



**Global Nuclear Fuel**

A Joint Venture of GE, Toshiba, & Hitachi

**Global Nuclear Fuel**

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SPM 12-010

February 28, 2012

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

Subject: Semi-Annual Effluent Monitoring Report

References: 1) NRC License SNM-1097, Docket 70-1113  
2) NRC Regulation 10CFR70.59  
3) GNF-A Semi-Annual Effluent Monitoring Report, 8/26/11

Dear Sir or Madam:

With respect to activities authorized by NRC License SNM-1097, the Global Nuclear Fuel-Americas, L.L.C. (GNF-A) facility in Wilmington, North Carolina hereby submits the semi-annual effluent monitoring report required by 10CFR70.59 for the time period of July through December 2011. Also attached is an amended effluent report for the time period January through June 2011 to correct a minor calculational error in the results provided in August 2011 (Reference 3).

If you have any questions regarding this matter, please contact me at (910) 819-5950.

Sincerely,

Scott Murray, Manager  
Licensing & Liabilities

Commitments: None

Attachments: 1) Semi-Annual Effluent Monitoring Report (July – December 2011)  
2) Semi-Annual Effluent Monitoring Report (January- June 2011, as amended)

cc: NRC Region II Administrator, Atlanta, GA  
Mary Thomas, USNRC, RII  
M.N (Nick) Baker, USNRC, NMSS  
Lee Cox, NCDHHS  
Mark Poirier, ANI

GLOBAL NUCLEAR FUEL - AMERICAS, L.L.C.  
WILMINGTON, NORTH CAROLINA

NRC LICENSE SNM 1097, DOCKET # 70-1113

**SEMI-ANNUAL EFFLUENT REPORT**

July 2011 - December 2011  
Fiscal Weeks 27-52

**I. GASEOUS EFFLUENT-PARTICULATE**

NUCLIDES	QUANTITY (Ci)	CONCENTRATION (uCi/cc)	10CFR20 APPENDIX B, TABLE 2, COLUMN 1	% of LIMIT
			LIMIT (uCi/cc)	
U234	6.25E-06	3.79E-15	5.E-14	7.59%
U235	2.43E-07	1.47E-16	6.E-14	0.25%
U236	8.70E-09	5.28E-18	6.E-14	0.01%
U238	8.23E-07	4.99E-16	6.E-14	0.83%
TOTAL U	7.33E-06			

EXHAUST VOLUME = 1.65E+15 (cc)

SAMPLING IS CONTINUOUS.

ABNORMAL RELEASES:

TOTAL NUMBER OF RELEASES = 0  
TOTAL ACTIVITY RELEASED = 0 Ci

**II. LIQUID EFFLUENT**

NUCLIDES	QUANTITY (Ci)	CONCENTRATION (uCi/cc)	10CFR20 APPENDIX B, TABLE 2, COLUMN 2	% of LIMIT
			LIMIT (uCi/cc)	
U234	1.16E-02	4.63E-08	3.E-07	15.44%
U235	4.48E-04	1.80E-09	3.E-07	0.60%
U236	1.61E-05	6.45E-11	3.E-07	0.02%
U238	1.52E-03	6.09E-09	3.E-07	2.03%
TOTAL U	1.35E-02			

SAMPLES ANALYZED ARE REPRESENTATIVE, CONTINUOUS COMPOSITE SAMPLES OF PROCESS EFFLUENT STREAM.

TOTAL VOLUME OF LIQUID EFFLUENT = 2.50E+08 (litres)

ABNORMAL RELEASES

TOTAL NUMBER OF RELEASES = 0  
TOTAL ACTIVITIES RELEASED = 0 Ci

**NOTE:** Reported values are representative of the effluent concentration at the point of release and do not consider effects of dilution from point of release to the plant site boundary.

GLOBAL NUCLEAR FUEL - AMERICAS, L.L.C.  
WILMINGTON, NORTH CAROLINA

NRC LICENSE SNM 1097, DOCKET # 70-1113

**SEMI-ANNUAL EFFLUENT REPORT - (Amended 2/24/2012)**

January 2011 - June 2011  
Fiscal Weeks 1-26

**I. GASEOUS EFFLUENT-PARTICULATE**

NUCLIDES	QUANTITY (Ci)	CONCENTRATION (uCi/cc)	10CFR20 APPENDIX B, TABLE 2, COLUMN 1	% of LIMIT
			LIMIT (uCi/cc)	
U234	7.37E-06	4.36E-15	5.E-14	8.72%
U235	2.81E-07	1.66E-16	6.E-14	0.28%
U236	1.41E-08	8.36E-18	6.E-14	0.01%
U238	9.16E-07	5.42E-16	6.E-14	0.90%
TOTAL U	8.58E-06			

EXHAUST VOLUME = 1.69E+15 (cc)

SAMPLING IS CONTINUOUS.

ABNORMAL RELEASES:

TOTAL NUMBER OF RELEASES = 0  
TOTAL ACTIVITY RELEASED = 0 Ci

**II. LIQUID EFFLUENT**

NUCLIDES	QUANTITY (Ci)	CONCENTRATION (uCi/cc)	10CFR20 APPENDIX B, TABLE 2, COLUMN 2	% of LIMIT
			LIMIT (uCi/cc)	
U234	6.08E-03	2.33E-08	3.E-07	7.75%
U235	2.32E-04	8.87E-10	3.E-07	0.30%
U236	1.16E-05	4.46E-11	3.E-07	0.01%
U238	7.56E-04	2.89E-09	3.E-07	0.96%
TOTAL U	7.08E-03			

SAMPLES ANALYZED ARE REPRESENTATIVE, CONTINUOUS COMPOSITE SAMPLES OF PROCESS EFFLUENT STREAM.

TOTAL VOLUME OF LIQUID EFFLUENT = 2.61E+08 (litres)

ABNORMAL RELEASES

TOTAL NUMBER OF RELEASES = 0  
TOTAL ACTIVITIES RELEASED = 0 Ci

**NOTE:** Reported values are representative of the effluent concentration at the point of release and do not consider effects of dilution from point of release to the plant site boundary.