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Subject: Radiological Environmental Operating Report for 2006
River Bend Station - Unit 1
License No. NPF-47
Docket No. 50-458

File Nos.: G9.5, G9.25.1.5

RBG-46688
RBF1-07-0069

Dear Sir or Madam,

Enclosed is a CD containing the River Bend Station (RBS) Annual Radiological Environmental Operating Report for the period January 1, 2006, through December 31, 2006. This report is submitted in accordance with the RBS Technical Specifications, Section 5.6.2. Also enclosed as the first page of the report is a copy of this transmittal letter.

Should you have any questions regarding the enclosed information, please contact Mr. Bill Fountain at (225) 381-4625.

Sincerely,




David N. Lorfing

DNL/wjf
enclosure

RIVER BEND STATION

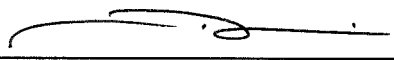
**ANNUAL RADIOLOGICAL ENVIRONMENTAL
OPERATING REPORT FOR 2006**

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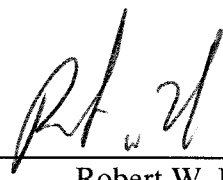


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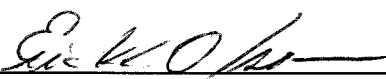


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Summary

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, 2006 through December 31, 2006. 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 2006, 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 2006. No measurable levels of radiation above baseline levels were detected in the vicinity of River Bend Station. The 2006 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 approximately 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 2006, 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 2006 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 2006. 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, 2006 results did not result in any Radiological Monitoring Program Special Reports.

Radioactivity Not Attributable to RBS

Periodically Mississippi River sediment samples show Cs-137 activity as was the case in 2006. A non-REMP upstream control sample also showed a similar level of activity. A review of historical indicator and upstream sediment samples also periodically showed Cs-137 and these values are in line with the 2006 values. The results of the upstream and downstream positive values indicates that this radioactivity in the sediment is most probable from weapons testing or other fallout events such as Chernobyl and not attributable to RBS. 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.

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 2006 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 2006. 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
AP1, AN1	2/28/06 to 3/13/06	Power outage	Air sampler locations AP1 and AN1 were short 3.3 hours (1 % volume) and 3.5 hours (1.1% volume) for period 02/28/06 to 03/13/06 due to the construction loop power outage at Grant Substation.. Sampler operating normal at time of sample collection
AN1	6/05/06 to 6/19/06	Power outages	Air sampler locations AP1 (Met Tower) and AN1 (Hwy. 965) were short 4.1 hours each (1.2 % volume) for period 06/05/06 to 06/19/06 due to power outage caused by downed power pole. Samplers operating normal at time of sample collection.
AP1, AN1, AQS2	7/17/06 to 7/31/06		Air sampler location AQS2, St. Francisville sub-station, had a 5.9 hour (1.7% volume) outage due to local power outage caused by inclement weather during sampling period 7/17/06 to 7/31/06. Sampler operating normal at time of sample collection.
TNS	2 nd Quarter 2006	TLD Badge Missing	Badge missing and holder still in place; due to mischievous activity at high traffic area
TC1	4 th Quarter 2006	TLD Badge Missing	Badge and holder missing due to recent power line/highway right-of-

			way clearing activity
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Missed Samples

One special interest TLD, TNS was found missing in second quarter 2006 and one Indicator TLD, TC1 was found missing in fourth quarter 2006.

Unavailable Results

No sample results during 2006 were unavailable.

Program Modifications

RBS made no modifications to the REMP during the year 2006.

Attachments

Attachment 1 contains results of air, TLD, water, sediment, fish, food products and special samples collected in 2006. TLDs were analyzed by Waterford-3 Dosimetry. All remaining samples were analyzed by RBS Environmental Laboratory. Attachment 1 also contains RBS' participation in the Interlaboratory Comparison Program during the year 2006.

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 2006 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 2006. The purpose of this census is to identify changes in uses of land within five miles of RBS that would require modifications to the REMP or the Technical Requirements Manual. The most important criteria during this census is to determine the location in each sector of the nearest:

- 1) Residence
- 2) Animal milked for human consumption
- 3) Garden of greater than 50 m² (500 ft²) producing broadleaf vegetation. RBS personnel do not perform a garden census since Technical Requirements

Manual 3.12.2 allows the routine sampling of broadleaf vegetation in the highest D/Q sector near the site boundary in lieu of the garden census

The land use census is conducted using one or more of the following methods:

- RBS personnel conduct door-to-door field surveys, and/or aerial surveys in each meteorological sector out to five miles in order to locate the nearest resident and milk animal.
- Consultation with County Agents from each parish area is used especially in verifying the presence of milk animals in the five mile radius of River Bend.
- As a result of these surveys, the following information is obtained in each meteorological sector:
 - 1) Nearest permanent residence
 - 2) Nearest milking animal
 - 3) Beef animal
 - 4) Crustaceans
- RBS personnel identify locations on the map, measure distances to RBS and record results. Distance and direction from RBS reactor building is also determined by use of a GPS instrument.
- Locations, if any, are identified which yield a calculated dose or dose commitments greater than those currently calculated in the Technical Requirements Manual.
- RBS personnel compare results to previous 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><u>Radioiodine and Particulates</u> 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.	Radioiodine Canisters – I-131 analysis every two weeks. Air Particulate – Gross beta radioactivity analysis following filter change.
	<p><u>Radioiodine and Particulates</u> 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><u>Radioiodine and Particulates</u> 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><u>TLDs</u> 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><u>TLDs</u> 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><u>Groundwater</u> 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><u>Sediment From Shoreline</u> 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><u>Milk</u> 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><u>Fish and Invertebrates</u> 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><u>Food Products</u> 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 I-1
EXPOSURE PATHWAYS

