

FEB 28 2018

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

Louisiana Energy Services, LLC  
URENCO USA Facility  
NRC Docket No. 70-3103

Subject: Semi-Annual Radiological Effluent Release Report for July 1, 2017 through  
December 31, 2017

Pursuant to 10 CFR 70.59, Louisiana Energy Services, LLC, dba URENCO USA,  
herewith submits the subject report. Enclosure 1 specifies the quantities released of  
licensed principal radionuclides in liquid or gaseous form, to uncontrolled areas.

Should you have any questions regarding this request, please contact Wyatt Padgett,  
Licensing and Performance Assessment Manager, at 575.394.5257.

Respectfully,



Stephen Cowne  
Chief Nuclear Officer and Compliance Manager

Enclosures:

1. Semi-Annual Radiological Effluent Release Report for July 1, 2017  
through December 31, 2017

IE48  
NMSS20  
NMSS

**ENCLOSURE 1**

**Semi-Annual Radiological Effluent Release Report for  
July 1, 2017 through December 31, 2017**

## URENCO USA: Report of Radioactivity in Effluents: Liquid & Air: July 2017 - December 2017

There were no releases to the public during the reporting period that exceeded regulatory requirements. Detected isotopic uranium activities were comparable to pre-operational activities. No dose assessment was performed because the maximum potential dose directly at the point of gaseous and liquid effluent discharge points were acceptable. The potential maximum doses directly at the discharge points for both liquid and gaseous effluent were shown to be less than 10% of the radionuclide concentrations.

In liquid effluent, the concentrations of isotopic uranium was either below the Minimum Detectable Concentration (MDC) or less than 10% of values listed in 10 CFR 20, Appendix B, Table 3, "Releases to Sewers" (Table 1-1).

In gaseous effluent, the gross uranium activity was either below the Minimum Detectable Activity (MDA) or less than 10% of values listed in 10 CFR 20, Appendix B, Table 2, "Effluent Concentrations – Class D Air" for U234, U235, and U238 (Attachment 2, Tables 2-23, 2-24, 2-25, 2-26, 2-27).

The concentrations of isotopic uranium in gaseous effluent was either below the Minimum Detectable Concentration (MDC) or less than 10% of values listed in 10 CFR 20.1301, 10 CFR 20.1302, and 10 CFR 20.1101(d), as described in NRC Regulatory Guide 4.20 "Constraint on Releases of Airborne Radioactive Materials to the Environment for Licensees other than Power Reactors" dated December 1996.

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**TABLE 1-1**

Lift Station 1 Wastewater Effluent – Radionuclides, Quarters 3 &amp; 4, 2017 URENCO USA Lea County, New Mexico

Radionuclide	Sample Date	Sample Period	Total Time days	Results μCi/ml	Counting Unc. μCi/ml	Total Flow* gallons/day	Quantity Released Ci	% of Table 3 Appendix B 10 CFR 20
Lift Station 1 - July - December 2017								
Uranium - 233/234	10/11/2017	07/01/2017 – 12/31/2017		2.50E-10	3.00E-11	13,000	Result Below LLD	Result Below LLD
Uranium - 235/236				0.00E+00	0.00E+00	13,000	Result Below LLD	Result Below LLD
Uranium - 238				1.50E-10	2.00E-11	13,000	Result Below LLD	Result Below LLD
Lift Station 1 Duplicate - July - December 2017								
Uranium - 233/234	10/11/2017	07/01/2017 – 12/31/2017		2.10E-10	4.00E-11	13,000	Result Below LLD	Result Below LLD
Uranium - 235/236				0.00E+00	0.00E+00	13,000	Result Below LLD	Result Below LLD
Uranium - 238				1.20E-10	3.00E-11	13,000	Result Below LLD	Result Below LLD

**Notes:**

\* Table 3.4-4 "Anticipated Normal Plant Water Consumption" from the Environmental Report, Rev. 19, lists "Total Personnel Water Use" as approximately 13,000 gallons per day.



TABLE 1-2

Separations Building Module-1001 (SBM 1001): Pumped Extract Exhaust Gaseous Effluent Vent System, 1001-562-1MA1 & 1001-562-1MA2 Gross Alpha & Beta, and Radionuclides: Quarters 3 & 4, 2017 URENCO USA Lea County, New Mexico.

