

FEB 08 2016

LES-16-00030-NRC

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
NRC Docket No. 70-3103

Subject: Semi-Annual Radiological Effluent Release Report for July 1, 2015 through
December 31, 2015

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 there be any questions regarding this submittal, please contact Salem Thyne,
Licensing and Performance Assessment Manager, at 575-394-5252.

Respectfully,



Stephen Cowne
Head of Compliance for
Jay Laughlin
Chief Nuclear Officer and Head of Operations

Enclosures:

1. Semi-Annual Radiological Effluent Release Report for July 1, 2015
through December 31, 2015

NM5501

cc without attachments:

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ENCLOSURE 1

**Semi-Annual Radiological Effluent Release Report for
July 1, 2015 through December 31, 2015**

Report of Radioactivity in Effluent Liquid for the Period July - December 2015

REPORT OF RADIOACTIVITY IN EFFLUENT LIQUID FOR THE PERIOD JULY – DECEMBER 2015

The liquid effluent data indicate there were no releases to the public during the reporting period that exceeded regulatory requirements, and that detected isotopic uranium activities were comparable to pre-operational activities.

Domestic wastewater (sewage) generated at the URENCO USA facility is discharged off site to the Eunice Waste Water Treatment Plant. Domestic wastewater is not expected to contain process water, as the facility design does not allow discharge of process liquid effluent to the domestic wastewater system. Domestic wastewater is sampled semi-annually at Lift Station 1, which is a central collection point for all domestic waste generated at the URENCO USA facility prior to off-site discharge. The average estimated wastewater discharge to the Eunice Waste Water Treatment Plant is approximately 13,000 gallons per day as reported in the URENCO USA Environmental Report, Revision 21a (UUSA, 2013).

The liquid effluent data indicate there were no releases to the public during the reporting period that exceeded the requirements set forth in 10 CFR 20.1301 and 10 CFR 20.1302.

The Uranium-233/234, Uranium-235/236 and the Uranium-238 detected activity value in domestic wastewater samples collected from Lift Station 1 was less than the facility-required lower level of detection (LLD) of $3.0\text{E-}9$ microCuries per milliliter ($\mu\text{Ci/mL}$). The LLD is less than 2% of the limits in 10 CFR 20 Appendix B Table 3 Effluent Concentrations (Environmental Report, UUSA, 2013).

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TABLE 1-1

Lift Station 1 Wastewater Effluent - Radionuclides

URENCO USA

Lea County, New Mexico

Radionuclide	Sample Date (Date/Time)	Sample Period	Total Time (days)	Results (µCi/ml)	Counting Uncertainty (µCi/ml)	Total Flow* (gallons/ day)	Quantity Released (Ci)	% of Table 3 of Appendix B to 10 CFR 20 Values-Monthly Average Release to Sewars
Lift Station 1 - July - December 2015								
Uranium - 233/234	10/06/15 0921	07/01/15 - 12/31/15	184	3.00E-10	5.00E-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				0.00E+00	0.00E+00	13,000	Result Below LLD	Result Below LLD
Lift Station 1 Duplicate - July - December 2015								
Uranium - 233/234	10/06/15 0921	07/01/15 - 12/31/15	184	2.00E-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				0.00E+00	0.00E+00	13,000	Result Below LLD	Result Below LLD

Notes:

1. $\mu\text{Ci}/\text{mL}$ = microCuries per milliliter.
2. Radionuclides analyzed using method EM ACS07 by Cardinal Laboratories of Hobbs, NM.
3. The Uranium-233/234, Uranium-235/236 and Uranium-238 detected activity values were less than the facility-required lower level of detection (LLD) of $3.0\text{E}-9 \mu\text{Ci}/\text{mL}$. The LLD is less than 2% of the limits in 10 CFR 20 Appendix B Table 3 Effluent Concentrations (Environmental Report, UUSA, 2013).
4. * = Table 3.4-5 "Initial Average Plant Water Consumption" lists average domestic water usage rate as approximately 13,000 gallons per day (Environmental Report, UUSA, 2013).
5. New Mexico Administrative Code 20.6.2.7.AAA: "Water contaminant" means any substance that could alter if discharged or spilled they physical, chemical, biological or radiological qualities of water; "water contaminant" does not mean source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954.
6. Quantity released is calculated if the radionuclide is detected.

Report of Radioactivity in Effluent Air for the Period July - December 2015

URENCO USA

REPORT OF RADIOACTIVITY IN EFFLUENT AIR FOR THE PERIOD JULY - DECEMBER 2015

The gaseous effluent data indicate there were no releases to the public during the reporting period that exceeded regulatory requirements.

