	15	<LLD	N/A	N/A	<LLD	0
	Cs-134	15	<LLD	N/A	N/A	<LLD	0
	Cs-137	18	<LLD	N/A	N/A	<LLD	0
	Ba-140	60	<LLD	N/A	N/A	<LLD	0
La-140	15	<LLD	N/A	N/A	<LLD	0	

TABLE 3.1

Radiological Environmental Monitoring Program Summary

Name of Facility: River Bend Station
 Location of Facility: West Feliciana Parish, Louisiana

Docket No: 50-458
 Reporting Period: January - December 2008

Sample Type (Units)	Type & Number of Analyses ^a	LLD ^a	Indicator Locations Mean (F) ^b [Range]	Location with Highest Annual Mean		Control Locations Mean (F) ^b [Range]	Number of Nonroutine Results ^d
				Location ^c	Mean (F) ^b [Range]		
Groundwater (pCi/L)	H-3 8	3000	<LLD	N/A	N/A	<LLD	0
	Gamma 8						
	Mn-54	15	<LLD	N/A	N/A	<LLD	0
	Co-58	15	<LLD	N/A	N/A	<LLD	0
	Fe-59	30	<LLD	N/A	N/A	<LLD	0
	Co-60	15	<LLD	N/A	N/A	<LLD	0
	Zn-65	30	<LLD	N/A	N/A	<LLD	0
	Zr-95	30	<LLD	N/A	N/A	<LLD	0
	Nb-95	15	<LLD	N/A	N/A	<LLD	0
	I-131	15	<LLD	N/A	N/A	<LLD	0
	Cs-134	15	<LLD	N/A	N/A	<LLD	0
	Cs-137	18	<LLD	N/A	N/A	<LLD	0
	Ba-140	60	<LLD	N/A	N/A	<LLD	0
	La-140	15	<LLD	N/A	N/A	<LLD	0
Shoreline Sediment (pCi/kg) ^f	Gamma 2						
	Cs-134	150	<LLD	N/A	N/A	<LLD	0
	Cs-137	180	<LLD	N/A	N/A	<LLD	0

TABLE 3.1

Radiological Environmental Monitoring Program Summary

Name of Facility: River Bend Station
 Location of Facility: West Feliciana Parish, Louisiana

Docket No: 50-458
 Reporting Period: January - December 2008

Sample Type (Units)	Type & Number of Analyses	LLD ^a	Indicator Location Mean (F) ^b [Range]	Location with Highest Annual Mean		Control Locations Mean (F) ^b [Range]	Number of Nonroutine Results ^d
				Location ^c	Mean (F) ^b [Range]		
Fish (pCi/kg)	Gamma 4						
	Mn-54	130	<LLD	N/A	N/A	<LLD	0
	Fe-59	260	<LLD	N/A	N/A	<LLD	0
	Co-58	130	<LLD	N/A	N/A	<LLD	0
	Co-60	130	<LLD	N/A	N/A	<LLD	0
	Zn-65	260	<LLD	N/A	N/A	<LLD	0
	Cs-134	130	<LLD	N/A	N/A	<LLD	0
Cs-137	150	<LLD	<LLD	N/A	N/A	<LLD	0
Food Products (pCi/kg)	I-131 8	60	<LLD	N/A	N/A	<LLD	0
	Gamma 8						
	Cs-134	60	<LLD	N/A	N/A	<LLD	0
	Cs-137	80	<LLD	N/A	N/A	<LLD	0

a LLD = Required lower limit of detection based on RBS Technical Requirements Manual Table 3.12.1-3.

b Mean and range based upon detectable measurements only. Fraction of detectable measurements at specified locations is indicated in parenthesis (F).

c Locations are specified (1) by name and (2) direction and distance relative to reactor site.

d Non-routine results are those which exceed ten times the control station value. If no control station value is available, the result is considered non-routine if it exceeds ten times the preoperational value for the location.

e LLD is not defined in RBS Technical Requirements Manual Table 3.12.1-3.

f Control location for sediment is upstream surface water sample.