Sample ID	Sample Date	Sample Period	Analyte	Gross Result μCi/ml	MDA / MDC μCi/ml	Inst. Unc. μCi/ml	Total Flow m3	Quantity Released Ci	% of Table 2 Appendix B 10CFR 20
1001-562-1MA1									
1001-562-1MA1 070317	7/31/17	7/3/17 – 7/31/17	Gross Alpha	-5.30E-17	5.64E-16	1.18E-16	4.29E+05	<MDA	<MDA
1001-562-1MA1 073117	9/1/17	7/31/17 – 9/1/17		-6.35E-17	6.76E-16	1.41E-16	4.87E+05	<MDA	<MDA
1001-562-1MA1 090117	10/4/17	9/1/17 – 10/4/17		-6.25E-17	6.64E-16	1.39E-16	5.04E+05	<MDA	<MDA
1001-562-1MA1 100417	11/1/17	10/4/17-11/1/17		2.66E-17	7.20E-17	2.66E-17	4.29E+05	<MDA	<MDA
1001-562-1MA1 110117	12/1/17	11/1/17–12/1/17		0.00E+00	6.70E-17	0.00E+00	4.55E+05	<MDA	<MDA
1001-562-1MA1 120117	1/12/18	12/1/17-1/12/18		0.00E+00	4.55E-17	0.00E+00	6.56E+05	<MDA	<MDA
1001-562-1MA1 070317	7/31/17	7/3/17 – 7/31/17	Gross Beta	3.42E-15	2.55E-15	1.00E-15	4.29E+05	1.47E-09	0.11%
1001-562-1MA1 073117	9/1/17	7/31/17 – 9/1/17		6.91E-15	3.05E-15	1.43E-15	4.87E+05	3.37E-09	0.23%
1001-562-1MA1 090117	10/4/17	9/1/17 – 10/4/17		6.16E-15	3.00E-15	1.36E-15	5.04E+05	3.10E-09	0.21%
1001-562-1MA1 100417	11/1/17	10/4/17-11/1/17		6.39E-16	3.75E-16	1.59E-16	4.29E+05	2.74E-10	0.021%
1001-562-1MA1 110117	12/1/17	11/1/17–12/1/17		4.70E-16	3.49E-16	1.38E-16	4.55E+05	2.14E-10	0.016%
1001-562-1MA1 120117	1/12/18	12/1/17-1/12/18		3.37E-16	2.37E-16	9.40E-17	6.56E+05	2.21E-10	0.011%
1001-562-1MA2									
1001-562-1MA2 070317	7/31/17	7/3/17 – 7/31/17	Gross Alpha	-9.91E-08	5.74E-16	1.20E-16	4.50E+05	<MDA	<MDA
1001-562-1MA2 073117	9/1/17	7/31/17 – 9/1/17		-1.26E-07	4.83E-16	9.06E-17	5.09E+05	<MDA	<MDA
1001-562-1MA2 090117	10/4/17	9/1/17 – 10/4/17		-1.26E-07	4.79E-16	9.00E-17	5.25E+05	<MDA	<MDA
1001-562-1MA2 100417	11/1/17	10/4/17-11/1/17		4.51E-08	5.04E-17	2.64E-17	4.45E+05	<MDA	<MDA
1001-562-1MA2 110117	12/1/17	11/1/17-12/1/18		0.00E+00	4.30E-17	0.00E+00	4.77E+05	<MDA	<MDA
1001-562-1MA2 120117	1/12/18	12/1/18-1/12/18		4.51E-08	3.35E-17	1.75E-17	6.67E+05	<MDA	<MDA
1001-562-1MA2 070317	7/31/17	7/3/17 – 7/31/17	Gross Beta	5.36E-06	2.59E-15	1.21E-15	4.50E+05	2.06E-09	0.15%
1001-562-1MA2 073117	9/1/17	7/31/17 – 9/1/17		3.64E-06	2.18E-15	8.27E-16	5.09E+05	1.33E-09	0.09%
1001-562-1MA2 090117	10/4/17	9/1/17 – 10/4/17		3.43E-06	2.16E-15	8.14E-16	5.25E+05	1.29E-09	0.08%
1001-562-1MA2 100417	11/1/17	10/4/17-11/1/17		5.18E-07	2.63E-16	1.12E-16	4.45E+05	1.90E-10	0.014%
1001-562-1MA2 110117	12/1/17	11/1/17-12/1/18		5.86E-07	2.24E-16	9.86E-17	4.77E+05	1.97E-10	0.014%
1001-562-1MA2 120117	1/12/18	12/1/18-1/12/18		6.76E-07	1.75E-16	7.97E-17	6.67E+05	2.48E-10	0.012%
Radionuclide (Isotopic Uranium (U))	Sample Date	Sample Period	Result μCi/ml	2σ TPU (μCi/ml)	1σ TPU μCi/ml	MDC (μCi/ml)	Total Flow m3	Quantity Released Ci	% of Table 2 Appendix B 10CFR 20
1001-562-1MA1									
U-233/234	3 Qtr.	10/4/17	7/3/17–10/4/17	2.55E-17	1.07E-17	5.43E-18	8.14E-18	0.00	0.001%
U- 235/236				-1.05E-18	2.91E-18	1.49E-18	1.00E-17	<MDC	<MDC
U-238				2.28E-17	9.84E-18	5.02E-18	6.48E-18	0.00	0.001%
U-233/234	4 Qtr.	1/12/18	10/4/17-1/12/18	7.74E-17	9.58E-17	9.59E-17	1.46E-16	<MDC	<MDC
U- 235/236				7.37E-17	1.06E-16	1.06E-16	1.73E-16	<MDC	<MDC
U-238				8.79E-17	9.47E-17	9.49E-17	1.27E-16	<MDC	<MDC
1001-562-1MA2									
U-233/234	3 Qtr.	10/4/17	7/3/17–10/4/17	1.17E-17	1.34E-17	6.84E-18	2.24E-17	<MDC	<MDC
U- 235/236				-3.61E-18	1.01E-17	5.14E-18	3.46E-17	<MDC	<MDC
U-238				3.78E-17	2.49E-17	1.27E-17	2.23E-17	0.00	0.001%
U-233/234	4 Qtr.	1/12/18	10/4/17-1/12/18	1.02E-16	7.24E-17	7.27E-17	6.33E-17	0.00	0.003%
U- 235/236				4.21E-17	5.10E-17	5.11E-17	6.21E-17	<MDC	<MDC
U-238				1.30E-16	7.98E-17	8.03E-17	5.01E-17	0.00	0.004%