All gaseous effluent gross alpha, gross beta, and isotopic uranium results were below the license basis lower level of detection (LLD) of $1.0\text{E-}14$ microCuries per milliliter ($\mu\text{Ci/mL}$) as defined in the Environmental Report Revision 21a (UUSA, 2013) for effluent samples.

The gaseous effluent data indicate there were no releases to the public during the reporting period that exceeded the requirements set forth 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 2-1

Separations Building Module-1001 (SBM 1001)
Pumped Extract Exhaust Gaseous Effluent Vent System, 1001-562-1MA1
Gross Alpha & Gross Beta, Quarters 3 & 4, 2015
URENCO USA
Lea County, New Mexico

Sample ID	Sample Date (Off Date/Time)	Sample Period	Analyte	Gross Result ($\mu\text{Ci/ml}$)	MDA ($\mu\text{Ci/ml}$) @ 95 CL	Instrument Unc ($\mu\text{Ci/ml}$)	Total Vent System Flow (m ³)	Quantity Released (Ci)
1001-562-1MA1								
10015621MA1 070115	08/03/15 1031	07/01/15 - 08/03/15	Gross Alpha	0.00E+00	6.61E-16	0.00E+00	4.53E+05	Result Below MDA
10015621MA1 080315	09/01/15 0945	08/03/15 - 09/01/15		0.00E+00	6.66E-16	0.00E+00	4.39E+05	Result Below MDA
10015621MA1 090115	10/01/15 0846	09/01/15 - 10/01/15		9.00E-17	6.56E-16	-9.00E-17	4.47E+05	Result Below MDA
10015621MA1 100115	11/02/15 1256	10/01/15 - 11/02/15		-6.44E-17	5.69E-16	9.09E-17	4.82E+05	Result Below MDA
10015621MA1 110215	12/01/15 0849	11/02/15 - 12/01/15		-9.00E-17	6.26E-16	9.00E-17	4.29E+05	Result Below MDA
10015621MA1 120115	01/04/15 1252	12/01/15 - 01/04/16		-7.28E-17	5.07E-16	7.28E-17	5.12E+05	Result Below MDA
10015621MA1 070115	08/03/15 1031	07/01/15 - 08/03/15	Gross Beta	-9.06E-16	3.96E-15	7.99E-16	4.53E+05	Result Below MDA
10015621MA1 080315	09/01/15 0945	08/03/15 - 09/01/15		9.13E-16	3.99E-15	1.09E-15	4.39E+05	Result Below MDA
10015621MA1 090115	10/01/15 0846	09/01/15 - 10/01/15		1.93E-16	3.94E-15	1.14E-15	4.47E+05	Result Below MDA
10015621MA1 100115	11/02/15 1256	10/01/15 - 11/02/15		-2.19E-15	4.31E-15	1.10E-15	4.82E+05	Result Below MDA
10015621MA1 110215	12/01/15 0849	11/02/15 - 12/01/15		-2.47E-15	4.74E-15	1.19E-15	4.29E+05	Result Below MDA
10015621MA1 120115	01/04/15 1252	12/01/15 - 01/04/16		-1.82E-15	3.83E-15	9.36E-16	5.12E+05	Result Below MDA

Notes:

* No exceptions.

1. Ci = Curies.

2. $\mu\text{Ci/ml}$ = microCuries per milliliter.

3. CL = Confidence level.

4. m³ = cubic meters.

5. MDA = minimum detectable activity.

6. All detected activity values were less than 1.0E-14 $\mu\text{Ci/mL}$ which is less than the limits in 10 CFR 20 Appendix B table 2. Effluent Concentrations (Environmental Report, UUSA, 2013).

7. Quantity released is calculated if the result equals or exceeds the MDA.



TABLE 2-2

Separations Building Module-1001 (SBM 1001)
Pumped Extract Exhaust Gaseous Effluent Vent System, 1001-562-1MA2
Gross Alpha & Gross Beta, Quarters 3 & 4, 2015
URENCO USA
Lea County, New Mexico