Attachment 1

2008 Radiological Monitoring Report

Summary of Monitoring Results

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Attachment 1.1

Sample Type: **Air Particulate and Charcoal Cartridge – Indicator Location AN1**
 Analysis: Gross Beta and Iodine
 Units: pCi/m³

LLD (pCi/m ³)			0.07	0.01
LAB ID	START DATE	END DATE	I-131	GROSS BETA
20080002	12/18/2007	1/2/2008	< 0.007	0.025 +/- 0.0007
20080074	1/2/2008	1/15/2008	< 0.008	0.023 +/- 0.0006
20080187	1/15/2008	1/29/2008	< 0.010	0.028 +/- 0.0007
20080274	1/29/2008	2/12/2008	< 0.009	0.025 +/- 0.0006
20080323	2/12/2008	2/26/2008	< 0.008	0.020 +/- 0.0006
20080353	2/26/2008	3/11/2008	< 0.007	0.022 +/- 0.0006
20080393	3/11/2008	3/25/2008	< 0.007	0.023 +/- 0.0006
20080434	3/25/2008	4/8/2008	< 0.011	0.016 +/- 0.0006
20080491	4/8/2008	4/21/2008	< 0.009	0.021 +/- 0.0006
20080557	4/21/2008	5/6/2008	< 0.008	0.026 +/- 0.0006
20080600	5/6/2008	5/19/2008	< 0.008	0.022 +/- 0.0006
20080629	5/19/2008	6/3/2008	< 0.008	0.020 +/- 0.0006
20080683	6/3/2008	6/17/2008	< 0.009	0.013 +/- 0.0005
20080765	6/17/2008	7/1/2008	< 0.008	0.025 +/- 0.0007
20080829	7/1/2008	7/15/2008	< 0.008	0.022 +/- 0.0006
20080884	7/15/2008	7/28/2008	< 0.005	0.025 +/- 0.0007
20080933	7/28/2008	8/12/2008	< 0.008	0.022 +/- 0.0006
20080966	8/12/2008	8/26/2008	< 0.009	0.021 +/- 0.0006
20081029	8/26/2008	9/9/2008	< 0.012	0.024 +/- 0.0008
20081074	9/9/2008	9/22/2008	< 0.009	0.025 +/- 0.0006
20081136	9/22/2008	10/7/2008	< 0.008	0.039 +/- 0.0007
20081210	10/7/2008	10/21/2008	< 0.007	0.024 +/- 0.0006
20081246	10/21/2008	11/4/2008	< 0.010	0.032 +/- 0.0007
20081307	11/4/2008	11/18/2008	< 0.008	0.025 +/- 0.0006
20081398	11/18/2008	12/2/2008	< 0.010	0.021 +/- 0.0006
20081437	12/2/2008	12/17/2008	< 0.009	0.020 +/- 0.0005
20081463	12/17/2008	12/30/2008	< 0.008	0.027 +/- 0.0007
Totals:				
Average:				0.023
Maximum:				0.039
Minimum:				0.013

Attachment 1.2

Sample Type: Air Particulate and Charcoal Cartridge – Indicator Location AP1
 Analysis: Gross Beta and Iodine
 Units: pCi/m³