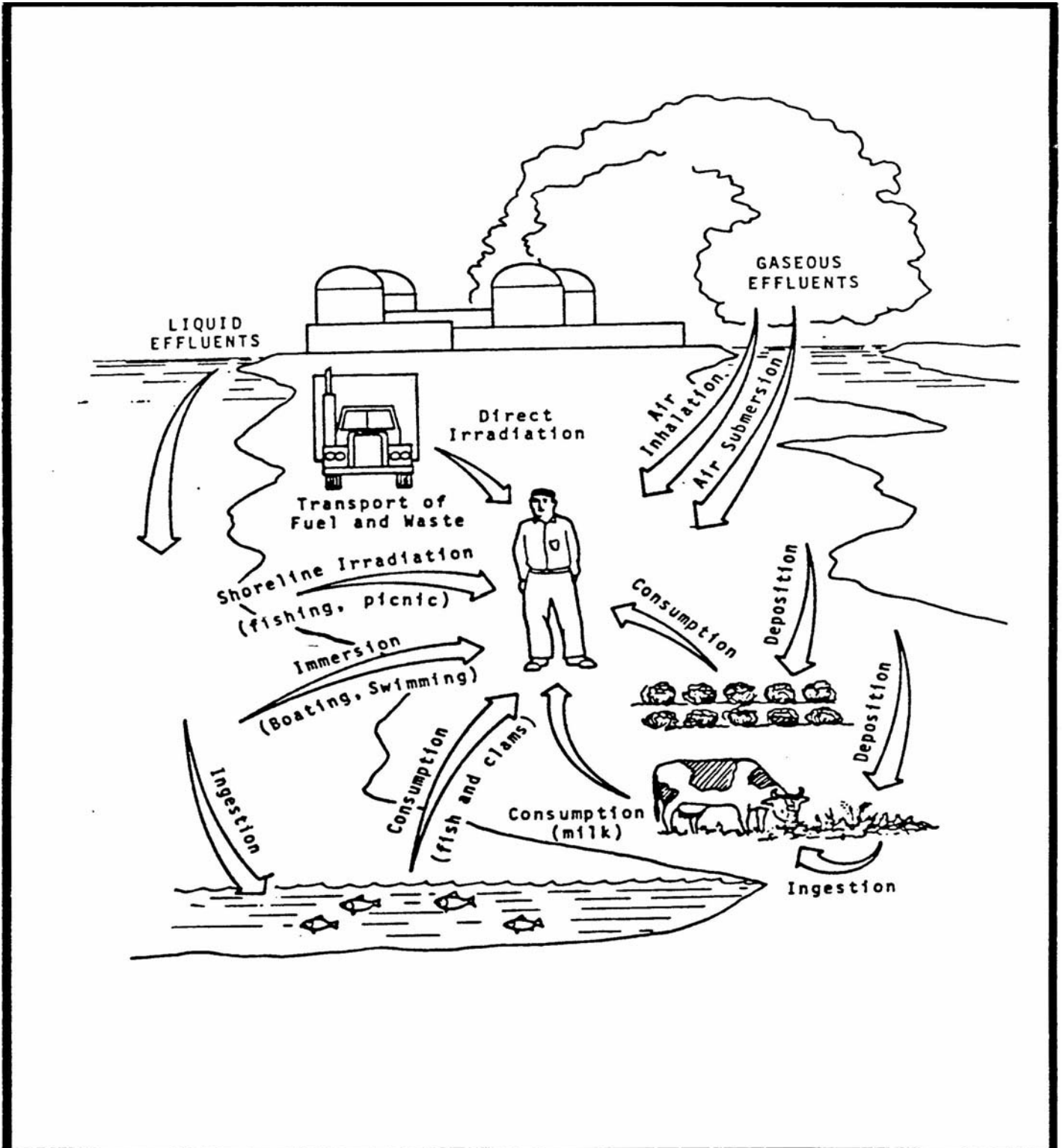


FIGURE 1-2
 SAMPLE COLLECTION SITES – NEAR FIELD

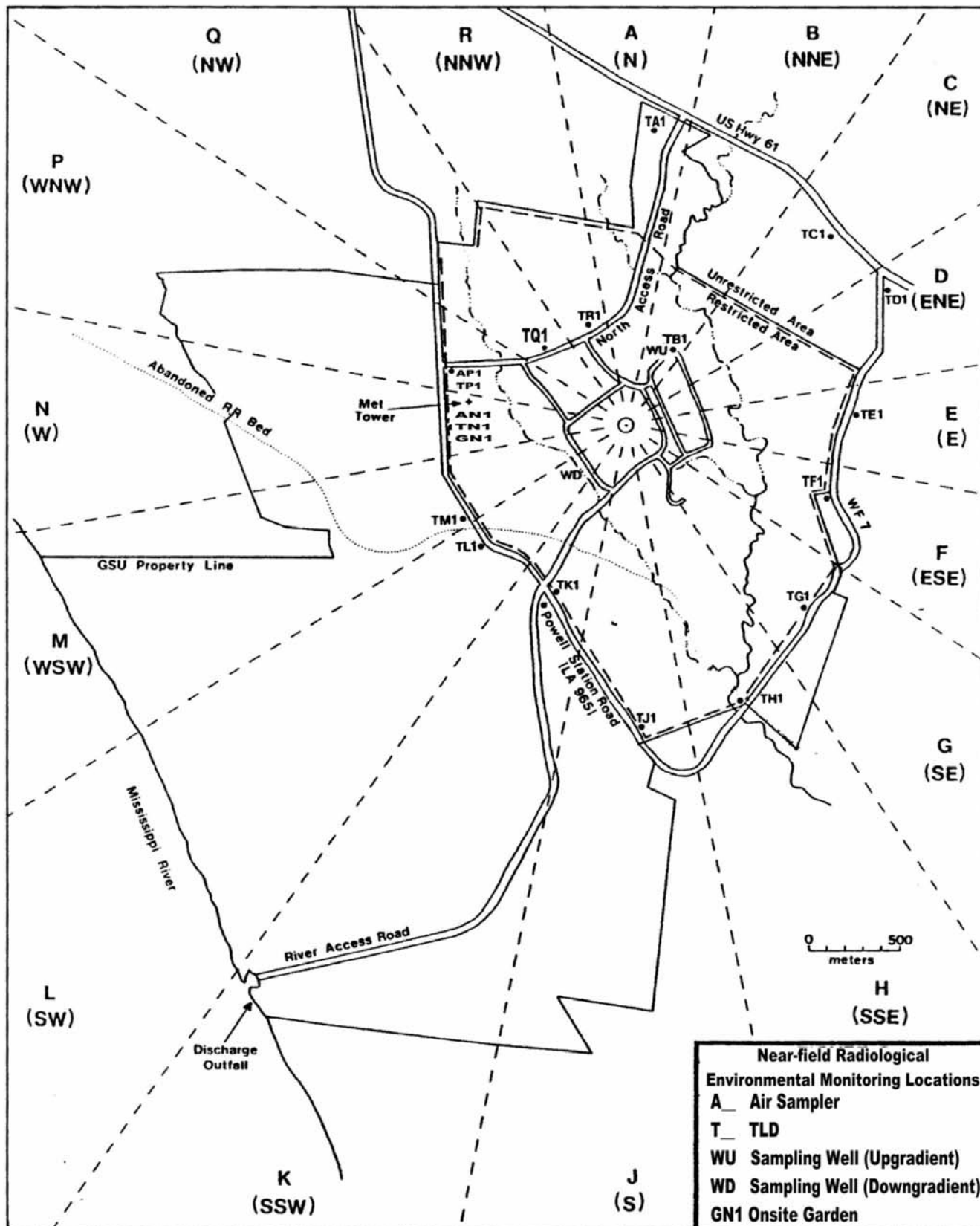
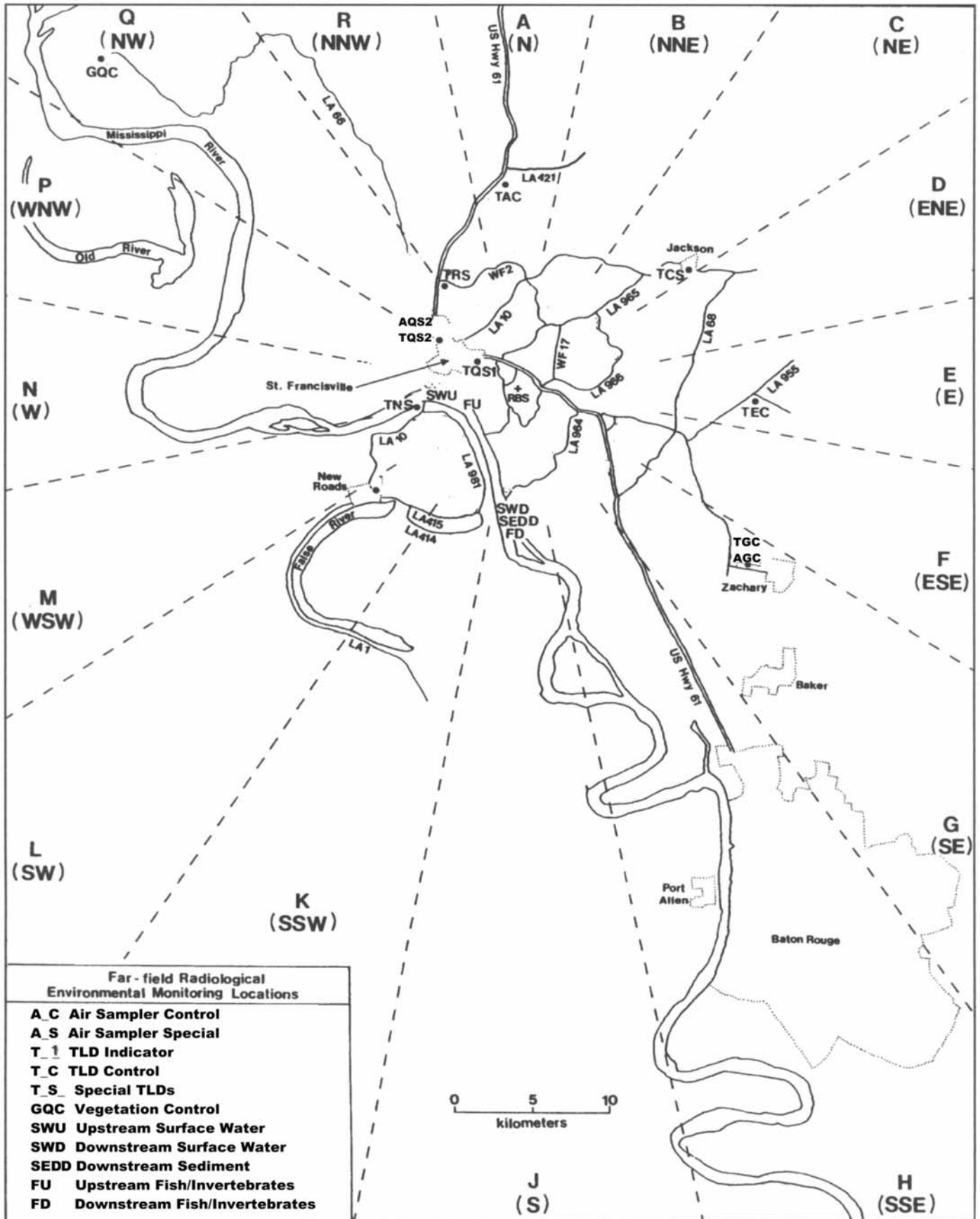


FIGURE 1-3
SAMPLE COLLECTION SITES-FAR FIELD



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 2006, as has been the case in previous years. Indicator gross beta air particulate results for 2006 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
2006	0.024
2005	0.022
2004	0.018
2003	0.021
2002	0.020

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 2006 versus control location data from 1986 to 2005. Seven indicator results for 2006 were out of the upper three-sigma limit. The highest peaks were counted and showed only natural activity. Background and efficiency did not show any negative or positive trends. Dry weather was noted during the sample period.

2.2 Thermoluminescent Dosimetry Sample Results

Gamma radiation exposure in the reporting period compares to previous years and remains below preoperational levels. Figure 2-1 compares quarterly indicator results for 2006 with control location data from 1986 to 2005. All indicator results are within the upper control three-sigma limit of the control data.

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.

One special interest TLD, TNS was found missing in second quarter 2006 and one Indicator TLD, TC1 was found missing in fourth quarter 2006.

2.3 Water Sample Results

Analytical results for 2006 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 2006 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>2006</u>	<u>2001 – 2005</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 2006 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>2006</u>	<u>2001 – 2005</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 2006, 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 2006 and