TABLE 1-3

Separations Building Module-1003 (SBM 1003): Pumped Extract Exhaust Gaseous Effluent Vent System, 1003-562-1MA1 & 1003-562-1MA2 Gross Alpha & Beta, and Radionuclides: Quarters 3 & 4, 2017 URENCO USA Lea County, New Mexico

Sample ID	Sample Date	Sample Period	Analyte	Gross Result μCi/ml	MDA / MDC μCi/ml	Inst. Unc. μCi/ml	Total Flow m3	Quantity Released Ci	% of Table 2 Appendix B 10CFR 20	
1003-562-1MA1										
1003-562-1MA1 070317	7/31/2017	7/3/17 - 7/31/17	Gross Alpha	-5.01E-17	5.33E-16	1.11E-16	1.69E+07	<MDA	<MDA	
1003-562-1MA1 073117	9/1/2017	7/31/17 - 9/1/17		-4.44E-17	4.73E-16	9.86E-17	1.88E+07	<MDA	<MDA	
1003-562-1MA1 090117	10/4/2017	9/1/17 - 10/4/17		-4.41E-17	4.69E-16	9.79E-17	1.94E+07	<MDA	<MDA	
1003-562-1MA1 100417	11/1/2017	10/4/17-11/1/17		0.00E+00	5.00E-17	0.00E+00	1.66E+07	<MDA	<MDA	
1003-562-1MA1 110117	12/1/2017	11/1/17-12/1/17		3.44E-17	4.66E-17	2.44E-17	1.80E+07	<MDA	<MDA	
1003-562-1MA1 120117	1/3/2018	12/1/17 - 1/3/18		0.00E+00	4.27E-17	0.00E+00	2.00E+07	<MDA	<MDA	
1003-562-1MA1 070317	7/31/2017	7/3/17 - 7/31/17	Gross Beta	4.25E-15	2.40E-15	1.04E-15	1.69E+07	2.04E-09	0.142%	
1003-562-1MA1 073117	9/1/2017	7/31/17 - 9/1/17		3.77E-15	2.13E-15	9.23E-16	1.88E+07	2.01E-09	0.126%	
1003-562-1MA1 090117	10/4/2017	9/1/17 - 10/4/17		4.90E-15	2.12E-15	1.05E-15	1.94E+07	2.69E-09	0.163%	
1003-562-1MA1 100417	11/1/2017	10/4/17-11/1/17		5.72E-16	2.61E-16	1.22E-16	1.66E+07	2.70E-10	0.019%	
1003-562-1MA1 110117	12/1/2017	11/1/17-12/1/17		3.61E-16	2.43E-16	1.00E-16	1.80E+07	1.84E-10	0.012%	
1003-562-1MA1 120117	1/3/2018	12/1/17 - 1/3/18		3.62E-16	2.22E-16	9.44E-17	2.00E+07	2.05E-10	0.012%	
1003-562-1MA2										
1003-562-1MA2 070317	7/31/2017	7/3/17 - 7/31/17	Gross Alpha	-1.01E-16	5.37E-16	1.01E-16	1.76E+07	<MDA	<MDA	
1003-562-1MA2 073117	9/1/2017	7/31/17 - 9/1/17		8.87E-17	4.73E-16	1.24E-16	2.01E+07	<MDA	<MDA	
1003-562-1MA2 090117	10/4/2017	9/1/17 - 10/4/17		-4.38E-17	4.66E-16	9.72E-17	2.03E+07	<MDA	<MDA	
1003-562-1MA2 100417	11/1/2017	10/4/17-11/1/17		3.64E-17	4.92E-17	2.57E-17	1.74E+07	<MDA	<MDA	
1003-562-1MA2 070317	7/31/2017	7/3/17 - 7/31/17	Gross Beta	2.58E-15	2.42E-15	8.88E-16	4.98E+05	1.28E-09	0.086%	
1003-562-1MA2 073117	9/1/2017	7/31/17 - 9/1/17		2.87E-15	2.13E-15	8.38E-16	5.68E+05	1.63E-09	0.096%	
1003-562-1MA2 090117	10/4/2017	9/1/17 - 10/4/17		4.32E-15	2.10E-15	9.51E-16	5.76E+05	2.49E-09	0.144%	
1003-562-1MA2 100417	11/1/2017	10/4/17-11/1/17		5.27E-16	2.56E-16	1.16E-16	4.93E+05	2.60E-10	0.018%	
Radionuclide (Isotopic Uranium (U))	Sample Date	Sample Period	Result μCi/ml	2σ TPU (μCi/ml)	1σ TPU μCi/ml	MDC (μCi/ml)	Total Flow m3	Quantity Released Ci	% of Table 2 Appendix B 10CFR 20	
1003-562-1MA1										
U-233/234	3 Qtr.	10/4/2017	7/3/17 - 10/4/17	2.69E-17	1.08E-17	5.51E-18	6.24E-18	1.56E+06	0.00	0.001%
U- 235/236				1.00E-18	2.79E-18	1.42E-18	7.70E-18	<MDC	<MDC	
U-238				2.35E-17	9.94E-18	5.07E-18	6.21E-18	0.00	0.001%	
U-233/234	4 Qtr.	1/3/2018	10/4/17-1/3/18	1.06E-16	5.45E-17	5.50E-17	3.93E-17	1.55E+06	0.00	0.004%
U- 235/236				1.07E-17	2.31E-17	2.31E-17	4.56E-17	<MDC	<MDC	
U-238				1.10E-16	5.42E-17	5.47E-17	2.72E-17	0.00	0.004%	
1003-562-1MA2										
U-233/234	3 Qtr.	10/4/2017	7/3/17- 10/4/17	2.12E-17	8.70E-18	4.44E-18	8.15E-18	1.64E+06	0.00	0.001%
U- 235/236				1.63E-18	2.79E-18	1.42E-18	6.25E-18	<MDC	<MDC	
U-238				2.11E-17	8.47E-18	4.32E-18	6.32E-18	0.00	0.001%	
U-233/234	4 Qtr.	11/1/2017	10/4/17-11/1/17	3.50E-16	2.01E-16	2.02E-16	1.76E-16	4.93E+05	0.00	0.012%
U- 235/236				2.69E-17	6.65E-17	6.65E-17	1.90E-16	<MDC	<MDC	
U-238				2.76E-16	1.86E-16	1.87E-16	2.04E-16	0.00	0.009%	