LLD (pCi/m ³)			0.07	0.01
LAB ID	START DATE	END DATE	I-131	GROSS BETA
20080001	12/18/2007	1/2/2008	< 0.009	0.023 +/- 0.0006
20080073	1/2/2008	1/15/2008	< 0.009	0.021 +/- 0.0006
20080186	1/15/2008	1/29/2008	< 0.008	0.026 +/- 0.0007
20080273	1/29/2008	2/12/2008	< 0.007	0.022 +/- 0.0006
20080322	2/12/2008	2/26/2008	< 0.007	0.019 +/- 0.0005
20080352	2/26/2008	3/11/2008	< 0.010	0.021 +/- 0.0006
20080392	3/11/2008	3/25/2008	< 0.009	0.024 +/- 0.0006
20080433	3/25/2008	4/8/2008	< 0.007	0.018 +/- 0.0006
20080490	4/8/2008	4/21/2008	< 0.006	0.023 +/- 0.0007
20080556	4/21/2008	5/6/2008	< 0.009	0.025 +/- 0.0007
20080599	5/6/2008	5/13/2008	< 0.008	0.025 +/- 0.0007
20080628	5/19/2008	6/3/2008	< 0.008	0.024 +/- 0.0006
20080682	6/3/2008	6/17/2008	< 0.006	0.013 +/- 0.0005
20080764	6/17/2008	7/1/2008	< 0.006	0.029 +/- 0.0007
20080828	7/1/2008	7/15/2008	< 0.008	0.024 +/- 0.0007
20080883	7/15/2008	7/28/2008	< 0.007	0.030 +/- 0.0008
20080932	7/28/2008	8/12/2008	< 0.008	0.024 +/- 0.0007
20080965	8/12/2008	8/26/2008	< 0.007	0.023 +/- 0.0005
20081028	8/26/2008	9/9/2008	< 0.010	0.026 +/- 0.0008
20081073	9/9/2008	9/22/2008	< 0.010	0.026 +/- 0.0006
20081135	9/22/2008	10/7/2008	< 0.009	0.040 +/- 0.0007
20081207	10/7/2008	10/21/2008	< 0.008	0.024 +/- 0.0006
20081245	10/21/2008	11/4/2008	< 0.010	0.032 +/- 0.0007
20081306	11/4/2008	11/18/2008	< 0.008	0.025 +/- 0.0006
20081397	11/18/2008	12/2/2008	< 0.008	0.017 +/- 0.0005
20081436	12/2/2008	12/17/2008	< 0.008	0.020 +/- 0.0005
20081462	12/17/2008	12/30/2008	< 0.007	0.029 +/- 0.0007
Totals:				
Average:				0.024
Maximum:				0.040
Minimum:				0.013

Attachment 1.3

Sample Type: Air Particulate and Charcoal Cartridge – Indicator Location AQS2

Analysis: Gross Beta and Iodine

Units: pCi/m³

LLD (pCi/m ³)			0.07	0.01
LAB ID	START DATE	END DATE	I-131	GROSS BETA
20080003	12/18/2007	1/2/2008	< 0.007	0.027 +/- 0.0007
20080075	1/2/2008	1/15/2008	< 0.009	0.023 +/- 0.0006
20080188	1/15/2008	1/29/2008	< 0.007	0.031 +/- 0.0007
20080275	1/29/2008	2/12/2008	< 0.008	0.025 +/- 0.0006
20080324	2/12/2008	2/26/2008	< 0.007	0.020 +/- 0.0005
20080354	2/26/2008	3/11/2008	< 0.008	0.021 +/- 0.0006
20080394	3/11/2008	3/25/2008	< 0.007	0.023 +/- 0.0006
20080435	3/25/2008	4/8/2008	< 0.008	0.017 +/- 0.0006
20080492	4/8/2008	4/21/2008	< 0.008	0.020 +/- 0.0006
20080558	4/21/2008	5/6/2008	< 0.007	0.022 +/- 0.0006
20080601	5/6/2008	5/19/2008	< 0.009	0.023 +/- 0.0006
20080630	5/19/2008	6/3/2008	< 0.008	0.022 +/- 0.0006
20080684	6/3/2008	6/17/2008	< 0.007	0.013 +/- 0.0005
20080766	6/17/2008	7/1/2008	< 0.007	0.023 +/- 0.0006
20080830	7/1/2008	7/15/2008	< 0.006	0.022 +/- 0.0006
20080885	7/15/2008	7/28/2008	< 0.007	0.026 +/- 0.0007
20080934	7/28/2008	8/12/2008	< 0.008	0.024 +/- 0.0006
20080967	8/12/2008	8/26/2008	< 0.010	0.018 +/- 0.0006
20081030	8/26/2008	9/9/2008	< 0.018	0.023 +/- 0.0010
20081075	9/9/2008	9/22/2008	< 0.008	0.021 +/- 0.0006
20081137	9/22/2008	10/7/2008	< 0.009	0.029 +/- 0.0006
20081211	10/7/2008	10/21/2008	< 0.008	0.020 +/- 0.0005
20081247	10/21/2008	11/4/2008	< 0.008	0.028 +/- 0.0006
20081308	11/4/2008	11/18/2008	< 0.007	0.020 +/- 0.0006
20081399	11/18/2008	12/2/2008	< 0.007	0.024 +/- 0.0006
20081438	12/2/2008	12/17/2008	< 0.007	0.019 +/- 0.0005
20081464	12/17/2008	12/30/2008	< 0.009	0.024 +/- 0.0006
Totals:				
Average:				0.022
Maximum:				0.031
Minimum:				0.013