analyzed for gamma radionuclides. In this sample CS-137 was detected. RBS also samples a non-REMP upstream control sediment sample. This sample also had Cs-137. The following day a confirmatory upstream and indicator sample was obtained with each again showing CS-137. A review of historical indicator and upstream sediment samples also periodically showed Cs-137 and the values are in line with the 2006 values. The results of the upstream and downstream positive values indicates that this radioactivity in the sediment is most probable from weapons testing or other fallout events and not attributable to RBS. 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 2006 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 2006.

2.6 Fish and Invertebrate Sample Results

Fish samples were collected from two locations (indicator and control) and analyzed for gamma radionuclides. In 2006, 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 2006 and analyzed for gamma radionuclides in accordance with Table TRM 3.12-1. The 2006 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 current land use census was conducted for the 2005-06 time period in accordance with RBS Technical Requirements Manual 3.12.2. Although there were some minor changes between the 2004 and 2006 census as seen in Table 2-1, the land use census did not identify any location(s) that yields a calculated dose or dose commitment greater than the values currently being calculated in requirement TSR 3.11.2.3.1. Most of these changes were due to the use of a GPS instrument in locating the resident's bearing and range from the reactor building, as compared to previous methods used in this process. In addition, no dairy animals were found within 8 km of RBS during the 2006 census. This was verified through the County Agents for West Feliciana, East Feliciana and Pointe Coupee parishes.

