



R2-B84

Westinghouse  
Electric Company

Nuclear Fuel

P. O. Drawer R  
Columbia SC 29250  
(803) 647-1000

NRC-02-09

February 26, 2002

U. S. Nuclear Regulatory Commission  
ATTN: Regional Administrator, RII  
Region II  
61 Forsyth Street SW, Suite 23T85  
Atlanta, GA 30303

Dear Sir:

Subject: SNM-1107/70-1151

The following report fulfills regulatory requirements as listed in 10CFR 40.65 and 10CFR 70.59 "Effluent Monitoring Requirements." For the six-month period July 1, 2001 through December 31, 2001, the following quantities of radionuclides were released to the unrestricted area by the Westinghouse Electric Company's Columbia, South Carolina Nuclear Fuel Plant:

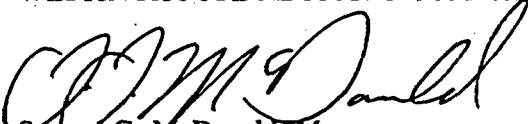
A. Gaseous	333.5 uCi Uranium (Analyzed as gross alpha)
B. Liquid Effluent	26,153.6 uCi - U-234
	923.1 uCi - U-235
	3,692.3 uCi - U-238

Gaseous effluent results were obtained from point source gross alpha analysis of stack gas effluent, and the individual radionuclide composition is inferred from the calculated average enrichment (85.0% U-234, 3.0% U-235, and 12.0% U-238). A detailed summary report by stack is provided as Attachment "A."

Liquid effluent values were obtained by analysis of composite proportional samples prior to discharge to the Congaree River and basing the activity on the calculated average enrichment. All liquid discharges are routed through a single discharge line to Congaree River. A detailed summary liquid discharge report is provided as Attachment "B."

Sincerely,

WESTINGHOUSE ELECTRIC COMPANY

  
Samuel G. McDonald, Manager  
Environment, Health and Safety

cc: U.S. NRC, (2)  
ATTN: William Gloerson  
61 Forsyth Street SW, Suite 23T85  
Atlanta, GA 30303