Sample ID	Sample Date (Off Date/Time)	Sample Period	Analyte	Gross Result ($\mu\text{Ci/ml}$)	MDA ($\mu\text{Ci/ml}$) @ 95 CL	Instrument Unc ($\mu\text{Ci/ml}$)	Total Vent System Flow (m ³)	Quantity Released (Ci)
1001-562-1MA2								
10015621MA2 070115	08/03/15 1034	07/01/15 - 08/03/15	Gross Alpha	0.00E+00	6.91E-16	0.00E+00	4.71E+05	Result Below MDA
10015621MA2 080315	09/01/15 0951	08/03/15 - 09/01/15		0.00E+00	6.25E-16	0.00E+00	4.53E+05	Result Below MDA
10015621MA2 090115	10/01/15 0849	09/01/15 - 10/01/15		-4.90E-17	6.25E-16	1.79E-19	4.63E+05	Result Below MDA
10015621MA2 100115	11/02/15 1258	10/01/15 - 11/02/15		-7.73E-17	5.38E-16	7.73E-17	4.98E+05	Result Below MDA
10015621MA2 110215	12/01/15 0851	11/02/15 - 12/01/15		-9.13E-17	6.36E-16	9.13E-17	4.45E+05	Result Below MDA
10015621MA2 120115	01/04/15 1255	12/01/15 - 01/04/16		-7.54E-17	5.25E-16	7.54E-17	5.25E+05	Result Below MDA
10015621MA2 070115	08/03/15 1034	07/01/15 - 08/03/15	Gross Beta	-6.33E-16	4.14E-15	8.95E-16	4.71E+05	Result Below MDA
10015621MA2 080315	09/01/15 0951	08/03/15 - 09/01/15		-8.57E-16	3.75E-15	7.55E-16	4.53E+05	Result Below MDA
10015621MA2 090115	10/01/15 0849	09/01/15 - 10/01/15		2.76E-16	3.75E-15	1.18E-15	4.63E+05	Result Below MDA
10015621MA2 100115	11/02/15 1258	10/01/15 - 11/02/15		-1.66E-17	4.07E-15	1.01E-15	4.98E+05	Result Below MDA
10015621MA2 110215	12/01/15 0851	11/02/15 - 12/01/15		-2.28E-15	4.80E-15	1.17E-15	4.45E+05	Result Below MDA
10015621MA2 120115	01/04/15 1255	12/01/15 - 01/04/16		-1.49E-15	3.97E-15	1.00E-15	5.25E+05	Result Below MDA

Notes:

* No exceptions.

1. Ci = Curies.

2. $\mu\text{Ci/ml}$ = microCuries per milliliter.

3. CL = Confidence level.

4. m³ = cubic meters.

5. MDA = minimum detectable activity.

6. All detected activity values were less than 1.0E-14 $\mu\text{Ci/mL}$ which is less than the limits in 10 CFR 20 Appendix B table 2. Effluent Concentrations (Environmental Report, UUSA, 2013).

7. Quantity released is calculated if the result equals or exceeds the MDA.



TABLE 2-3

Separations Building Module-1003 (SBM 1003)
Pumped Extract Exhaust Gaseous Effluent Vent System, 1003-562-1MA1
Gross Alpha & Beta, Quarters 3 & 4, 2015
URENCO USA
Lea County, New Mexico

Sample ID	Sample Date (Off Date/Time)	Sample Period	Analyte	Gross Result ($\mu\text{Ci/ml}$)	MDA ($\mu\text{Ci/ml}$) @ 95 CL	Instrument Unc ($\mu\text{Ci/ml}$)	Total Vent System Flow (m^3)	Quantity Released (Ci)
1003-562-1MA1								
10035621MA1 070115	08/03/15 1109	07/01/15 - 08/03/15	Gross Alpha	0.00E+00	7.07E-16	0.00E+00	3.70E+05	Result Below MDA
10035621MA1 080315	09/01/15 1027	08/03/15 - 09/01/15		0.00E+00	6.86E-16	0.00E+00	3.59E+05	Result Below MDA
10035621MA1 090115	10/01/15 0905	09/01/15 - 10/01/15		0.00E+00	6.91E-16	0.00E+00	3.64E+05	Result Below MDA
10035621MA1 100115	11/02/15 1411	10/01/15 - 11/02/15		-7.54E-17	5.25E-16	7.54E-17	3.88E+05	Result Below MDA
10035621MA1 110215	12/01/15 0836	11/02/15 - 12/01/15		-1.02E-16	7.13E-16	1.02E-16	3.46E+05	Result Below MDA
10035621MA1 120115	01/04/15 1336	12/01/15 - 01/04/16		-8.46E-17	5.89E-16	8.46E-17	4.26E+05	Result Below MDA
10035621MA1 070115	08/03/15 1109	07/01/15 - 08/03/15	Gross Beta	9.69E-16	4.24E-15	1.16E-15	3.70E+05	Result Below MDA
10035621MA1 080315	09/01/15 1027	08/03/15 - 09/01/15		-7.40E-16	4.11E-15	1.05E-15	3.59E+05	Result Below MDA
10035621MA1 090115	10/01/15 0905	09/01/15 - 10/01/15		0.00E+00	4.14E-15	1.00E-15	3.64E+05	Result Below MDA
10035621MA1 100115	11/02/15 1411	10/01/15 - 11/02/15		-1.49E-15	3.97E-15	1.00E-15	3.88E+05	Result Below MDA
10035621MA1 110215	12/01/15 0836	11/02/15 - 12/01/15		-2.02E-15	5.39E-15	1.36E-15	3.46E+05	Result Below MDA
10035621MA1 120115	01/04/15 1336	12/01/15 - 01/04/16		-1.97E-15	4.45E-15	1.10E-15	4.26E+05	Result Below MDA