RBS personnel did not perform a garden census since Technical Requirements Manual 3.12.2 allows the routine sampling of broadleaf vegetation in the highest D/Q sector near the site boundary in lieu of the garden census.

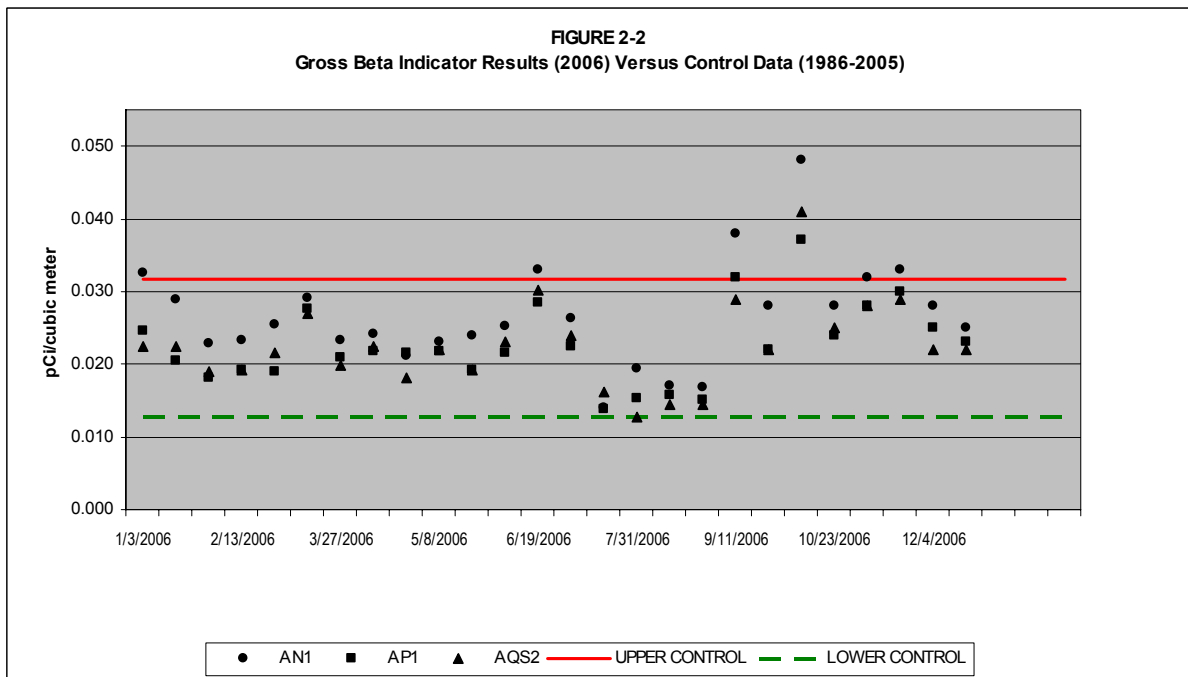
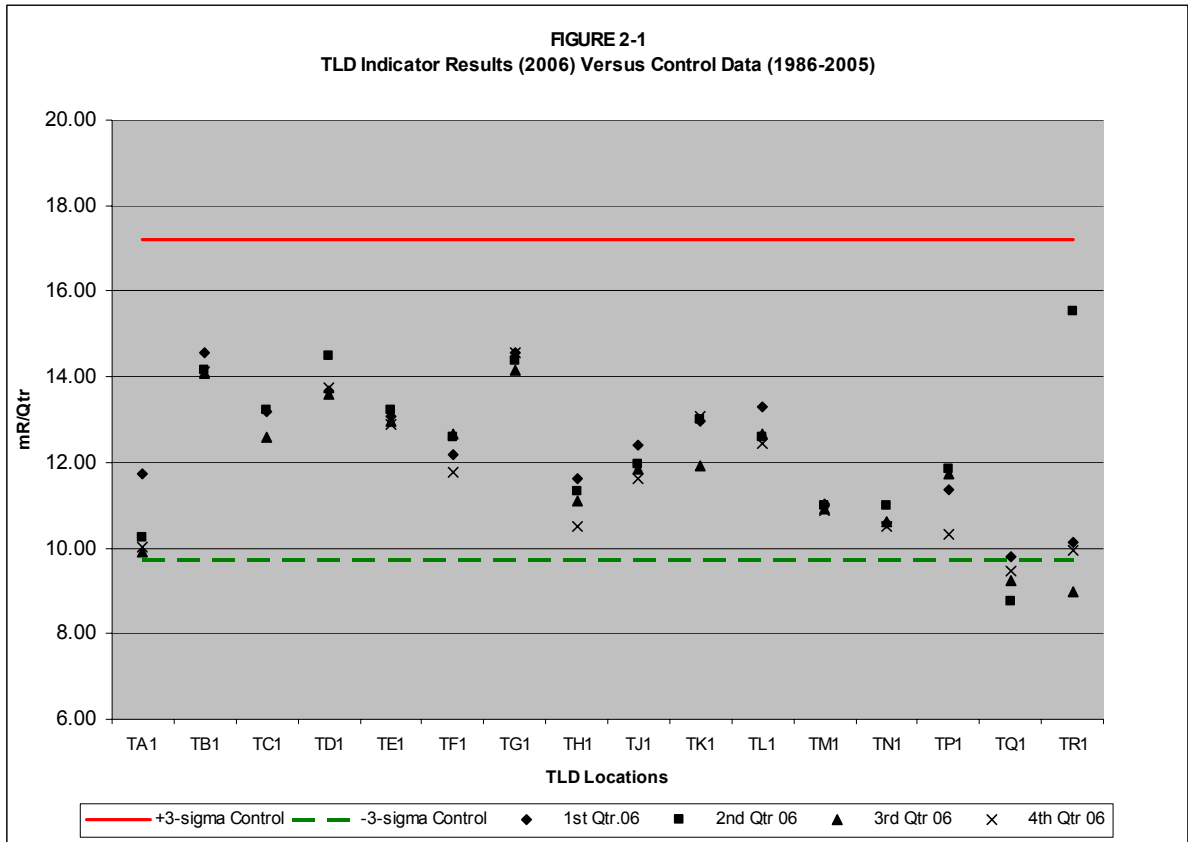
2.9 Interlaboratory Comparison Results

RBS' Environmental Laboratory analyzed interlaboratory comparison samples to fulfill the requirements of Technical Requirements Manual 3.12.3. Attachment 8.1 contains these results.