TABLE 1-4

Separations Building Module-1005 (SBM 1005): Pumped Extract Exhaust Gaseous Effluent Vent System, 1005-562-1MA1 & 1005-562-1MA2 Gross Alpha & Beta, and Radionuclides: Quarters 3 & 4, 2017 URENCO USA Lea County, New Mexico

Sample ID	Sample Date	Sample Period	Analyte	Gross Result μCi/ml	MDA / MDC μCi/ml	Inst. Unc. μCi/ml	Total Flow m3	Quantity Released Ci	% of Table 2 Appendix B 10CFR 20	
1005-562-1MA1										
1005-562-1MA1 070317	7/31/2017	7/3/17 - 7/31/17	Gross Alpha	0.00E+00	6.64E-16	1.51E-16	8.12E+05	<MDA	<MDA	
1005-562-1MA1 073117	9/1/2017	7/31/17 - 9/1/17		1.43E-16	7.62E-16	2.00E-16	9.37E+05	<MDA	<MDA	
1005-562-1MA1 090117	10/4/2017	9/1/17 - 10/4/17		0.00E+00	7.64E-16	1.74E-16	9.70E+05	<MDA	<MDA	
1005-562-1MA1 100417	11/1/2017	10/4/17- 11/1/17		0.00E+00	4.21E-16	0.00E+00	8.22E+05	<MDA	<MDA	
1005-562-1MA1 110117	12/1/2017	11/1/17- 12/1/17		2.79E-17	7.57E-17	2.79E-17	8.89E+05	<MDA	<MDA	
1005-562-1MA1 120117	1/3/2018	12/1/17 - 1/3/18		2.57E-17	6.96E-17	2.57E-17	9.75E+05	<MDA	<MDA	
1005-562-1MA1 070317	7/31/2017	7/3/17 - 7/31/17	Gross Beta	8.92E-15	3.00E-15	1.56E-15	8.12E+05	7.24E-09	0.297%	
1005-562-1MA1 073117	9/1/2017	7/31/17 - 9/1/17		4.31E-15	3.44E-15	1.41E-15	9.37E+05	4.04E-09	0.144%	
1005-562-1MA1 090117	10/4/2017	9/1/17 - 10/4/17		8.06E-15	3.45E-15	1.64E-15	9.70E+05	7.82E-09	0.269%	
1005-562-1MA1 100417	11/1/2017	10/4/17- 11/1/17		3.26E-15	2.19E-15	9.03E-16	8.22E+05	2.68E-09	0.109%	
1005-562-1MA1 110117	12/1/2017	11/1/17- 12/1/17		6.43E-16	3.95E-16	1.67E-16	8.89E+05	5.72E-10	0.021%	
1005-562-1MA1 120117	1/3/2018	12/1/17 - 1/3/18		6.94E-16	3.63E-16	1.60E-16	9.75E+05	6.77E-10	0.023%	
1005-562-1MA2										
1005-562-1MA2 070317	7/31/2017	7/3/17 - 7/31/17	Gross Alpha	-6.38E-17	6.78E-16	1.42E-16	8.12E+05	<MDA	<MDA	
1005-562-1MA2 073117	9/1/2017	7/31/17 - 9/1/17		-1.12E-16	5.94E-16	1.12E-16	9.48E+05	<MDA	<MDA	
1005-562-1MA2 090117	10/4/2017	9/1/17 - 10/4/17		-1.02E-16	5.41E-16	1.13E-16	9.78E+05	<MDA	<MDA	
1005-562-1MA2 100417	11/1/2017	10/4/17- 11/1/17		2.14E-17	5.81E-17	2.14E-17	8.33E+05	<MDA	<MDA	
1005-562-1MA2 110117	12/1/2017	11/1/17- 12/1/17		1.97E-17	5.35E-17	1.97E-17	8.97E+05	<MDA	<MDA	
1005-562-1MA2 120117	1/3/2018	12/1/17 - 1/3/18		3.55E-17	4.80E-17	2.51E-17	9.91E+05	<MDA	<MDA	
1005-562-1MA2 070317	7/31/2017	7/3/17 - 7/31/17	Gross Beta	5.42E-15	3.06E-15	1.32E-15	8.12E+05	4.40E-09	0.181%	
1005-562-1MA2 073117	9/1/2017	7/31/17 - 9/1/17		4.74E-15	2.68E-15	1.16E-15	9.48E+05	4.50E-09	0.158%	
1005-562-1MA2 090117	10/4/2017	9/1/17 - 10/4/17		5.40E-15	2.44E-15	1.23E-15	9.78E+05	5.28E-09	0.180%	
1005-562-1MA2 100417	11/1/2017	10/4/17- 11/1/17		3.43E-16	3.03E-16	1.16E-16	8.33E+05	2.86E-10	0.011%	
1005-562-1MA2 110117	12/1/2017	11/1/17- 12/1/17		4.35E-16	2.79E-16	1.15E-16	8.97E+05	3.90E-10	0.015%	
1005-562-1MA2 120117	1/3/2018	12/1/17 - 1/3/18		2.13E-16	2.50E-16	8.90E-17	9.91E+05	<MDA	<MDA	
Radionuclide (Isotopic Uranium (U))	Sample Date	Sample Period	Result μCi/ml	2σ TPU (μCi/ml)	1σ TPU μCi/ml	MDC (μCi/ml)	Total Flow m3	Quantity Released Ci	% of Table 2 Appendix B 10CFR 20	
1005-562-1MA1										
U-233/234	3 Qtr.	10/4/2017	7/3/17- 10/4/17	2.86E-17	1.17E-17	5.95E-18	7.30E-18	2.72E+06	0.00	0.001%
U- 235/236				4.70E-18	5.23E-18	2.67E-18	9.01E-18		<MDC	<MDC
U-238				2.75E-17	1.14E-17	5.81E-18	7.27E-18		0.00	0.001%
U-233/234	4 Qtr.	1/3/2018	10/4/17- 1/3/18	3.16E-16	1.38E-16	1.40E-16	7.98E-17	2.69E+06	0.00	0.011%
U- 235/236				-1.19E-17	3.62E-17	3.62E-17	9.85E-17		<MDC	<MDC
U-238				2.56E-16	1.24E-16	1.25E-16	8.43E-17		0.00	0.009%
1005-562-1MA2										
U-233/234	3 Qtr.	10/4/2017	7/3/17- 10/4/17	2.69E-17	1.19E-17	6.05E-18	9.56E-18	2.74E+06	0.00	0.001%
U- 235/236				-1.23E-18	3.42E-18	1.74E-18	1.18E-17		<MDC	<MDC
U-238				2.58E-17	1.14E-17	5.81E-18	7.61E-18		0.00	0.001%
U-233/234	4 Qtr.	1/3/2018	10/4/17- 1/3/18	1.55E-16	6.86E-17	6.95E-17	4.90E-17	2.72E+06	0.00	0.005%
U- 235/236				2.97E-17	3.39E-17	3.39E-17	4.47E-17		<MDC	<MDC
U-238				1.01E-16	5.53E-17	5.58E-17	4.71E-17		0.00	0.003%



