

# SEMI-ANNUAL EFFLUENT REPORT

Global Nuclear Fuel - Americas, LLC  
 Wilmington, North Carolina

July 2017 - December 2017

NRC License SNM 1097, Docket # 70-1113

Fiscal Weeks 27-52

## I. AIR EFFLUENT - PARTICULATE

NUCLIDES	QUANTITY (Ci)	CONCENTRATION (uCi/cc)	* APPENDIX B LIMIT (uCi/cc)	% of LIMIT	CEDE mrem	CDE (Lung) mrem
U234	7.42E-06	3.98E-15	5 E-12	0.08%	1.99E-02	1.67E-01
U235	3.21E-07	1.72E-16	6 E-12	0.00%	7.24E-04	6.03E-03
U236	4.97E-09	2.67E-18	6 E-12	0.00%	1.12E-05	9.34E-05
U238	1.17E-06	6.26E-16	6 E-12	0.01%	2.63E-03	2.19E-02
<b>TOTAL</b>	<b>8.91E-06</b>	---	---	---	<b>0.0232</b>	<b>0.195</b>

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	3.63E-03	1.81E-08	3 E-7	6.02%	1.32E-06	8.31E-07	1.91E-05
U235	1.57E-04	7.83E-10	3 E-7	0.26%	8.14E-08	5.17E-08	1.18E-06
U236	2.43E-06	1.21E-11	3 E-7	0.00%	8.36E-10	5.33E-10	1.21E-08
U238	5.70E-04	2.84E-09	3 E-7	0.95%	1.88E-07	1.19E-07	2.72E-06
<b>TOTAL U</b>	<b>4.36E-03</b>	---	---	---	<b>1.59E-06</b>	<b>1.00E-06</b>	<b>2.30E-05</b>

TOTAL VOLUME OF LIQUID EFFLUENT = 2.01E+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	<b>1.81E-08</b>	<b>2.33E-02</b>	<b>1.95E-01</b>
Limit	<b>3.00E-07</b>	<b>25</b>	<b>25</b>
% of Limit	<b>6.02%</b>	<b>0.09%</b>	<b>0.78%</b>

\* 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 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.