

SEMI-ANNUAL EFFLUENT REPORT

Global Nuclear Fuel - Americas, LLC
Wilmington, North Carolina

January 2018 - June 2018

NRC License SNM 1097, Docket # 70-1113

Fiscal Weeks 1-26

I. GASEOUS EFFLUENT-PARTICULATE

NUCLIDES	QUANTITY (Ci)	CONCENTRATION (uCi/cc)	* APPENDIX B LIMIT (uCi/cc)	% of LIMIT	CEDE mrem	CDE (Lung) mrem
U234	9.03E-06	4.84E-15	5 E-12	0.10%	2.42E-02	2.03E-01
U235	3.81E-07	2.04E-16	6 E-12	0.00%	8.56E-04	7.14E-03
U236	2.86E-09	1.53E-18	6 E-12	0.00%	6.43E-06	5.36E-05
U238	1.35E-06	7.23E-16	6 E-12	0.01%	3.04E-03	2.53E-02
TOTAL	1.08E-05	---	---	---	2.81E-02	2.36E-01

EXHAUST VOLUME = 1.87E+15 (cc)

II. LIQUID EFFLUENT

NUCLIDES	QUANTITY (Ci)	CONCENTRATION (uCi/cc)	* APPENDIX B LIMIT (uCi/cc)	% of LIMIT	CEDE (mrem)	CDE (Lung) (mrem)	CDE (Bone Surface) (mrem)
U234	3.41E-03	1.62E-08	3 E-07	5.39%	1.18E-06	7.44E-07	1.71E-05
U235	1.44E-04	6.81E-10	3 E-07	0.23%	7.09E-08	4.50E-08	1.03E-06
U236	1.08E-06	5.12E-12	3 E-07	0.00%	3.53E-10	2.25E-10	5.12E-09
U238	5.09E-04	2.42E-09	3 E-07	0.81%	1.59E-07	1.01E-07	2.31E-06
TOTAL U	4.06E-03	---	---	---	1.41E-06	8.90E-07	2.05E-05

TOTAL VOLUME OF LIQUID EFFLUENT = 2.11E+08 (litres)

III. ABNORMAL RELEASES

	Air	Water	Total
# Releases	0	0	0
Activity Released (Ci)	0	0	0

IV. SUMMARY

	** Max Release (uCi/cc)	CEDE, total (mrem)	CDE (Lung), total (mrem)
Value	1.62E-08	2.81E-02	2.36E-01
Limit	3.00E-07	25	25
% of Limit	5.39%	0.11%	0.94%

* Limit from 10 CFR 20 Appendix B, Table 2, Columns 1 and 2. Air limit adjusted to reflect NRC License SNM-1097, Section 1.3.9.

** From nuclide with release that is the largest percentage of its release limit.

NOTES:

Air sampling is continuous. Water samples analyzed are representative, continuous composite samples of the process effluent stream.

Reported effluent concentration 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.