RIVER BEND STATION - UNIT 1
SEMIANNUAL RADIOACTIVE
EFFLUENT RELEASE REPORT ADDENDUM

REPORT PERIOD: July 1, 1987 through December 31, 1987

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FACILITY: River Bend Station - Unit I

LICENSEE: Gulf States Utilities Company

REPORT PERIOD: July 1, 1987 through December 31, 1987

This addendum is submitted under River Bend Station (RBS) License Number NPF-47 and provides information that was not available or finalized when the quarter 3/4 1987 RBS Semiannual Radioactive Release report was being compiled. Specifically this addendum provides an update for the following:

1. Radiological Impact on Man, page 10.

2. Tables 4 and 5 Gaseous Effluents, Sr-89, Sr-90 Composite Results, pages 18 and 21.

3. Table 6, Liquid Effluents, Sr-89, Sr-90 and Fe-55 Composite Results, pages 25 and 26.

4. Tables 10 and 12, Doses were modified to include composite results of Fe-55 releases in liquid effluents, pages 32 and 36.

5. Table 11, All the 1987 population doses due to gaseous effluents have been revised to correct errors in the SWEC computer code POP1109E, pages 33 and 34.

It should be noted that an entry of "0.00E + 00" Ci in the following tables does not represent the absence of a radionuclide; but, rather indicates that the concentration of a particular radionuclide was below the Lower Limit of Detection (LLD).

VI. Radiological Impact on Man

The total body, skin, thyroid and other organ dose(s) to a member of the public from the uranium fuel cycle (40CFR190 compliance) calculated in accordance with the ODCM was <1 mRem.

TABLE 4 ADDENDUM

Effluent and Waste Disposal Semiannual Report 1987 Year

Gaseous Effluents - Conditionally Elevated Releases 3/4 Quarters

		Continuous Mode		Batch Mode	
Nuclides Released	Unit	Quarter 3	Quarter 4	Quarter 3	Quarter 4
3. Particulates					
Strontium-89	Ci	(1)	0.00E+00 (2)	(1)	0.00E+00 (2)
Strontium-90	Ci	(1)	0.00E+00 (2)	(1)	0.00E+00 (2)
Total for Period	Ci	(1)	1.11E-6	(1)	5.35E-09

(1) Previously Reported

(2) Quarterly composite particulate filter analysis indicates a Minimum Detectable Activity (MDA) concentration of <7.0E-16 uCi/cc for the Main Plant Exhaust Duct. This value is less than the lower Limit of Detection (LLD) of 1×10^{-11} uCi/ml as specified in table 4.11.2.1.2-1 of RBS Technical Specifications.

TABLE 5 ADDENDUM

Effluent and Waste Disposal Semiannual Report 1987 Year

Gaseous Effluents - Ground Level Releases 3/4 Quarters

		Continuous Mode		Batch Mode	
Nuclides Released	Unit	Quarter 3	Quarter 4	Quarter 3	Quarter 4
3. Particulates					
Strontium-89	Ci	(1)	0.00E+00 (2)	(1)	0.00E+00 (2)
Strontium-90	Ci	(1)	0.00E+00 (2)	(1)	0.00E+00 (2)
Total for Period	Ci	(1)	0.00E+00 (2)	(1)	0.00E+00 (2)

(1) Previously Reported

(2) Quarterly composite particulate filter analysis indicates a Minimum Detectable Activity (MDA) concentration of <5 E-16 uCi/cc for the Fuel Building Exhaust Vent and the Radwaste Building Exhaust Vent. This value is less than the Lower Limit of Detection (LLD) of 1×10^{-11} uCi/ml as specified in table 4.11.2.1.2-1 of RBS Technical Specifications.

TABLE 6 ADDENDUM

Effluent and Waste Disposal Semiannual Report 1987 Year

G. Liquid Effluent 3/4 Quarters

		Continuous Mode		Batch Mode	
Nuclides Released	Unit	Quarter 3	Quarter 4	Quarter 3	Quarter 4
Strontium-89	Ci	N/A	N/A	(1)	0.00E+00 (2)
Strontium-90	Ci	N/A	N/A	(1)	0.00E+00 (2)
Iron-55	Ci	N/A	N/A	(1)	9.18E-03
Total For Period	Ci	N/A	N/A	(1)	1.99E+00

(1) Previously Reported

(2) Analysis of quarterly composite indicates a Minimum Detectable Activity (MDA) concentration of <7.0 E-09 uCi/ml. This value is less than the Lower Limit of Detection (LLD) of 5×10^{-8} uCi/ml as specified in Table 4.11.1.1.1-1 of RBS Technical Specifications.

TABLE 10 ADDENDUM

Semi-Annual Maximum Individual Doses (Liquid)

Releases Occurring 7/1/87 through 12/31/87

Critical Receptor: Edge of Initial Mixing Zone

	Whole Body Dose (mrem)		Significant Organ Dose (mrem)		
	Critical Age	Critical Dose	Critical Age	Critical Organ	Critical Dose
3rd Quarter	Teen	8.4×10^{-3}	Adult	GI Tract	7.4×10^{-2}
4th Quarter	Teen	3.1×10^{-2}	Adult	GI Tract	3.2×10^{-1}
Semi-Annual Total*:	Teen	3.9×10^{-2}	Adult	GI Tract	3.9×10^{-1}

* Determined from individual pathway quarterly contributions, not from quarterly totals.