Attachment 1.4

Sample Type: **Air Particulate and Charcoal Cartridge – Control Location AGC**
 Analysis: Gross Beta and Iodine
 Units: pCi/m³

LLD (pCi/m ³)			0.07	0.01
LAB ID	START DATE	END DATE	I-131	GROSS BETA
20080004	12/18/2007	1/2/2008	< 0.007	0.025 +/- 0.0006
20080076	1/2/2008	1/15/2008	< 0.008	0.027 +/- 0.0006
20080189	1/15/2008	1/29/2008	< 0.008	0.033 +/- 0.0007
20080276	1/29/2008	2/12/2008	< 0.007	0.027 +/- 0.0007
20080325	2/12/2008	2/26/2008	< 0.006	0.023 +/- 0.0006
20080355	2/26/2008	3/11/2008	< 0.006	0.022 +/- 0.0006
20080395	3/11/2008	3/25/2008	< 0.008	0.022 +/- 0.0006
20080436	3/25/2008	4/8/2008	< 0.006	0.018 +/- 0.0006
20080493	4/8/2008	4/21/2008	< 0.008	0.022 +/- 0.0006
20080559	4/21/2008	5/6/2008	< 0.006	0.024 +/- 0.0006
20080602	5/6/2008	5/19/2008	< 0.006	0.023 +/- 0.0006
20080631	5/19/2008	6/3/2008	< 0.007	0.025 +/- 0.0006
20080685	6/3/2008	6/17/2008	< 0.007	0.014 +/- 0.0005
20080767	6/17/2008	7/1/2008	< 0.007	0.025 +/- 0.0007
20080831	7/1/2008	7/15/2008	< 0.011	0.024 +/- 0.0007
20080886	7/15/2008	7/28/2008	< 0.008	0.028 +/- 0.0007
20080935	7/28/2008	8/12/2008	< 0.008	0.023 +/- 0.0006
20080968	8/12/2008	8/26/2008	< 0.007	0.024 +/- 0.0006
20081031	8/26/2008	9/9/2008	< 0.009	0.021 +/- 0.0006
20081076	9/9/2008	9/22/2008	< 0.008	0.024 +/- 0.0006
20081138	9/22/2008	10/7/2008	< 0.009	0.036 +/- 0.0007
20081212	10/7/2008	10/21/2008	< 0.009	0.025 +/- 0.0006
20081248	10/21/2008	11/4/2008	< 0.008	0.032 +/- 0.0007
20081309	11/4/2008	11/18/2008	< 0.007	0.025 +/- 0.0006
20081400	11/18/2008	12/2/2008	< 0.008	0.021 +/- 0.0006
20081439	12/2/2008	12/17/2008	< 0.008	0.021 +/- 0.0005
20081465	12/17/2008	12/30/2008	< 0.008	0.025 +/- 0.0007
Totals:				
Average:				0.024
Maximum:				0.036
Minimum:				0.014