TABLE 1-5

Container Receipt and Dispatch Building-1100 (SBM 1100): Local Extract Exhaust Gaseous Effluent Vent System, 1100-562-1MA1 & 1100-562-1MA2, Gross Alpha & Beta, and Radionuclides: Quarters 3 & 4, 2017 URENCO USA Lea County, New Mexico

Sample ID	Sample Date	Sample Period	Analyte	Gross Result μCi/ml	MDA / MDC μCi/ml	Inst. Unc. μCi/ml	Total Flow m3	Quantity Released Ci	% of Table 2 Appendix B 10CFR 20	
1100-562-1MA1										
1100-562-1MA1 070317	7/31/2017	7/3/17 - 7/31/17	Gross Alpha	-1.11E-16	5.89E-16	1.23E-16	6.29E+05	<MDA	<MDA	
1100-562-1MA1 073117	9/1/2017	7/31/17 - 9/1/17		4.85E-17	5.16E-16	1.28E-16	6.32E+05	<MDA	<MDA	
1100-562-1MA1 090117	10/3/2017	9/1/17 - 10/3/17		-9.84E-17	5.24E-16	9.84E-17	6.16E+05	<MDA	<MDA	
1100-562-1MA1 100317	11/1/2017	10/3/17 - 11/1/17		1.96E-17	5.30E-17	1.96E-17	5.54E+05	<MDA	<MDA	
1100-562-1MA1 110117	12/1/2017	11/1/17 - 12/1/17		2.10E-17	5.70E-17	2.10E-17	1.28E+05	<MDA	<MDA	
1100-562-1MA1 120117	1/3/2018	12/1/17 - 1/3/18		0.00E+00	4.59E-17	0.00E+00	5.76E+05	<MDA	<MDA	
1100-562-1MA1 070317	7/31/2017	7/3/17 - 7/31/17	Gross Beta	3.61E-15	2.66E-15	1.17E-15	6.29E+05	2.27E-09	0.120%	
1100-562-1MA1 073117	9/1/2017	7/31/17 - 9/1/17		4.95E-15	2.33E-15	1.07E-15	6.32E+05	3.13E-09	0.165%	
1100-562-1MA1 090117	10/3/2017	9/1/17 - 10/3/17		4.70E-15	2.37E-15	1.06E-15	6.16E+05	2.89E-09	0.157%	
1100-562-1MA1 100317	11/1/2017	10/3/17 - 11/1/17		3.72E-16	2.77E-16	1.10E-16	5.54E+05	2.06E-10	0.012%	
1100-562-1MA1 110117	12/1/2017	11/1/17 - 12/1/17		7.36E-16	2.97E-16	1.43E-16	1.28E+05	9.41E-11	0.025%	
1100-562-1MA1 120117	1/3/2018	12/1/17 - 1/3/18		4.41E-16	2.39E-16	1.05E-16	5.76E+05	2.54E-10	0.015%	
1100-562-1MA2										
1100-562-1MA2 070317	7/31/2017	7/3/17 - 7/31/17	Gross Alpha	-5.54E-17	5.89E-16	1.23E-16	6.29E+05	<MDA	<MDA	
1100-562-1MA2 073117	9/1/2017	7/31/17 - 9/1/17		1.49E-16	7.95E-16	2.09E-16	3.83E+05	<MDA	<MDA	
1100-562-1MA2 090117	10/3/2017	9/1/17 - 10/3/17		-2.30E-16	1.23E-15	2.30E-16	3.78E+05	<MDA	<MDA	
1100-562-1MA2 100317	11/1/2017	10/3/17 - 11/1/17		0.00E+00	7.59E-17	0.00E+00	3.46E+05	<MDA	<MDA	
1100-562-1MA2 110117	12/1/2017	11/1/17 - 12/1/17		4.52E-17	6.11E-17	3.20E-17	5.52E+05	<MDA	<MDA	