TABLE 11 ADDENDUM

SEMIANNUAL POPULATION DOSES (GASEOUS)
RELEASES OCCURRING 01/01/87 THROUGH 06/30/87

Pathway	Whole Body Dose (man-rem)	Thyroid Dose (man-rem)
Submersion in Noble Gases		
1st Quarter	NA	NA
2nd Quarter	3.4×10^{-4}	3.4×10^{-4}
Contaminated Ground		
1st Quarter	5.2×10^{-4}	5.2×10^{-4}
2nd Quarter	1.4×10^{-7}	1.4×10^{-7}
Inhalation		
1st Quarter	5.5×10^{-4}	1.9×10^{-3}
2nd Quarter	8.5×10^{-4}	1.0×10^{-3}
Vegetation Consumption		
1st Quarter	3.1×10^{-4}	1.4×10^{-3}
2nd Quarter	5.1×10^{-4}	6.8×10^{-4}
Cow Milk Consumption		
1st Quarter	7.8×10^{-5}	9.8×10^{-4}
2nd Quarter	1.7×10^{-4}	3.7×10^{-4}
Beef Consumption		
1st Quarter	7.3×10^{-5}	2.2×10^{-4}
2nd Quarter	1.3×10^{-4}	1.6×10^{-4}
Total:	3.5×10^{-3}	7.6×10^{-3}
Average Dose to Individuals in Population (mrem)		
1st Quarter	1.3×10^{-6}	4.3×10^{-6}
2nd Quarter	1.7×10^{-6}	2.2×10^{-6}
Total:	3.0×10^{-6}	6.5×10^{-6}

TABLE 11 ADDENDUM

SEMIANNUAL POPULATION DOSES (GASEOUS)
RELEASES OCCURRING 07/01/87 THROUGH 12/31/87

Pathway	Whole Body Dose (man-rem)	Thyroid Dose (man-rem)
Submersion in Noble Gases		
3rd Quarter	3.0×10^{-4}	3.0×10^{-4}
4th Quarter	NA	NA
Contaminated Ground		
3rd Quarter	2.4×10^{-5}	2.4×10^{-5}
4th Quarter	5.8×10^{-7}	5.8×10^{-7}
Inhalation		
3rd Quarter	4.3×10^{-4}	9.0×10^{-4}
4th Quarter	8.8×10^{-4}	9.1×10^{-4}
Vegetation Consumption		
3rd Quarter	3.1×10^{-4}	5.2×10^{-4}
4th Quarter	7.2×10^{-4}	7.7×10^{-4}
Cow Milk Consumption		
3rd Quarter	6.3×10^{-5}	3.1×10^{-4}
4th Quarter	6.2×10^{-5}	1.0×10^{-4}
Beef Consumption		
3rd Quarter	6.4×10^{-5}	1.0×10^{-4}
4th Quarter	8.5×10^{-5}	9.0×10^{-5}
Total:	2.9×10^{-3}	4.0×10^{-3}
Average Dose to Individuals in Population (mrem)		
3rd Quarter	1.0×10^{-6}	1.9×10^{-6}
4th Quarter	1.5×10^{-6}	1.6×10^{-6}
Total:	2.5×10^{-6}	3.5×10^{-6}

TABLE 12 ADDENDUM

SEMI-ANNUAL POPULATION DOSES (LIQUID)

RELEASES OCCURRING 7/1/87 THROUGH 12/31/87

Pathway	Total Body (man-rem)	Thyroid (man-rem)	Skin (man-rem)
Swimming			
3rd Qtr.:	2.1×10^{-6}	2.1×10^{-6}	2.5×10^{-6}
4th Qtr.:	3.7×10^{-6}	3.7×10^{-6}	4.4×10^{-6}
Boating			
3rd Qtr.:	4.1×10^{-6}	4.1×10^{-6}	4.9×10^{-6}
4th Qtr.:	7.3×10^{-6}	7.3×10^{-6}	8.7×10^{-6}
Portable Water			
3rd Qtr.:	5.4×10^{-5}	4.4×10^{-5}	NA
4th Qtr.:	8.1×10^{-5}	6.2×10^{-5}	
Sport Fish			
3rd Qtr.:	6.3×10^{-4}	1.8×10^{-5}	NA
4th Qtr.:	4.4×10^{-4}	6.8×10^{-6}	
Commercial Fish			
3rd Qtr.:	3.9×10^{-7}	1.4×10^{-8}	NA
4th Qtr.:	1.3×10^{-6}	2.0×10^{-8}	
Shoreline Rec.			
3rd Qtr.:	4.0×10^{-4}	4.0×10^{-4}	NA
4th Qtr.:	7.5×10^{-4}	7.5×10^{-4}	
Total:	2.4×10^{-3}	1.3×10^{-3}	2.1×10^{-5}
Average Dose to Individuals in Population (mrem)			
3rd Qtr.:	9.5×10^{-7}	4.0×10^{-7}	6.4×10^{-9}
4th Qtr.:	1.1×10^{-6}	7.1×10^{-7}	1.1×10^{-8}
Total:	2.1×10^{-6}	1.1×10^{-6}	1.8×10^{-8}