**Table 2-1
Land Use Census Results
2006**

Item	Sector	Direction	Nearest Residence	Range (km)	Nearest Milk Animal	Range (km)
1	A	N	5498 Hwy. 61	1.8	-	-
2	B	NNE	5435 Hwy. 61	1.6	-	-
3	C	NE	End of Old Hwy. 61 ¹	1.4	-	-
4	D	ENE	12657 Powell Station Road	1.4	-	-
5	E	E	4635 Hwy. 61 ²	2.5	-	-
6	F	ESE	12010 Fairview Way, Star Hill Trace Subdivision	2.8	-	-
7	G	SE	3379 Hwy. 9643 ³	3.7	-	-
8	H	SSE	11813 Powell Station Road	1.8	-	-
9	J	S	11649 Powell Station Road	1.8	-	-
10	K	SSW	8909 Hwy. 981	6.5	-	-
11	L	SW	4	-	-	-
12	M	WSW	4	-	-	-
13	N	W	11101 Ferdinand Street	6.1	-	-
14	P	WNW	10426 Old Field Road	3.7	-	-
15	Q	NW	9537 Hwy.965 ⁵	1.3	-	-
16	R	NNW	Ricks Trailer Park Hwy. 965 ⁶	2.6	-	-

1. Address correction in Sector C; range remains at 1.4 km
2. Use of GPS reveals resident at a range of 2.59 km in 2006 compared to 2.6 km in Sector E
3. New resident at a range of 3.7 km, compared to 4.0 km in 2004 census in sector G. GPS use shows this resident near sector line.
4. No resident found in sector L or M within 8 km. distance.
5. Incorrect address for sector Q, no change in distance
6. New resident at a range of 1.7 km, right on Q/R boundary inside Ricks Trailer Park. Use of GPS determined a couple of trailers are actually in sector R.



3.0 Radiological Environmental Monitoring Program Summary

3.1 2006 Program Results Summary

Table 3.1 summarizes the 2006 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 SummaryName of Facility: River Bend StationDocket No: 50-458Location of Facility: West Feliciana Parish, LouisianaReporting Period: January - December 2006

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 104	0.01	0.024 (78 / 78) [0.013 - 0.048]	AN1 (0.9 km W)	0.027 (26 / 26) [0.013 - 0.048]	0.021 (26 / 26) [0.011 - 0.039]	0
Airborne Iodine (pCi/m ³)	I-131 104	0.07	<LLD	N/A	N/A	<LLD	0
Indicators TLDs (mR/Qtr)	Gamma 64	(e)	12.08 (63 / 64) [8.77 – 15.54]	TG1 (1.6 km SE)	14.42 (4 / 4) [14.16 – 14.57]	N/A	0
Special Interest TLDs (mR/Qtr)	Gamma 24	(e)	12.55 (23 / 24) [10.73 – 14.27]	TGS (17.0 km SE)	13.97 (4 / 4) [13.60 – 14.23]	N/A	0
Control TLDs (mR/Qtr)	Gamma 8	(e)	N/A	N/A	N/A	13.68 (8 / 8) [12.72 – 15.12]	0

TABLE 3.1

Radiological Environmental Monitoring Program Summary

Name of Facility: River Bend Station

Docket No: 50-458

Location of Facility: West Feliciana Parish, Louisiana

Reporting Period: January - December 2006

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 10	3000	<LLD	N/A	N/A	<LLD	0
	Gamma 10						
	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 SummaryName of Facility: River Bend StationDocket No: 50-458Location of Facility: West Feliciana Parish, LouisianaReporting Period: January - December 2006

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 6	3000	<LLD	N/A	N/A	<LLD	0
	Gamma 6						
	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 4						
	Cs-134	150	<LLD	N/A	N/A	<LLD	0
	Cs-137	180	61.14 – 76.09	SEDD	68.62	26.24 – 66.27	0

TABLE 3.1

Radiological Environmental Monitoring Program SummaryName of Facility: River Bend StationDocket No: 50-458Location of Facility: West Feliciana Parish, LouisianaReporting Period: January - December 2006

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
2006 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) LAB ID	START DATE	END DATE	0.07	0.01
			I-131	GROSS BETA
20060002	12/19/2005	1/3/2006	< 0.006	0.033 +/- 0.002
20060048	1/3/2006	1/16/2006	< 0.008	0.029 +/- 0.002
20060098	1/16/2006	1/30/2006	< 0.008	0.023 +/- 0.001
20060179	1/30/2006	2/13/2006	< 0.007	0.023 +/- 0.001
20060240	2/13/2006	2/28/2006	< 0.005	0.026 +/- 0.001
20060275	2/28/2006	3/13/2006	< 0.010	0.029 +/- 0.002
20060323	3/13/2006	3/27/2006	< 0.008	0.023 +/- 0.001
20060404	3/27/2006	4/10/2006	< 0.009	0.024 +/- 0.001
20060474	4/10/2006	4/24/2006	< 0.008	0.021 +/- 0.001
20060544	4/24/2006	5/8/2006	< 0.010	0.023 +/- 0.001
20060571	5/8/2006	5/22/2006	< 0.009	0.024 +/- 0.001
20060599	5/22/2006	6/5/2006	< 0.008	0.025 +/- 0.001
20060671	6/5/2006	6/19/2006	< 0.010	0.033 +/- 0.002
20060716	6/19/2006	7/3/2006	< 0.009	0.026 +/- 0.001
20060776	7/3/2006	7/17/2006	< 0.008	0.014 +/- 0.001
20060839	7/17/2006	7/31/2006	< 0.009	0.020 +/- 0.001
20060877	7/31/2006	8/14/2006	< 0.009	0.017 +/- 0.001
20060932	8/14/2006	8/28/2006	< 0.008	0.017 +/- 0.001
20060966	8/28/2006	9/11/2006	< 0.008	0.038 +/- 0.002
20061006	9/11/2006	9/25/2006	< 0.009	0.028 +/- 0.002
20061083	9/25/2006	10/9/2006	< 0.008	0.048 +/- 0.002
20061146	10/9/2006	10/23/2006	< 0.006	0.028 +/- 0.002
20061217	10/23/2006	11/6/2006	< 0.007	0.032 +/- 0.002
20061259	11/6/2006	11/20/2006	< 0.008	0.033 +/- 0.002
20061307	11/20/2006	12/4/2006	< 0.007	0.028 +/- 0.002
20061367	12/4/2006	12/18/2006	< 0.008	0.025 +/- 0.0006

Totals:

Average:	0.027
Maximum:	0.048
Minimum:	0.014

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
20060001	12/19/2005	1/3/2006	< 0.008	0.027 +/- 0.001
20060047	1/3/2006	1/16/2006	< 0.008	0.020 +/- 0.001
20060097	1/16/2006	1/30/2006	< 0.006	0.018 +/- 0.001
20060178	1/30/2006	2/13/2006	< 0.008	0.019 +/- 0.001
20060239	2/13/2006	2/28/2006	< 0.007	0.019 +/- 0.001
20060274	2/28/2006	3/13/2006	< 0.008	0.028 +/- 0.002
20060322	3/13/2006	3/27/2006	< 0.008	0.021 +/- 0.001
20060403	3/27/2006	4/10/2006	< 0.007	0.022 +/- 0.001
20060473	4/10/2006	4/24/2006	< 0.006	0.022 +/- 0.001
20060543	4/24/2006	5/8/2006	< 0.009	0.022 +/- 0.001
20060570	5/8/2006	5/22/2006	< 0.008	0.019 +/- 0.001
20060598	5/22/2006	6/5/2006	< 0.008	0.022 +/- 0.001
20060670	6/5/2006	6/19/2006	< 0.008	0.028 +/- 0.002
20060715	6/19/2006	7/3/2006	< 0.007	0.023 +/- 0.001
20060775	7/3/2006	7/17/2006	< 0.008	0.014 +/- 0.001
20060838	7/17/2006	7/31/2006	< 0.006	0.015 +/- 0.001
20060876	7/31/2006	8/14/2006	< 0.008	0.016 +/- 0.001
20060931	8/14/2006	8/28/2006	< 0.008	0.015 +/- 0.001
20060965	8/28/2006	9/11/2006	< 0.006	0.032 +/- 0.001
20061005	9/11/2006	9/25/2006	< 0.006	0.022 +/- 0.001
20061082	9/25/2006	10/9/2006	< 0.008	0.037 +/- 0.002
20061145	10/9/2006	10/23/2006	< 0.008	0.024 +/- 0.001
20061216	10/23/2006	11/6/2006	< 0.008	0.028 +/- 0.001
20061258	11/6/2006	11/20/2006	< 0.006	0.030 +/- 0.001
20061306	11/20/2006	12/4/2006	< 0.007	0.025 +/- 0.001
20061366	12/4/2006	12/18/2006	< 0.009	0.023 +/- 0.0006

Totals:

Average:	0.023
Maximum:	0.037
Minimum:	0.014

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
20060003	12/19/2005	1/3/2006	< 0.008	0.023 +/- 0.001
20060049	1/3/2006	1/16/2006	< 0.009	0.022 +/- 0.001
20060099	1/16/2006	1/30/2006	< 0.008	0.019 +/- 0.001
20060180	1/30/2006	2/13/2006	< 0.007	0.019 +/- 0.001
20060241	2/13/2006	2/28/2006	< 0.007	0.022 +/- 0.001
20060276	2/28/2006	3/13/2006	< 0.007	0.027 +/- 0.001
20060324	3/13/2006	3/27/2006	< 0.007	0.020 +/- 0.001
20060405	3/27/2006	4/10/2006	< 0.008	0.023 +/- 0.001
20060475	4/10/2006	4/24/2006	< 0.009	0.018 +/- 0.001
20060545	4/24/2006	5/8/2006	< 0.007	0.022 +/- 0.001
20060572	5/8/2006	5/22/2006	< 0.006	0.019 +/- 0.001
20060600	5/22/2006	6/5/2006	< 0.007	0.023 +/- 0.001
20060672	6/5/2006	6/19/2006	< 0.008	0.030 +/- 0.001
20060717	6/19/2006	7/3/2006	< 0.007	0.024 +/- 0.001
20060777	7/3/2006	7/17/2006	< 0.007	0.016 +/- 0.001
20060840	7/17/2006	7/31/2006	< 0.007	0.013 +/- 0.001
20060878	7/31/2006	8/14/2006	< 0.008	0.015 +/- 0.001
20060933	8/14/2006	8/28/2006	< 0.007	0.015 +/- 0.001
20060967	8/28/2006	9/11/2006	< 0.006	0.029 +/- 0.001
20061007	9/11/2006	9/25/2006	< 0.007	0.022 +/- 0.001
20061084	9/25/2006	10/9/2006	< 0.008	0.041 +/- 0.002
20061147	10/9/2006	10/23/2006	< 0.008	0.025 +/- 0.001
20061218	10/23/2006	11/6/2006	< 0.007	0.028 +/- 0.001
20061260	11/6/2006	11/20/2006	< 0.007	0.029 +/- 0.001
20061308	11/20/2006	12/4/2006	< 0.010	0.022 +/- 0.001
20061368	12/4/2006	12/18/2006	< 0.007	0.022 +/- 0.0006

Totals:

Average:	0.023
Maximum:	0.041
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
20060004	12/19/2005	1/3/2006	< 0.007	0.023 +/- 0.001
20060050	1/3/2006	1/16/2006	< 0.007	0.021 +/- 0.001
20060100	1/16/2006	1/30/2006	< 0.007	0.018 +/- 0.001
20060181	1/30/2006	2/13/2006	< 0.006	0.018 +/- 0.001
20060242	2/13/2006	2/28/2006	< 0.005	0.020 +/- 0.001
20060277	2/28/2006	3/13/2006	< 0.007	0.025 +/- 0.001
20060325	3/13/2006	3/27/2006	< 0.008	0.020 +/- 0.001
20060406	3/27/2006	4/10/2006	< 0.005	0.020 +/- 0.001
20060476	4/10/2006	4/24/2006	< 0.007	0.013 +/- 0.001
20060546	4/24/2006	5/8/2006	< 0.007	0.022 +/- 0.001
20060573	5/8/2006	5/22/2006	< 0.008	0.020 +/- 0.001
20060601	5/22/2006	6/5/2006	< 0.006	0.022 +/- 0.001
20060673	6/5/2006	6/19/2006	< 0.007	0.029 +/- 0.001
20060718	6/19/2006	7/3/2006	< 0.007	0.022 +/- 0.001
20060778	7/3/2006	7/17/2006	< 0.008	0.011 +/- 0.001
20060841	7/17/2006	7/31/2006	< 0.008	0.012 +/- 0.001
20060879	7/31/2006	8/14/2006	< 0.007	0.015 +/- 0.001
20060934	8/14/2006	8/28/2006	< 0.005	0.016 +/- 0.001
20060968	8/28/2006	9/11/2006	< 0.008	0.030 +/- 0.001
20061008	9/11/2006	9/25/2006	< 0.010	0.023 +/- 0.001
20061085	9/25/2006	10/9/2006	< 0.007	0.039 +/- 0.002
20061148	10/9/2006	10/23/2006	< 0.008	0.022 +/- 0.001
20061219	10/23/2006	11/6/2006	< 0.006	0.026 +/- 0.001
20061261	11/6/2006	11/20/2006	< 0.007	0.026 +/- 0.001
20061309	11/20/2006	12/4/2006	< 0.010	0.022 +/- 0.001
20061369	12/4/2006	12/18/2006	< 0.009	0.022 +/- 0.0006