Attachment 2.1

Sample Type: **Thermoluminescent Dosimeters (TLD)**

Analysis: mR Exposure

Units: mR/Qtr

<u>INDICATORS</u>	<u>1ST QTR</u>	<u>2ND QTR</u>	<u>3RD QTR</u>	<u>4TH QTR</u>	<u>MEAN</u>
TA1	10.39	10.63	11.48	11.51	11.01
TB1	15.23	15.51	15.72	15.78	15.56
TC1	15.21	15.52	15.59	15.77	15.52
TD1	14.57	16.10	15.59	16.30	15.64
TE1	13.90	14.01	14.36	15.08	14.34
TF1	12.76	14.22	14.23	15.58	14.20
TG1	15.57	15.99	16.27	18.50	16.58
TH1	12.13	12.61	12.77	12.79	12.57
TJ1	13.19	15.36	13.66	14.43	14.16
TK1	14.13	14.37	14.53	15.21	14.56
TL1	14.25	13.87	14.43	15.16	14.43
TM1	11.54	12.04	13.15	12.93	12.41
TN1	11.74	12.24	12.60	12.99	12.39
TP1	12.22	13.05		13.43	12.90
TQ1	9.99	10.62	10.71	11.55	10.72
TR1	10.16	11.30	11.28	12.37	11.28
MAX	15.57	16.10	16.27	18.50	16.58
AVG	12.94	13.59	13.76	14.34	13.64
MIN	9.99	10.62	10.71	11.51	10.72

<u>SPECIAL INTEREST</u>	<u>1ST QTR</u>	<u>2ND QTR</u>	<u>3RD QTR</u>	<u>4TH QTR</u>	<u>MEAN</u>
TCS	13.16	12.79	13.03	13.74	13.18
TGS	15.24	15.86	16.07	15.68	15.72
TNS	13.16	12.81	13.33	13.67	13.24
TRS	15.24	15.16	15.41	15.90	15.43
TQS1	13.16	15.15	16.45	16.08	15.21
TQS2	15.24	12.83	13.04	13.80	13.73
MAX	15.24	15.86	16.45	16.08	15.72
AVG	14.20	14.10	14.56	14.81	14.42
MIN	13.16	12.79	13.03	13.67	13.18

<u>CONTROLS</u>	<u>1ST QTR</u>	<u>2ND QTR</u>	<u>3RD QTR</u>	<u>4TH QTR</u>	<u>MEAN</u>
TAC	15.17	15.94	16.51	16.95	16.14
TEC	14.04	14.46	14.84	15.63	14.74
MAX	15.17	15.94	16.51	16.95	16.14
AVG	14.61	15.20	15.68	16.29	15.44
MIN	14.04	14.46	14.84	15.63	14.74