1100-562-1MA2 120117	1/3/2018	12/1/17 - 1/3/18		1.96E-17	5.30E-17	1.96E-17	7.29E+05	<MDA	<MDA	
1100-562-1MA2 070317	7/31/2017	7/3/17 - 7/31/17	Gross Beta	5.08E-15	2.66E-15	1.18E-15	6.29E+05	3.20E-09	0.169%	
1100-562-1MA2 073117	9/1/2017	7/31/17 - 9/1/17		6.35E-15	3.59E-15	1.55E-15	3.83E+05	2.43E-09	0.212%	
1100-562-1MA2 090117	10/3/2017	9/1/17 - 10/3/17		8.24E-15	5.54E-15	2.25E-15	3.78E+05	3.11E-09	0.275%	
1100-562-1MA2 100317	11/1/2017	10/3/17 - 11/1/17		4.20E-16	3.96E-16	1.46E-16	3.46E+05	1.45E-10	0.014%	
1100-562-1MA2 110117	12/1/2017	11/1/17 - 12/1/17		6.54E-16	3.19E-16	1.44E-16	5.52E+05	3.61E-10	0.022%	
1100-562-1MA2 120117	1/3/2018	12/1/17 - 1/3/18		4.31E-16	2.77E-16	1.14E-16	7.29E+05	3.14E-10	0.014%	
Radionuclide (Isotopic Uranium (U))	Sample Date	Sample Period	Result μCi/ml	2σ TPU (μCi/ml)	1σ TPU μCi/ml	MDC (μCi/ml)	Total Flow m3	Quantity Released Ci	% of Table 2 Appendix B 10CFR 20	
1100-562-1MA1										
U-233/234	3 Qtr.	10/3/2017	7/3/17- 10/3/17	2.20E-17	8.59E-18	4.38E-18	5.11E-18	1.88E+06	0.00	0.001%
U- 235/236				2.47E-18	3.26E-18	1.66E-18	6.31E-18		<MDC	<MDC
U-238				1.93E-17	7.93E-18	4.05E-18	5.09E-18		0.00	0.001%
U-233/234	4 Qtr.	1/3/2018	10/3/17- 1/3/18	1.09E-16	5.38E-17	5.44E-17	2.71E-17	1.26E+06	0.00	0.004%
U- 235/236				3.87E-17	3.55E-17	3.56E-17	3.35E-17		0.00	0.001%
U-238				1.02E-16	5.19E-17	5.25E-17	2.70E-17		0.00	0.003%
1100-562-1MA2										
U-233/234	3 Qtr.	10/3/2017	7/3/17- 10/3/17	3.48E-17	2.16E-17	1.10E-17	2.38E-17	1.39E+06	0.00	0.001%
U- 235/236				0.00E+00	8.50E-18	4.34E-18	2.35E-17		<MDC	<MDC
U-238				4.45E-17	2.43E-17	1.24E-17	1.90E-17		0.00	0.001%
U-233/234	4 Qtr.	1/3/2018	10/3/17- 1/3/18	1.48E-16	7.51E-17	7.59E-17	5.10E-17	1.63E+06	0.00	0.005%
U- 235/236				2.78E-17	3.85E-17	3.86E-17	5.85E-17		<MDC	<MDC
U-238				8.85E-17	5.67E-17	5.71E-17	3.76E-17		0.00	0.003%



TABLE 1-6

Container Receipt and Dispatch Building-1100 (SBM 1100): Local Extract Exhaust Gaseous Effluent Vent System, 1100-562-2MA1 & 1100-562-2MA2, Gross Alpha & Beta, and Radionuclides: Quarters 3 & 4, 2017 URENCO USA Lea County, New Mexico

