



Westinghouse Electric Company
Nuclear Fuel
Columbia Fuel Site
P.O. Drawer R
Columbia, South Carolina 29250
USA

Director, Office of Nuclear Material
Safety and Safeguards
ATTN: Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Direct tel: 803-647-1000

Our ref: LTR-RAC-08-56

August 27, 2008

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 January 1, 2008 through June 30, 2008, 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 | 221.6 uCi Uranium (Analyzed as gross alpha) |
| B. Liquid Effluent | 3324.5 uCi - U-234 |
| | 117.3 uCi - U-235 |
| | 469.3 uCi - U-238 |

Gaseous effluent results were obtained from point source gross alpha analysis of stack gas effluent, and the individual radionuclide activity composition (85.0% U-234, 3.0% U-235, and 12.0% U-238) is inferred from the calculated average enrichment. 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 pumped through a single discharge line to Congaree River. A detailed summary liquid discharge report is provided as Attachment "B."

Sincerely,

WESTINGHOUSE ELECTRIC COMPANY

A handwritten signature in cursive script that reads "Marc Rosser".

Marc A. Rosser, Manager
Environment, Health and Safety

cc: U.S. NRC, (2)
ATTN: Regional Administrator, RII
Region II
61 Forsyth Street SW, Suite 23T85
Atlanta, Georgia 30303