	<u>INDICATOR</u>	<u>CONTROL</u>	<u>SPECIAL</u>
MAX	18.50	16.95	16.45
AVG	13.65	15.44	14.42
MIN	9.99	14.04	12.79

Attachment 3.1

Sample Type: Surface Water

Analysis: Gamma Isotopic and Tritium

Units: pCi/l

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
20080071	SWU	1/11/2008	< 5.55	< 5.43	< 12.58	< 5.10	< 9.21	< 5.31	< 7.83	< 5.65	< 5.05	< 5.10	< 24.38	< 7.05
20080072	SWD	1/11/2008	< 4.68	< 4.51	< 7.72	< 4.89	< 12.27	< 4.32	< 6.17	< 4.02	< 4.17	< 4.71	< 13.19	< 5.97
20080540	SWU	4/29/2008	< 2.39	< 5.41	< 6.46	< 4.82	< 9.24	< 5.63	< 9.38	< 5.81	< 6.71	< 5.94	< 19.44	< 4.01
20080541	SWD	4/29/2008	< 3.83	< 4.17	< 7.93	< 5.84	< 8.08	< 4.31	< 8.80	< 4.39	< 4.59	< 4.29	< 14.15	< 6.38
20080842	SWD	7/21/2008	< 6.95	< 5.61	< 10.26	< 4.72	< 10.82	< 5.72	< 7.54	< 4.82	< 7.42	< 4.44	< 19.38	< 7.74
20080843	SWU	7/21/2008	< 5.13	< 4.93	< 7.83	< 5.85	< 10.79	< 6.17	< 4.81	< 5.14	< 4.79	< 5.31	< 17.37	< 2.26
20081229	SWU	10/29/2008	< 3.93	< 3.77	< 8.82	< 5.35	< 10.25	< 4.94	< 6.97	< 5.03	< 3.22	< 5.50	< 14.35	< 5.26
20081230	SWD	10/29/2008	< 4.78	< 4.02	< 10.05	< 3.96	< 8.13	< 4.88	< 7.25	< 4.35	< 5.19	< 5.83	< 13.89	< 6.92
20081481	SWU	12/31/2008	< 5.99	< 6.32	< 9.23	< 6.72	< 9.61	< 6.53	< 8.73	< 5.35	< 4.42	< 6.67	< 21.31	< 4.61
20081482	SWU dup	12/31/2008	< 5.67	< 4.27	< 10.77	< 5.18	< 10.35	< 5.16	< 8.43	< 5.23	< 4.22	< 6.05	< 19.16	< 5.63
20081483	SWD	12/31/2008	< 6.66	< 5.25	< 12.09	< 4.41	< 9.42	< 5.79	< 10.68	< 4.37	< 3.77	< 5.32	< 20.36	< 6.12
20081484	SWD dup	12/31/2008	< 5.84	< 4.94	< 9.22	< 2.36	< 10.60	< 4.24	< 7.43	< 5.83	< 5.58	< 5.54	< 14.40	< 4.89

LLD (pCi/l)			3000
LAB ID	LOCATION	DATE	TRITIUM
20080071	SWU	1/11/2008	< 592.10
20080072	SWD	1/11/2008	< 570.82
20080540	SWU	4/29/2008	< 571.45
20080541	SWD	4/29/2008	< 588.25
20080842	SWD	7/21/2008	< 559.56
20080843	SWU	7/21/2008	< 568.25
20081229	SWU	10/29/2008	< 576.49
20081230	SWD	10/29/2008	< 562.11
20081481	SWU	12/31/2008	< 559.60
20081482	SWU dup	12/31/2008	< 556.00
20081483	SWD	12/31/2008	< 557.41
20081484	SWD dup	12/31/2008	< 558.48

Attachment 4.1

Sample Type: Groundwater

Analysis: Gamma Isotopic and Tritium

Units: pCi/l

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
20080205	GWU	1/30/2008	< 12.41	< 11.05	< 24.35	< 12.56	< 15.52	< 14.40	< 21.42	< 11.38	< 13.26	< 13.26	< 38.45	< 10.01
20080206	GWD	1/30/2008	< 8.27	< 6.82	< 22.39	< 5.20	< 23.30	< 9.86	< 15.99	< 7.52	< 10.15	< 8.55	< 29.85	< 6.97
20080594	GWD	5/15/2008	< 5.80	< 5.09	< 8.91	< 6.62	< 12.31	< 5.75	< 10.05	< 7.12	< 7.42	< 6.70	< 22.38	< 6.23
20080595	GWU	5/15/2008	< 6.61	< 5.79	< 11.41	< 5.82	< 18.43	< 8.72	< 11.38	< 7.41	< 7.08	< 6.80	< 20.69	< 7.12
20080930	GWU	8/11/2008	< 10.06	< 6.00	< 14.58	< 7.58	< 13.57	< 12.03	< 15.61	< 7.63	< 7.86	< 8.96	< 29.12	< 10.94
20080931	GWD	8/11/2008	< 5.77	< 4.92	< 9.62	< 5.68	< 13.81	< 6.76	< 9.41	< 6.56	< 6.27	< 6.54	< 21.86	< 7.07
20081386	GWU	11/26/2008	< 5.60	< 6.25	< 8.06	< 6.55	< 11.97	< 8.20	< 10.35	< 6.46	< 7.56	< 7.27	< 24.56	< 8.13
20081387	GWD	11/26/2008	< 5.37	< 4.18	< 7.61	< 5.07	< 10.76	< 5.03	< 7.72	< 5.74	< 5.59	< 4.47	< 20.80	< 7.11