Sample ID	Sample Date	Sample Period	Analyte	Gross Result μCi/ml	MDA / MDC μCi/ml	Inst. Unc. μCi/ml	Total Flow m3	Quantity Released Ci	% of Table 2 Appendix B 10CFR 20	
1100-562-2MA1										
1100-562-2MA1 070317	7/31/2017	7/3/17 - 7/31/17	Gross Alpha	2.23E-16	6.05E-16	1.78E-16	1.91E+09	<MDA	<MDA	
1100-562-2MA1 073117	9/1/2017	7/31/17 - 9/1/17		-9.92E-17	5.28E-16	9.92E-17	8.90E+08	<MDA	<MDA	
1100-562-2MA1 090117	10/3/2017	9/1/17 - 10/3/17		-5.17E-17	5.50E-16	1.15E-16	9.55E+08	<MDA	<MDA	
1100-562-2MA1 100317	11/1/2017	10/3/17- 11/1/17		1.96E-17	5.30E-17	1.96E-17	9.55E+08	<MDA	<MDA	
1100-562-2MA1 110117	12/1/2017	11/1/17- 12/1/17		3.76E-17	5.08E-17	2.66E-17	1.10E+09	<MDA	<MDA	
1100-562-2MA1 120117	1/3/2018	12/1/17 - 1/3/18	Gross Beta	1.02E-16	4.62E-17	4.10E-17	1.20E+09	3.48E-09	0.003%	
1100-562-2MA1 070317	7/31/2017	7/3/17 - 7/31/17		6.50E-15	2.73E-15	1.35E-15	1.91E+09	3.51E-07	0.217%	
1100-562-2MA1 073117	9/1/2017	7/31/17 - 9/1/17		2.36E-15	2.39E-15	8.58E-16	8.90E+08	<MDA	<MDA	
1100-562-2MA1 090117	10/3/2017	9/1/17 - 10/3/17		4.93E-15	2.48E-15	1.11E-15	9.55E+08	1.33E-07	0.164%	
1100-562-2MA1 100317	11/1/2017	10/3/17- 11/1/17		5.88E-16	2.77E-16	1.25E-16	9.55E+08	1.59E-08	0.020%	
1100-562-2MA1 110117	12/1/2017	11/1/17- 12/1/17		4.13E-16	2.65E-16	1.09E-16	1.10E+09	1.28E-08	0.014%	
1100-562-2MA1 120117	1/3/2018	12/1/17 - 1/3/18		4.10E-16	2.41E-16	1.02E-16	1.20E+09	1.39E-08	0.014%	
1100-562-2MA2										
1100-562-2MA2 070317	7/31/2017	7/3/17 - 7/31/17	Gross Alpha	8.44E-17	3.00E-16	8.44E-17	2.54E+09	<MDA	<MDA	
1100-562-2MA2 073117	9/1/2017	7/31/17 - 9/1/17		4.57E-17	4.86E-16	1.21E-16	1.16E+09	<MDA	<MDA	
1100-562-2MA2 090117	10/3/2017	9/1/17 - 10/3/17		4.57E-17	4.86E-16	1.21E-16	1.17E+09	<MDA	<MDA	
1100-562-2MA2 100317	11/1/2017	10/3/17- 11/1/17		9.04E-17	4.88E-17	3.97E-17	1.09E+09	2.78E-09	0.003%	
1100-562-2MA2 110117	12/1/2017	11/1/17- 12/1/17		8.69E-17	4.69E-17	3.82E-17	1.10E+09	2.70E-09	0.003%	
1100-562-2MA2 120117	1/3/2018	12/1/17 - 1/3/18	Gross Beta	4.69E-17	4.24E-17	2.71E-17	1.21E+09	1.61E-09	0.002%	
1100-562-2MA2 070317	7/31/2017	7/3/17 - 7/31/17		3.06E-15	1.35E-15	6.34E-16	2.54E+09	2.21E-07	0.102%	
1100-562-2MA2 073117	9/1/2017	7/31/17 - 9/1/17		2.33E-15	2.20E-15	8.04E-16	1.16E+09	7.69E-08	0.078%	
1100-562-2MA2 090117	10/3/2017	9/1/17 - 10/3/17		4.04E-15	2.20E-15	9.57E-16	1.17E+09	1.34E-07	0.135%	
1100-562-2MA2 100317	11/1/2017	10/3/17- 11/1/17		3.06E-16	2.54E-16	9.76E-17	1.09E+09	9.44E-09	0.010%	
1100-562-2MA2 110117	12/1/2017	11/1/17- 12/1/17		5.72E-16	2.45E-16	1.18E-16	1.10E+09	1.78E-08	0.019%	
1100-562-2MA2 120117	1/3/2018	12/1/17 - 1/3/18		2.50E-16	2.21E-16	8.47E-17	1.21E+09	8.57E-09	0.008%	
Radionuclide (Isotopic Uranium (U))	Sample Date	Sample Period	Result μCi/ml	2σ TPU (μCi/ml)	1σ TPU μCi/ml	MDC (μCi/ml)	Total Flow m3	Quantity Released Ci	% of Table 2 Appendix B 10CFR 20	
1100-562-2MA1										
U-233/234	3 Qtr.	10/3/2017	7/3/17- 10/3/17	1.01E-16	2.51E-17	1.28E-17	5.53E-18	1.06E+08	0.00	0.003%
U- 235/236				5.35E-18	5.04E-18	2.57E-18	8.54E-18		<MDC	<MDC
U-238				3.88E-17	1.27E-17	6.46E-18	5.51E-18		0.00	0.001%
U-233/234	4 Qtr.	1/3/2018	10/3/17- 1/3/18	1.43E-16	6.47E-17	6.55E-17	3.66E-17	9.21E+07	0.00	0.005%
U- 235/236				5.29E-17	4.54E-17	4.56E-17	5.15E-17		0.00	0.0018%
U-238				1.95E-16	7.66E-17	7.78E-17	4.16E-17		0.00	0.007%
1100-562-2MA2										
U-233/234	3 Qtr.	10/3/2017	7/3/17- 10/3/17	6.92E-17	1.56E-17	7.96E-18	3.19E-18	1.38E+08	0.00	0.002%
U- 235/236				2.06E-18	2.28E-18	1.16E-18	3.94E-18		<MDC	<MDC
U-238				3.49E-17	9.47E-18	4.83E-18	3.18E-18		0.00	0.001%
U-233/234	4 Qtr.	1/3/2018	10/3/17- 1/3/18	1.64E-16	7.61E-17	7.70E-17	3.99E-17	9.62E+07	0.00	0.005%
U- 235/236				1.89E-17	2.89E-17	2.89E-17	4.30E-17		<MDC	<MDC
U-238				1.66E-16	7.75E-17	7.84E-17	4.99E-17		0.00	0.006%