NM5501

Attachment "A" GASEOUS EFFLUENT DISCHARGES - JANUARY 1 THROUGH JUNE 30, 2008

| 2008 FIRST HALF GASEOUS EFFLUENTS STACK IDENTIFICATION | QUANTITY RELEASED | | GROSS ALPHA (URANIUM) | | LLD, uCi/ml | Flow Rate Meters/sec | Derived Isotopic Concentration uCi/ml | | | DERIVED ISOTOPIC DISCHARGE, uCi | | |
|--|----------------------|---------------|--------------------------|----------|----------------|-------------------------|--|----------|----------|---------------------------------|------|------|
| | uCi URANIUM/ 6months | Conc., uCi/ml | ERROR | | | | U234 | U235 | U238 | U234 | U235 | U238 |
| 1 FURNACE EX LINE 1 | 4.29 | 9.81E-14 | +/- | 3.55E-14 | 8.00E-14 | 2.78 | 8.34E-14 | 2.94E-15 | 1.18E-14 | 3.65 | 0.13 | 0.51 |
| 2 FURNACE EX LINE 2 | 4.47 | 1.02E-13 | +/- | 3.61E-14 | 8.00E-14 | 2.78 | 8.67E-14 | 3.06E-15 | 1.22E-14 | 3.80 | 0.13 | 0.54 |
| 3 FURNACE EX LINE 3 | 4.22 | 9.87E-14 | +/- | 3.56E-14 | 8.00E-14 | 2.78 | 8.39E-14 | 2.96E-15 | 1.18E-14 | 3.59 | 0.13 | 0.51 |
| 4 FURNACE EX LINE 4 | 4.07 | 9.30E-14 | +/- | 3.45E-14 | 8.00E-14 | 2.78 | 7.91E-14 | 2.79E-15 | 1.12E-14 | 3.46 | 0.12 | 0.49 |
| 5 FURNACE EX LINE 5 | 4.48 | 1.02E-13 | +/- | 3.61E-14 | 8.00E-14 | 2.78 | 8.67E-14 | 3.06E-15 | 1.22E-14 | 3.81 | 0.13 | 0.54 |
| 6 NEW DECON RM | 4.87 | 1.89E-13 | +/- | 7.91E-14 | 8.00E-14 | 1.64 | 1.61E-13 | 5.67E-15 | 2.27E-14 | 4.14 | 0.15 | 0.58 |
| 7 MET LAB EX | 2.25 | 2.57E-13 | +/- | 9.22E-14 | 8.00E-14 | 0.56 | 2.18E-13 | 7.71E-15 | 3.08E-14 | 1.91 | 0.07 | 0.27 |
| 8 INCINER EX | 3.70 | 1.34E-13 | +/- | 6.66E-14 | 8.00E-14 | 1.89 | 1.14E-13 | 4.02E-15 | 1.61E-14 | 3.14 | 0.11 | 0.44 |
| 9 SUPPL INC EX | 2.46 | 1.65E-13 | +/- | 7.39E-14 | 8.00E-14 | 0.94 | 1.40E-13 | 4.95E-15 | 1.98E-14 | 2.09 | 0.07 | 0.29 |
| 10 CONVERS 1-A EX | 15.49 | 2.36E-13 | +/- | 5.50E-14 | 8.00E-14 | 4.17 | 2.01E-13 | 7.08E-15 | 2.83E-14 | 13.17 | 0.46 | 1.86 |
| 11 CONVERSION 1-B | 0.02 | 3.75E-13 | +/- | 6.93E-14 | 8.00E-14 | 4.17 | 3.19E-13 | 1.13E-14 | 4.50E-14 | 0.02 | 0.00 | 0.00 |
| 12 S-1030-A | 27.06 | 2.42E-13 | +/- | 5.57E-14 | 8.00E-14 | 7.50 | 2.06E-13 | 7.26E-15 | 2.90E-14 | 23.00 | 0.81 | 3.25 |
| 13 S-1030-B | 1.63 | 3.60E-13 | +/- | 6.79E-14 | 8.00E-14 | 7.50 | 3.06E-13 | 1.08E-14 | 4.32E-14 | 1.39 | 0.05 | 0.20 |
| 14 MAINT ENCL 4B | 0.00 | 8.56E-13 | +/- | 1.05E-13 | 8.00E-14 | 3.89 | 7.28E-13 | 2.57E-14 | 1.03E-13 | 0.00 | 0.00 | 0.00 |
| 15 CONV ENCL EX 4C | 7.07 | 1.15E-13 | +/- | 3.84E-14 | 8.00E-14 | 3.89 | 9.78E-14 | 3.45E-15 | 1.38E-14 | 6.01 | 0.21 | 0.85 |