LLD (pCi/l)			3000
LAB ID	LOCATION	DATE	TRITIUM
20080205	GWU	1/30/2008	< 572
20080206	GWD	1/30/2008	< 553
20080594	GWD	5/15/2008	< 549
20080595	GWU	5/15/2008	< 581
20080930	GWU	8/11/2008	< 570
20080931	GWD	8/11/2008	< 573
20081386	GWU	11/26/2008	< 547
20081387	GWD	11/26/2008	< 556

Attachment 5.1

Sample Type: Shoreline Sediment SEDD

Analysis: Gamma Isotopic

Units: pCi/kg, dry

LLD (pCi/kg)		150	180
<u>LAB ID</u>	<u>DATE</u>	<u>CS-134</u>	<u>CS-137</u>
20080674	6/16/2008	< 26.72	< 23.01

Sample Type: Shoreline Sediment SEDU

Analysis: Gamma Isotopic

Units: pCi/kg, dry

LLD (pCi/kg)		150	180
<u>LAB ID</u>	<u>DATE</u>	<u>CS-134</u>	<u>CS-137</u>
20080673	6/16/2008	< 26.35	< 29.04

Attachment 6.1

Sample Type: **Food Products**
 Analysis: Gamma Isotopic
 Units: pCi/kg, wet

LLD (pCi/kg, wet)			60	60	80
LAB ID	LOCATION	DATE	I-131	CS-134	CS-137
20080272	GN1	2/11/2008	< 49.94	< 45.40	< 72.99
20080410	GQC	3/27/2008	< 39.31	< 45.57	< 23.88
20080538	GN1	4/22/2008	< 36.28	< 37.47	< 28.30
20080697	GQC	6/19/2008	< 49.06	< 53.08	< 39.30
20080882	GN1	7/28/2008	< 47.76	< 58.36	< 58.68
20081139	GQC	10/7/2008	< 42.43	< 44.19	< 43.86
20081249	GN1	11/4/2008	< 59.91	< 52.64	< 70.18
20081508	GQC	1/14/2009	< 40.14	< 47.34	< 48.49

Attachment 7.1

Sample Type: **Fish**

Analysis: Gamma Isotopic

Units: pCi/kg, wet

LLD (pCi/kg)			130	130	260	130	260	130	150
LAB	LOCATION	DATE	MN-54	C0-58	FE-59	CO-60	ZN-65	CS-134	CS-137
20081195	FISHDO	10/14/2008	< 18.38	< 21.07	< 42.84	< 28.69	< 44.30	< 14.48	< 18.38
20081196	FISHDO	10/14/2008	< 11.27	< 14.28	< 32.79	< 11.59	< 34.97	< 12.02	< 11.88
20081322	FISHUP	6/15/2008	< 9.64	< 28.60	< 195.79	< 9.26	< 32.68	< 9.29	< 6.55
20081323	FISHUP	6/15/2008	< 12.39	< 36.22	< 194.67	< 12.53	< 35.34	< 9.27	< 7.94