Totals:

Average: 0.021
Maximum: 0.039
Minimum: 0.011

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	11.72	10.25	9.89	10.03	10.47
TB1	14.57	14.17	14.07	14.11	14.23
TC1	13.20	13.22	12.58		13.00
TD1	13.66	14.49	13.60	13.74	13.87
TE1	13.09	13.22	12.95	12.90	13.04
TF1	12.18	12.58	12.67	11.79	12.30
TG1	14.57	14.38	14.16	14.57	14.42
TH1	11.61	11.31	11.10	10.49	11.13
TJ1	12.40	11.94	11.84	11.60	11.95
TK1	12.97	13.00	11.93	13.09	12.75
TL1	13.31	12.58	12.67	12.44	12.75
TM1	11.04	10.99	10.91	10.86	10.95
TN1	10.58	10.99	10.63	10.49	10.67
TP1	11.38	11.84	11.75	10.31	11.32
TQ1	9.78	8.77	9.24	9.47	9.32
TR1	10.12	15.54	8.96	9.93	11.14
MAX	14.57	15.54	14.16	14.57	14.42
AVG	12.26	12.45	11.81	11.72	12.08
MIN	9.78	8.77	8.96	9.47	9.32

SPECIAL

<u>INTEREST</u>	<u>1ST QTR</u>	<u>2ND QTR</u>	<u>3RD QTR</u>	<u>4TH QTR</u>	<u>MEAN</u>
TCS	11.45	11.24	10.73	11.51	11.23
TGS	14.23	13.96	13.60	14.11	13.97
TNS	11.45		11.34	11.42	11.40
TRS	14.23	13.64	12.77	13.74	13.59
TQS1	11.45	14.27	13.23	13.83	13.20
TQS2	14.23	10.89	11.10	11.42	11.91
MAX	14.23	14.27	13.60	14.11	13.97
AVG	12.84	12.80	12.13	12.67	12.55
MIN	11.45	10.89	10.73	11.42	11.23

<u>CONTROLS</u>	<u>1ST QTR</u>	<u>2ND QTR</u>	<u>3RD QTR</u>	<u>4TH QTR</u>	<u>MEAN</u>
TAC	13.77	15.12	14.07	14.39	14.34
TEC	12.97	13.43	12.95	12.72	13.02
MAX	13.77	15.12	14.07	14.39	14.34
AVG	13.37	14.27	13.51	13.55	13.68
MIN	12.97	13.43	12.95	12.72	13.02

	<u>INDICATOR</u>	<u>CONTROL</u>	<u>SPECIAL</u>
MAX	15.54	15.12	14.27
AVG	12.06	13.68	12.61
MIN	8.77	12.72	10.73

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
20060006	SWU	1/5/2006	< 4.68	< 5.02	< 6.36	< 6.31	< 9.23	< 4.97	< 6.78	< 4.71	< 4.67	< 5.53	< 16.95	< 5.64
20060007	SWD	1/5/2006	< 4.32	< 4.27	< 7.45	< 4.39	< 8.83	< 4.68	< 8.01	< 4.48	< 4.45	< 4.84	< 15.92	< 4.16
20060391	SWU	4/5/2006	< 4.99	< 4.43	< 10.73	< 4.12	< 7.15	< 5.67	< 7.58	< 5.16	< 5.88	< 6.37	< 17.76	< 6.56
20060392	SWD	4/5/2006	< 4.88	< 3.33	< 4.18	< 4.67	< 8.78	< 4.67	< 7.33	< 4.44	< 4.45	< 4.69	< 10.93	< 4.77
20060751	SWU	7/10/2006	< 3.47	< 4.07	< 8.99	< 4.23	< 5.39	< 4.32	< 6.42	< 4.04	< 4.11	< 4.87	< 13.53	< 4.19
20060752	SWD	7/10/2006	< 3.45	< 4.43	< 7.34	< 4.28	< 8.68	< 3.51	< 7.92	< 4.88	< 4.50	< 5.19	< 18.36	< 6.88
20061060	SWU	10/5/2006	< 5.25	< 6.80	< 7.79	< 5.33	< 6.76	< 4.96	< 8.95	< 6.13	< 5.56	< 5.85	< 19.89	< 6.12
20061061	SWD	10/5/2006	< 5.53	< 5.93	< 13.20	< 4.85	< 12.87	< 6.64	< 9.55	< 4.75	< 6.39	< 6.59	< 19.09	< 4.35
20061376	SWD	12/20/2006	< 7.46	< 8.00	< 11.64	< 5.29	< 10.23	< 8.48	< 10.55	< 7.38	< 6.67	< 6.66	< 25.21	< 8.49
20061377	SWD dup	12/20/2006	< 5.68	< 5.85	< 10.16	< 4.36	< 13.24	< 8.08	< 9.79	< 6.31	< 5.24	< 7.01	< 20.76	< 6.78

LLD (pCi/l)			3000
LAB ID	LOCATION	DATE	TRITIUM
20060006	SWU	1/5/2006	< 583.00
20060007	SWD	1/5/2006	< 595.00
20060391	SWU	4/5/2006	< 617.23
20060392	SWD	4/5/2006	< 583.32
20060751	SWU	7/10/2006	< 575.00
20060752	SWD	7/10/2006	< 571.00
20061060	SWU	10/5/2006	< 576.57
20061061	SWD	10/5/2006	< 574.74
20061376	SWD	12/20/2006	< 576.77
20061377	SWD dup	12/20/2006	< 575.98

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
20060624	WU	6/8/2006	< 6.52	< 4.76	< 13.71	< 6.56	< 14.02	< 9.00	< 11.35	< 8.47	< 6.22	< 7.03	< 23.49	< 11.74
20060625	WU DUP	6/8/2006	< 6.78	< 7.37	< 12.06	< 6.30	< 15.27	< 7.85	< 12.76	< 7.93	< 7.77	< 6.79	< 25.92	< 9.52
20060626	WD	6/8/2006	< 6.22	< 4.41	< 14.50	< 4.85	< 15.45	< 7.67	< 11.33	< 6.92	< 6.16	< 7.09	< 21.69	< 5.96
20060627	WD DUP	6/8/2006	< 7.21	< 6.37	< 11.82	< 6.46	< 8.88	< 7.53	< 9.90	< 7.56	< 7.02	< 5.76	< 22.57	< 8.96
20061333	WU	12/12/2006	< 6.69	< 5.93	< 11.13	< 6.66	< 14.41	< 8.56	< 9.22	< 6.50	< 7.09	< 6.37	< 21.75	< 13.81
20061336	WD	12/12/2006	< 4.34	< 5.43	< 7.94	< 4.90	< 12.99	< 6.24	< 9.05	< 5.88	< 6.79	< 5.08	< 18.67	< 6.72