| 16 CONV ENCL EX 4D | 0.00 | 3.46E-13 | +/- | 6.66E-14 | 8.00E-14 | 3.89 | 2.94E-13 | 1.04E-14 | 4.15E-14 | 0.00 | 0.00 | 0.00 |
| 17 CONV EMERG EX 4E | 1.03 | 3.53E-13 | +/- | 6.72E-14 | 8.00E-14 | 3.89 | 3.00E-13 | 1.06E-14 | 4.24E-14 | 0.87 | 0.03 | 0.12 |
| 18 CHEM LAB FILTERED EX | 7.98 | 9.12E-14 | +/- | 3.42E-14 | 8.00E-14 | 5.56 | 7.75E-14 | 2.74E-15 | 1.09E-14 | 6.79 | 0.24 | 0.96 |
| 19 DECON ROOM EX | 14.60 | 6.54E-13 | +/- | 9.15E-14 | 8.00E-14 | 1.42 | 5.56E-13 | 1.96E-14 | 7.85E-14 | 12.41 | 0.44 | 1.75 |
| 20 CAL COMBGAS LN 1 | 0.99 | 3.83E-13 | +/- | 7.00E-14 | 8.00E-14 | 0.16 | 3.26E-13 | 1.15E-14 | 4.60E-14 | 0.84 | 0.03 | 0.12 |
| 21 CAL COMBGAS LN 2 | 0.89 | 3.42E-13 | +/- | 9.15E-14 | 8.00E-14 | 0.16 | 2.91E-13 | 1.03E-14 | 4.10E-14 | 0.75 | 0.03 | 0.11 |
| 22 CAL COMBGAS LN 3 | 0.41 | 1.59E-13 | +/- | 4.51E-14 | 8.00E-14 | 0.16 | 1.35E-13 | 4.77E-15 | 1.91E-14 | 0.35 | 0.01 | 0.05 |
| 23 CAL COMBGAS LN 4 | 0.62 | 2.41E-13 | +/- | 5.56E-14 | 8.00E-14 | 0.16 | 2.05E-13 | 7.23E-15 | 2.89E-14 | 0.53 | 0.02 | 0.07 |
| 24 CAL COMBGAS LN 5 | 1.06 | 4.09E-13 | +/- | 7.24E-14 | 8.00E-14 | 0.16 | 3.48E-13 | 1.23E-14 | 4.91E-14 | 0.90 | 0.03 | 0.13 |
| 25 CHEM LAB # 2 | 3.09 | 3.37E-13 | +/- | 6.57E-14 | 8.00E-14 | 0.16 | 2.86E-13 | 1.01E-14 | 4.04E-14 | 2.63 | 0.09 | 0.37 |
| 26 CHEM LAB #3 | 0.43 | 8.68E-14 | +/- | 3.33E-14 | 8.00E-14 | 0.58 | 7.38E-14 | 2.60E-15 | 1.04E-14 | 0.37 | 0.01 | 0.05 |
| 27 HP LAB EX | 0.85 | 9.25E-14 | +/- | 3.44E-14 | 8.00E-14 | 0.64 | 7.86E-14 | 2.78E-15 | 1.11E-14 | 0.72 | 0.03 | 0.10 |
| 28 DEV LAB 1 EX | 3.75 | 2.52E-13 | +/- | 5.68E-14 | 8.00E-14 | 0.58 | 2.14E-13 | 7.56E-15 | 3.02E-14 | 3.18 | 0.11 | 0.45 |
| 29 DEV LAB 2 EX | 2.40 | 1.61E-13 | +/- | 4.54E-14 | 8.00E-14 | 0.94 | 1.37E-13 | 4.83E-15 | 1.93E-14 | 2.04 | 0.07 | 0.29 |
| 30 PELLET COMBINED | 6.95 | 9.34E-14 | +/- | 3.46E-14 | 8.00E-14 | 0.94 | 7.94E-14 | 2.80E-15 | 1.12E-14 | 5.90 | 0.21 | 0.83 |
| 31 SOLV X N | 3.82 | 8.49E-14 | +/- | 3.30E-14 | 8.00E-14 | 4.72 | 7.22E-14 | 2.55E-15 | 1.02E-14 | 3.24 | 0.11 | 0.46 |
| 32 SOLV X S | 2.12 | 2.83E-13 | +/- | 6.02E-14 | 8.00E-14 | 3.33 | 2.41E-13 | 8.49E-15 | 3.40E-14 | 1.81 | 0.06 | 0.25 |
| 33 SCRAP REC DRY | 10.73 | 7.22E-13 | +/- | 9.62E-14 | 8.00E-14 | 3.33 | 6.14E-13 | 2.17E-14 | 8.66E-14 | 9.12 | 0.32 | 1.29 |
| 34 MAP COMBINED | 0.00 | 2.09E-13 | +/- | 5.17E-14 | 8.00E-14 | 0.94 | 1.78E-13 | 6.27E-15 | 2.51E-14 | 0.00 | 0.00 | 0.00 |
| 35 ABF HOOD TORIT EX | 2.29 | 1.03E-14 | +/- | 1.15E-14 | 8.00E-14 | 1.42 | 8.76E-15 | 3.09E-16 | 1.24E-15 | 1.94 | 0.07 | 0.27 |