Director, (2)  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

Q-40

2/26/2001

Attachment "A" GASEOUS EFFLUENT DISCHARGES THROUGH DECEMBER 31, 2001

2000 SECOND HALF GASEOUS EFFLUENTS STACK IDENTIFICATION	QUANTITY RELEASED uCi URANIUM/6 months	GROSS ALPHA (URANIUM) Conc., uCi/ml	ERROR	LLD, uCi/ml	Flow Rate Meters/sec	Derived Isotopic Concentration uCi/ml			DERIVED ISOTOPIC DISCHARGE, uCi		
						U234	U235	U238	U234	U235	U238
1 FURNACE EX LINE 1	14.55	3.33E-13	+/-	6.53E-14	8.00E-14	2.83E-13	9.99E-15	3.99E-14	12.37	0.44	1.75
2 FURNACE EX LINE 2	8.22	1.43E-14	+/-	1.35E-14	8.00E-14	1.22E-14	4.29E-16	1.72E-15	5.29	0.19	0.75
3 FURNACE EX LINE 3	6.55	1.51E-13	+/-	4.40E-14	8.00E-14	1.28E-13	4.53E-15	1.81E-14	5.57	0.20	0.79
4 FURNACE EX LINE 4	5.22	1.20E-13	+/-	3.92E-14	8.00E-14	1.02E-13	3.60E-15	1.44E-14	4.44	0.16	0.63
5 FURNACE EX LINE 5	5.90	1.36E-13	+/-	4.17E-14	8.00E-14	1.16E-13	4.08E-15	1.63E-14	5.02	0.18	0.71
6 NEW DECON RM	2.81	1.09E-13	+/-	6.01E-14	8.00E-14	9.27E-14	3.27E-15	1.31E-14	2.39	0.08	0.34
7 MET LAB EX	5.94	6.85E-13	+/-	1.24E-13	8.00E-14	5.82E-13	2.06E-14	8.22E-14	5.05	0.18	0.71
8 INCINER EX	11.45	4.30E-13	+/-	8.93E-14	8.00E-14	3.66E-13	1.29E-14	5.16E-14	9.73	0.34	1.37
9 SUPPL INC EX	2.00	1.35E-13	+/-	5.27E-14	8.00E-14	1.15E-13	4.05E-15	1.62E-14	1.70	0.06	0.24
10 CONVERTS 1-A EX	13.98	2.25E-13	+/-	5.37E-14	8.00E-14	1.91E-13	6.75E-15	2.70E-14	11.88	0.42	1.68
11 CONVERSION 1-B	2.87	6.52E-13	+/-	1.04E-13	8.00E-14	7.24E-13	2.58E-14	1.02E-13	2.44	0.09	0.34
12 SCRAP REC 2-A	13.19	3.22E-13	+/-	6.42E-14	8.00E-14	2.74E-13	9.88E-15	3.88E-14	11.21	0.40	1.58
13 SCRAP REC 2-B	0.88	4.43E-13	+/-	7.53E-14	8.00E-14	3.77E-13	1.33E-14	5.32E-14	0.75	0.03	0.11
14 CONV 3-A	35.83	1.59E-12	+/-	1.43E-13	8.00E-14	1.35E-12	4.77E-14	1.91E-13	30.29	1.07	4.28
15 CONV 3-B	3.00	7.79E-13	+/-	9.99E-14	8.00E-14	6.82E-13	2.34E-14	9.35E-14	2.55	0.09	0.36
16 MAINT ENCL 4B	2.97	7.79E-13	+/-	9.99E-14	8.00E-14	6.82E-13	2.34E-14	9.35E-14	2.52	0.09	0.36
17 CONV ENCL EX 4C	16.36	2.68E-13	+/-	5.86E-14	8.00E-14	2.28E-13	8.04E-15	3.22E-14	13.91	0.49	1.96
18 CONV ENCL EX 4D	0.00	6.25E-13	+/-	8.95E-14	8.00E-14	5.31E-13	1.88E-14	7.50E-14	0.00	0.00	0.00
19 CONV EMERG EX 4E	1.38	7.61E-13	+/-	9.87E-14	8.00E-14	6.47E-13	2.28E-14	9.13E-14	1.17	0.04	0.17
20 CHEM LAB FILTERED EX	11.75	1.36E-13	+/-	4.17E-14	8.00E-14	1.16E-13	4.08E-15	1.63E-14	9.99	0.35	1.41
21 DECON ROOM EX	17.63	7.92E-13	+/-	1.01E-13	8.00E-14	6.73E-13	2.38E-14	9.50E-14	14.99	0.53	2.12
22 CAL COMBGAS LN 1	2.58	9.08E-13	+/-	1.74E-13	8.00E-14	7.72E-13	2.72E-14	1.09E-13	2.19	0.08	0.31
23 CAL COMBGAS LN 2	1.77	6.92E-13	+/-	1.52E-13	8.00E-14	5.88E-13	2.08E-14	8.30E-14	1.50	0.05	0.21
24 CAL COMBGAS LN 3	1.17	4.56E-13	+/-	1.23E-13	8.00E-14	3.88E-13	1.37E-14	5.47E-14	0.99	0.04	0.14
25 CAL COMBGAS LN 4	0.85	3.31E-13	+/-	1.05E-13	8.00E-14	2.81E-13	9.93E-15	3.97E-14	0.72	0.03	0.10
26 CAL COMBGAS LN 5	2.02	7.87E-13	+/-	1.62E-13	8.00E-14	6.69E-13	2.36E-14	9.44E-14	1.72	0.06	0.24