**TABLE 1-7**

Centrifuge Test and Post Mortem Facilities-1300 (CTPMF): Local Extract Exhaust Gaseous Effluent Vent System, 1300-562-1MA1, Gross Alpha & Beta, and Radionuclides: Quarters 3 & 4, 2017 URENCO USA Lea County, New Mexico

Sample ID	Sample Date	Sample Period	Analyte	Gross Result μCi/ml	MDA / MDC μCi/ml	Inst. Unc. μCi/ml	Total Flow m3	Quantity Released Ci	% of Table 2 Appendix B 10CFR 20	
1300-562-1MA1										
1300-562-1MA1 070517	8/3/2017	7/5/17 - 8/3/17	Gross Alpha	-4.74E-17	5.05E-16	1.05E-16	1.23E+07	<MDA	<MDA	
1300-562-1MA1 080317	9/5/2017	8/3/17 - 9/5/17		-8.03E-17	4.27E-16	8.03E-17	1.40E+07	<MDA	<MDA	
1300-562-1MA1 090517	10/3/2017	9/5/17 - 10/3/17		-1.05E-16	5.59E-16	1.05E-16	1.19E+07	<MDA	<MDA	
1300-562-1MA1 100317	11/1/2017	10/3/17- 11/1/17		3.55E-17	4.80E-17	2.51E-17	1.23E+07	<MDA	<MDA	
1300-562-1MA1 110117	12/4/2017	11/1/17- 12/4/17		1.60E-17	4.33E-17	1.60E-17	1.40E+07	<MDA	<MDA	
1300-562-1MA1 120417	1/3/2018	12/4/17 - 1/3/18		4.16E-17	4.69E-17	3.00E-17	1.28E+07	<MDA	<MDA	
1300-562-1MA1 070517	8/3/2017	7/5/17 - 8/3/17	Gross Beta	5.00E-15	2.28E-15	1.06E-15	1.23E+07	6.16E-08	0.167%	
1300-562-1MA1 080317	9/5/2017	8/3/17 - 9/5/17		4.10E-15	1.93E-15	8.85E-16	1.40E+07	5.75E-08	0.137%	
1300-562-1MA1 090517	10/3/2017	9/5/17 - 10/3/17		3.76E-15	2.53E-15	1.03E-15	1.19E+07	4.48E-08	0.125%	
1300-562-1MA1 100317	11/1/2017	10/3/17- 11/1/17		3.91E-16	2.50E-16	1.03E-16	1.23E+07	4.82E-09	0.013%	
1300-562-1MA1 110117	12/4/2017	11/1/17- 12/4/17		2.87E-16	2.26E-16	8.65E-17	1.40E+07	4.03E-09	0.010%	
1300-562-1MA1 120417	1/3/2018	12/4/17 - 1/3/18		4.33E-16	2.45E-16	1.15E-16	1.28E+07	5.53E-09	0.014%	
Radionuclide (Isotopic Uranium (U))	Sample Date	Sample Period	Result μCi/ml	2σ TPU (μCi/ml)	1σ TPU μCi/ml	MDC (μCi/ml)	Total Flow m3	Quantity Released Ci	% of Table 2 Appendix B 10CFR 20	
1300-562-1MA1										
U-233/234	3 Qtr.	10/3/2017	7/3/17- 10/3/17	2.14E-17	7.41E-18	3.78E-18	4.67E-18	3.83E+07	0.00	0.001%
U- 235/236				1.20E-18	2.05E-18	1.04E-18	4.60E-18		<MDC	<MDC
U-238				2.18E-17	7.42E-18	3.79E-18	3.71E-18		0.00	0.001%
U-233/234	4 Qtr.	1/3/2018	10/3/17- 1/3/18	1.21E-16	8.05E-17	8.09E-17	6.67E-17	7.47E+07	0.00	0.004%
U- 235/236				4.70E-17	6.17E-17	6.18E-17	9.40E-17		<MDC	<MDC
U-238				1.12E-16	7.57E-17	7.62E-17	5.28E-17		0.00	0.004%