| 36 IFBA EX | 6.04 | 8.13E-14 | +/- | 3.23E-14 | 8.00E-14 | 4.72 | 6.91E-14 | 2.44E-15 | 9.76E-15 | 5.13 | 0.18 | 0.72 |
| 37 MAINT WELD EX | 4.52 | 3.04E-13 | +/- | 6.24E-14 | 8.00E-14 | 0.94 | 2.58E-13 | 9.12E-15 | 3.65E-14 | 3.84 | 0.14 | 0.54 |
| 38 AC-3 | 4.92 | 8.29E-14 | +/- | 3.26E-14 | 8.00E-14 | 3.78 | 7.05E-14 | 2.49E-15 | 9.95E-15 | 4.18 | 0.15 | 0.59 |
| 39 PELLET LINE 6 | 4.05 | 9.24E-14 | +/- | 3.44E-14 | 8.00E-14 | 2.78 | 7.85E-14 | 2.77E-15 | 1.11E-14 | 3.44 | 0.12 | 0.49 |
| 40 AC-5 | 4.80 | 8.07E-14 | +/- | 3.22E-14 | 8.00E-14 | 3.78 | 6.86E-14 | 2.42E-15 | 9.68E-15 | 4.08 | 0.14 | 0.58 |
| 41 AC-8 | 5.05 | 8.50E-14 | +/- | 3.30E-14 | 8.00E-14 | 3.78 | 7.23E-14 | 2.55E-15 | 1.02E-14 | 4.30 | 0.15 | 0.61 |
| 42 AMMONIA FUME SC 1008-A | 3.96 | 1.34E-13 | +/- | 4.14E-14 | 8.00E-14 | 1.89 | 1.14E-13 | 4.02E-15 | 1.61E-14 | 3.36 | 0.12 | 0.47 |
| 43 AMMONIA FUME SC 1008-B | 0.03 | 2.01E-13 | +/- | 5.07E-14 | 8.00E-14 | 1.89 | 1.71E-13 | 6.03E-15 | 2.41E-14 | 0.03 | 0.00 | 0.00 |
| 44 AC-4 | 5.19 | 8.47E-14 | +/- | 3.29E-14 | 8.00E-14 | 3.89 | 7.20E-14 | 2.54E-15 | 1.02E-14 | 4.41 | 0.16 | 0.62 |
| 45 HOT OIL RM EX | 14.16 | 2.31E-14 | +/- | 1.72E-14 | 8.00E-14 | 3.89 | 1.96E-14 | 6.93E-16 | 2.77E-15 | 12.03 | 0.42 | 1.70 |
| 46 ERBIA FURNACE EX | 10.48 | 8.15E-14 | +/- | 3.23E-14 | 8.00E-14 | 8.17 | 6.93E-14 | 2.45E-15 | 9.78E-15 | 8.91 | 0.31 | 1.26 |
| 47 ERBIA SCRUBBER EX | 5.51 | 8.08E-14 | +/- | 3.22E-14 | 8.00E-14 | 4.33 | 6.87E-14 | 2.42E-15 | 9.70E-15 | 4.68 | 0.17 | 0.66 |
| 48 ERBIA CHANGE ROOM | 2.83 | 9.47E-14 | +/- | 3.48E-14 | 8.00E-14 | 1.90 | 8.05E-14 | 2.84E-15 | 1.14E-14 | 2.40 | 0.08 | 0.34 |

221.60

TOTAL DERIVED ISOTOPIC
RELEASE

188.4

6.6

26.6

Total
221.6

ATTACHMENT "B"
LIQUID EFFLUENT DISCHARGES
FIRST HALF 2008

- A. Report Period: January 1, through June 30, 2008
B. Sample Location: Composite Sampler at Waste Treatment, prior to discharge to Congaree River
C. Total Liquid Flow: 8.060 E+07 liters
D. Sample Collection: Effluent Composite Sampler

| Radioisotope | Concentration | | LLD, uCi/ml | Quantity Released, uCi |
|--------------|---------------|--------------|----------------|---------------------------|
| | uCi/ml | Error | | |
| U-234 | 4.12 E-08 | +/-0.26 E-08 | 6.00 E-10 | 3324.5 |
| U-235 | 0.15 E-08 | +/-0.08 E-08 | 6.00 E-10 | 117.3 |
| U-238 | 0.59 E-08 | +/-0.12 E-08 | 6.00 E-10 | 469.3 |
| Total | | | | 3911.1 |

Note:

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