27 CHEM LAB # 2	6.85	7.52E-13	+/-	1.58E-13	8.00E-14	6.39E-13	2.26E-14	8.02E-14	5.82	0.21	0.82
28 CHEM LAB #3	0.66	1.32E-13	+/-	6.62E-14	8.00E-14	1.12E-13	3.96E-15	1.58E-14	0.56	0.02	0.08
29 HP LAB EX	1.24	1.35E-13	+/-	8.51E-14	8.00E-14	1.15E-13	4.05E-15	1.62E-14	1.05	0.04	0.15
30 DEV LAB 1 EX	5.78	3.88E-13	+/-	8.94E-14	8.00E-14	3.30E-13	1.16E-14	4.66E-14	4.90	0.17	0.69
31 DEV LAB 2 EX	9.69	6.56E-13	+/-	1.18E-13	8.00E-14	5.58E-13	1.97E-14	7.87E-14	8.24	0.29	1.16
32 PELLET COMBINED	6.76	9.10E-14	+/-	4.33E-14	8.00E-14	7.74E-14	2.73E-15	1.09E-14	5.75	0.20	0.81
33 SOLV X N	5.25	1.41E-13	+/-	4.25E-14	8.00E-14	1.20E-13	4.23E-15	1.69E-14	4.46	0.16	0.63
34 SOLV X S	8.33	5.61E-13	+/-	8.48E-14	8.00E-14	4.77E-13	1.68E-14	6.73E-14	7.08	0.25	1.00
35 SCRAP REC DRY	6.37	4.30E-13	+/-	9.41E-14	8.00E-14	3.88E-13	1.29E-14	5.16E-14	5.41	0.19	0.76
36 MAP COMBINED	0.00	3.65E-13	+/-	6.84E-14	8.00E-14	3.10E-13	1.10E-14	4.38E-14	0.00	0.00	0.00
37 IFBA EX	7.60	1.02E-13	+/-	4.58E-14	8.00E-14	6.67E-14	3.06E-15	1.22E-14	6.46	0.23	0.91
38 MAINT WELD EX	9.10	6.18E-13	+/-	1.13E-13	8.00E-14	5.25E-13	1.85E-14	7.42E-14	7.74	0.27	1.09
39 AC-3	31.10	5.27E-13	+/-	1.04E-13	8.00E-14	4.48E-13	1.58E-14	6.32E-14	26.44	0.93	3.73
40 BULK BLEND EX	4.95	1.13E-13	+/-	4.82E-14	8.00E-14	9.61E-14	3.39E-15	1.36E-14	4.21	0.15	0.59
41 AC-5	5.36	9.05E-14	+/-	5.48E-14	8.00E-14	7.69E-14	2.72E-15	1.09E-14	4.56	0.16	0.64
42 AC-8	4.96	8.35E-14	+/-	3.81E-14	8.00E-14	7.10E-14	2.51E-15	1.00E-14	4.22	0.15	0.60
43 AMMONIA FUME SC 1008-A	3.75	1.26E-13	+/-	5.09E-14	8.00E-14	1.07E-13	3.78E-15	1.51E-14	3.19	0.11	0.45
44 AMMONIA FUME SC 1008-B	0.00	3.02E-13	+/-	7.89E-14	8.00E-14	2.57E-13	9.08E-15	3.62E-14	0.00	0.00	0.00
45 AC-4	5.29	8.85E-14	+/-	4.22E-14	8.00E-14	7.35E-14	2.60E-15	1.04E-14	4.50	0.16	0.63
46 HOT OIL RM EX	13.80	2.26E-13	+/-	6.82E-14	8.00E-14	1.92E-13	6.78E-15	2.71E-14	11.73	0.41	1.66
47 ERBIA FURNACE EX	4.59	8.44E-14	+/-	4.17E-14	8.00E-14	7.17E-14	2.53E-15	1.01E-14	3.90	0.14	0.55
48 ERBIA SCRUBBER EX	2.43	8.44E-14	+/-	4.17E-14	8.00E-14	7.17E-14	2.53E-15	1.01E-14	2.07	0.07	0.29
49 ERBIA CHANGE ROOM	1.03	8.13E-14	+/-	4.09E-14	8.00E-14	6.91E-14	2.44E-15	9.76E-15	0.88	0.03	0.12

Total uCi 333.5

TOTAL DERIVED ISOTOPIC  
RELEASE

283.5

10.0

40.0

TOTAL:  
333.5

Westinghouse Electric Company  
NRC-02-09  
February 26, 2002

**ATTACHMENT "B"**  
**LIQUID EFFLUENT DISCHARGES**  
**SECOND HALF 2001**

- A. Report Period: July 1, through December 31, 2001  
B. Sample Location: Composite sampler at waste treatment prior to discharge to Congaree River  
C. Total Liquid Flow: 8.511 E+07 liters  
D. Sample Collection: Effluent Composite Sampler

Radioisotope	Concentration	LLD, uCi/ml	Quantity Released, uCi
	uCi/ml      Error		
U-234	2.97 E-07 +/- 2.91E-07	6.0 E-10	26,153.6
U-235	1.05 E-08 +/- 1.35E-08	6.0 E-10	923.1
U-238	4.19 E-08 +/- 1.58E-08	6.0 E-10	3,692.3
Total			30,769.0

**Note:**

1. Liquid effluent composites were analyzed by alpha spectroscopy, and significant quantities of U-236 were not detected using this method.