LLD (pCi/l)			3000
LAB ID	LOCATION	DATE	TRITIUM
20060624	WU	6/8/2006	< 568
20060625	WU DUP	6/8/2006	< 586
20060626	WD	6/8/2006	< 582
20060627	WD DUP	6/8/2006	< 578
20061333	WU	12/12/2006	< 597
20061336	WD	12/12/2006	< 587

Attachment 5.1

Sample Type: **Shoreline Sediment SEDD**

Analysis: Gamma Isotopic

Units: pCi/kg, dry

LLD (pCi/kg)		150	180	
LAB ID	DATE	CS-134	CS-137	
20060385	4/4/2006	< 31.66	61.14	+/- 10.69
20060393	4/5/2006	< 31.07	76.09	+/- 11.50

Sample Type: **Shoreline Sediment SEDU**

Analysis: Gamma Isotopic

Units: pCi/kg, dry

20060386	4/4/2006	< 31.78	26.24	+/- 7.43
20060397	4/5/2006	< 28.83	66.27	+/- 11.63

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
20060084	GN1	1/26/2006	< 57.27	< 48.77	< 52.92
20060197	GQC	2/14/2006	< 22.67	< 25.96	< 22.95
20060504	GN1	4/28/2006	< 38.64	< 42.47	< 31.66
20060583	GQC	5/23/2006	< 36.32	< 42.53	< 57.31
20060813	GN1	7/25/2006	< 43.09	< 34.20	< 39.32
20060935	GQC	8/28/2006	< 58.58	< 56.71	< 52.30
20061172	GN1	10/26/2006	< 43.08	< 50.09	< 41.64
20061332	GQC	12/7/2006	< 47.91	< 40.02	< 26.34

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
20061394	FD Catfish	12/20/2006	< 19.31	< 29.70	< 36.16	< 36.41	< 48.24	< 19.99	< 22.87
20061395	FD	12/20/2006	< 27.59	< 23.62	< 68.24	< 39.43	< 73.41	< 25.05	< 29.82
20061396	FU Catfish	12/20/2006	< 16.86	< 14.24	< 51.09	< 19.94	< 43.31	< 17.54	< 16.49
20061397	FU	12/20/2006	< 18.83	< 24.68	< 46.67	< 25.02	< 48.82	< 16.79	< 20.96

Attachment 8.1

Sample Type: **Interlaboratory Comparison**

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

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)
Charcoal Cartridge (pCi/filter)	E5008-125	6/8/2006	I-131	66.4	73	1.15	0.297
Water (pCi/liter)	E5007-125	6/8/2006	BETA	169	125	-3.01	0.093
	E5006-125	6/8/2006	CR-51	210	222	0.64	0.544
			MN-54	119	129.0	0.97	0.199
			CO-58	81.2	82.0	0.11	0.436
			FE-59	75.8	77.3	0.23	0.779
			CO-60	104	105	0.15	0.227
			ZN-65	150	157	0.56	0.394
			I-131	74.7	79.7	0.77	0.211
			CS-134	103	101	-0.22	0.153
	CS-137	95.1	104	1.12	0.248		
CE-141	149.00	157	0.62	0.159			
	E5083-125	9/13/2006	H-3	11000	10926	-0.08	0.142
Air Filter (pCi/filter)	E5081-125	9/13/2006	BETA	88.4	99.2	1.41	0.058
	E5237-125	2/12/2007	CR-51	145	141	-0.33	0.277
			MN-54	171	185.3	0.97	0.104
			CO-58	77.9	79.6	0.26	0.369
			FE-59	50.2	54.6	1.01	0.745
			CO-60	491.0	493.9	0.07	0.030
			ZN-65	243	277.6	1.64	0.107
			CS-134	248.0	243.1	-0.23	0.094
			CS-137	423	443	0.54	0.028
	CE-141	145.0	125	-1.56	0.065		
Sediment (pCi/gram)	E5082-125	9/13/2006	CR-51	0.423	0.421	-0.05	0.465
			MN-54	0.169	0.169	0.02	0.163
			CO-58	0.164	0.155	-0.61	0.600
			FE-59	0.066	0.062	-0.64	0.776
			CO-60	0.201	0.182	-1.11	0.196
			ZN-65	0.218	0.210	-0.42	0.578
			CS-134	0.128	0.126	-0.15	0.185
			CS-137	0.362	0.378	0.51	0.174
CE-141	0.129	0.119	-0.90	0.275			

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)
Milk (pCi/liter)	E5009-125	6/8/2006	CR-51	259	243	-0.70	0.395
			MN-54	146	150.0	0.32	0.135
			CO-58	100	101.0	0.12	0.118
			FE-59	93.6	104.0	1.28	0.463
			CO-60	104	128	2.63	0.189
			ZN-65	185	183.0	-0.12	0.170
			I-131	63.2	60.7	-0.46	0.187
			CS-134	127	122.7	-0.39	0.062
			CS-137	117	115	-0.20	0.067
CE-141	184	184	0.02	0.150			

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; $+2.000$ is the warning limit and $+3.000$ is the control limit. This is a measure of precision of the analytical methods.

Exceptions:

There was one result outside the control limits for accuracy in the 2006 Interlaboratory Comparison program studies. The gross beta in water was 0.006% outside the Lower Control Limit.

In October 2006, a new gross beta in water sample was prepared using the same source material. The results were within the acceptance criteria for the test. This same sample was counted on a new alpha/beta counter. The results on the new machine were also within the control limits.

Review of trending information of gross beta in water results shows a fluctuation of high and low values. In 2000 there was another occurrence of gross beta in water below the control limit of 3.0. Analytics was contacted to see if there was a low bias of reporting gross beta in water by other participants. All other participant results looked normal with no low bias responses with the sample.

The low result could also have been due to machine age or an intermittent issue, but other samples counted on the same machine were within the control level. The new sample that was counted lends the most logical conclusion that a preparation error could have occurred during mixing, transfer or evaporation of the sample media. RBS will review sample preparation procedures and techniques to minimize future sample preparation technique problems.

There is no impact assessed on previously reported data due to these results. Environmental samples are analyzed and reported with a ninety-five percent confidence level. A known standard is counted with each group of samples and must read within 10 percent of the decay corrected activity. Ninety-eight percent of RBS environmental crosscheck results were within control limits for accuracy and 100% for precision during 2006.