Attachment 8.1

Sample Type: **Interlaboratory Comparison**

Analysis: Gross Beta, Iodine-131, Tritium, and Gamma Isotopic

RIVER BEND STATION

ENVIRONMENTAL (CROSS-CHECK) PROGRAM PARTICIPATION RESULTS

Sample Type (units)	Analytics #	Date	Analysis	Known value (a)	RBS Value	RBS N-DEV (b)	RBS N-RANGE (c)
Face Loaded F&J Charcoal Cartridge	E5943-125	6/19/2008	I-131	8.45E+01	8.23E+01	-0.60	0.22
Gross Beta in 1 Liter Water	E5942-125	6/19/2008	BETA	1.49E+02	1.55E+02	0.45	0.25
(pCi/liter) Gamma in Water Sample	E5941-125	6/19/2008	Cr-51	1.88E+02	1.70E+02	-2.22	2.16
			Mn-54	1.84E+02	2.04E+02	2.50	0.21
			Co-58	8.42E+01	8.55E+01	0.34	0.42
			Fe-59	1.25E+02	1.40E+02	2.69	0.71
			Co-60	1.42E+02	1.47E+02	0.77	0.19
			Zn-65	1.72E+02	1.76E+02	0.60	0.49
			I-131	4.53E+01	4.86E+01	1.68	1.87
			Cs-134	1.04E+02	1.04E+02	-0.08	0.30
			Cs-137	1.58E+02	1.63E+02	0.77	0.41
Ce-141	2.37E+02	2.36E+02	-0.14	0.24			
Tritium in Water	E6263-125	9/18/2008	H-3	1.14E+04	1.18E+04	0.49	0.09
Gross Beta on 47mm Air Particulate Filter	E6264-125	9/18/2008	BETA	9.51E+01	8.52E+01	-1.39	0.01
Gamma Emitters on 47 mm (pCi/filter)	E6265-125	9/18/08	Cr-51	2.49E+02	2.50E+02	0.07	0.79
			Mn-54	9.84E+01	1.07E+02	2.11	0.23
			Co-58	1.06E+02	1.05E+02	-0.12	0.28
			Fe-59	8.56E+01	9.52E+01	2.59	0.44
			Co-60	1.39E+02	1.40E+02	0.16	0.19
			Zn-65	1.89E+02	1.90E+02	0.14	0.44
			Cs-134	1.37E+02	1.33E+02	-0.76	0.16
			Cs-137	9.60E+01	9.66E+01	0.14	0.38
Ce-141	9.55E+01	9.77E+01	0.54	0.25			
Gamma Emitters in 1 Liter Soil (pCi/gram)	E6266-125	9/18/2008	Cr-51	8.33E-01	8.66E-01	0.95	0.42
			Mn-54	3.29E-01	3.69E-01	2.92	0.17
			Co-58	3.53E-01	3.66E-01	0.88	0.25
			Fe-59	2.86E-01	3.15E-01	2.40	0.47
			Co-60	4.64E-01	4.78E-01	0.75	0.21
			Zn-65	6.32E-01	6.79E-01	1.78	0.16
			Cs-134	4.59E-01	4.61E-01	0.09	0.14
			Cs-137	4.16E-01	4.47E-01	1.82	0.21
Ce-141	3.19E-01	3.43E-01	1.81	0.18			

RIVER BEND STATION							
ENVIRONMENTAL (CROSS-CHECK) PROGRAM PARTICIPATION RESULTS							
Sample Type (units)	Analytics #	Date	Analysis	Known Value (a)	RBS Value	RBS N-DEV (b)	RBS N-RANGE (c)
Gamma Emitters in Milk (pCi/liter)	E5944-125	6/19/2008	Cr-51	1.38E+02	1.42E+02	0.61	2.74
			Mn-54	1.35E+02	1.49E+02	2.45	0.31
			Co-58	6.19E+01	6.21E+01	0.09	0.84
			Fe-59	9.17E+01	9.87E+01	1.75	0.67
			Co-60	1.04E+02	1.07E+02	0.68	0.46
			Zn-65	1.27E+02	1.34E+02	1.30	0.34
			I-131	7.14E+01	7.12E+01	-0.07	0.58
			Cs-134	7.67E+01	7.80E+01	0.40	0.45
			Cs-137	1.16E+02	1.19E+02	0.67	0.21
			Ce-141	1.74E+02	1.77E+02	0.34	0.41

NOTES:

- (a) The known value as determined by Analytics.
- (b) The normalized deviation from the "known" value is computed from the deviation and the standard error of the mean; ± 2.00 is the warning limit and ± 3.00 is the control limit. This is a measure of accuracy of the analytical methods.
- (c) The normalized range is computed from the mean range, the control limit, and the standard error of the range; $+2.0$ is the warning limit and $+3.0$ is the control limit. This is a measure of precision of the analytical methods.