Notes:

- * No exceptions.
- 1. Ci = Curies.
- 2. $\mu\text{Ci/ml}$ = microCuries per milliliter.
- 3. CL = Confidence level.
- 4. m^3 = cubic meters.
- 5. MDA = minimum detectable activity.
- 6. All detected activity values were less than $1.0\text{E}-14 \mu\text{Ci/mL}$ which is less than the limits in 10 CFR 20 Appendix B table 2. Effluent Concentrations (Environmental Report, UUSA, 2013).
- 7. Quantity released is calculated if the result equals or exceeds the MDA.

TABLE 2-4

Separations Building Module-1003 (SBM 1003)
Pumped Extract Exhaust Gaseous Effluent Vent System, 1003-562-1MA2
Gross Alpha & Gross Beta, Quarters 3 & 4, 2015
URENCO USA
Lea County, New Mexico

Sample ID	Sample Date (Off Date/Time)	Sample Period	Analyte	Gross Result ($\mu\text{Ci}/\text{ml}$)	MDA ($\mu\text{Ci}/\text{ml}$) @ 95 CL	Instrument Unc ($\mu\text{Ci}/\text{ml}$)	Total Vent System Flow (m^3)	Quantity Released (Ci)
1003-562-1MA2								
10035621MA2 070115	08/03/15 1114	07/01/15 - 08/03/15	Gross Alpha	0.00E+00	5.19E-16	0.00E+00	4.04E+05	Result Below MDA
10035621MA2 080315	09/01/15 1010	08/03/15 - 09/01/15		0.00E+00	6.76E-16	0.00E+00	3.94E+05	Result Below MDA
10035621MA2 090115	10/01/15 0907	09/01/15 - 10/01/15		0.00E+00	6.81E-16	0.00E+00	3.99E+05	Result Below MDA
10035621MA2 100115	11/02/15 1413	10/01/15 - 11/02/15		-8.57E-17	5.97E-16	8.57E-17	4.23E+05	Result Below MDA
10035621MA2 110215	12/01/15 0838	11/02/15 - 12/01/15		-1.07E-16	7.43E-16	1.07E-16	8.81E+04	Result Below MDA
10035621MA2 120115	01/04/15 1339	12/01/15 - 01/04/16		-7.88E-17	5.48E-16	7.88E-17	4.66E+05	Result Below MDA
10035621MA2 070115	08/03/15 1114	07/01/15 - 08/03/15	Gross Beta	2.37E-16	3.11E-15	7.85E-16	4.04E+05	Result Below MDA
10035621MA2 080315	09/01/15 1010	08/03/15 - 09/01/15		-9.26E-16	4.05E-15	8.16E-16	3.94E+05	Result Below MDA
10035621MA2 090115	10/01/15 0907	09/01/15 - 10/01/15		-9.33E-16	4.08E-15	8.22E-16	3.99E+05	Result Below MDA
10035621MA2 100115	11/02/15 1413	10/01/15 - 11/02/15		-2.30E-15	4.51E-15	1.10E-15	4.23E+05	Result Below MDA
10035621MA2 110215	12/01/15 0838	11/02/15 - 12/01/15		-2.67E-15	5.62E-15	1.37E-15	8.81E+04	Result Below MDA
10035621MA2 120115	01/04/15 1339	12/01/15 - 01/04/16		-2.02E-15	4.14E-15	1.04E-15	4.66E+05	Result Below MDA

Notes:

* No exceptions.

1. Ci = Curies.

2. $\mu\text{Ci}/\text{ml}$ = microCuries per milliliter.

3. CL = Confidence level.

4. m^3 = cubic meters.

5. MDA = minimum detectable activity.

6. All detected activity values were less than $1.0\text{E}-14 \mu\text{Ci}/\text{mL}$ which is less than the limits in 10 CFR 20 Appendix B table 2. Effluent Concentrations (Environmental Report, UUSA, 2013).

7. Quantity released is calculated if the result equals or exceeds the MDA.



TABLE 2-5

Separations Building Module-1005 (SBM 1005)
Pumped Extract Exhaust Gaseous Effluent Vent System, 1005-562-1MA1
Gross Alpha & Gross Beta, Quarters 3 & 4, 2015
URENCO USA
Lea County, New Mexico

Sample ID	Sample Date (Off Date/Time)	Sample Period	Analyte	Gross Result ($\mu\text{Ci}/\text{ml}$)	MDA ($\mu\text{Ci}/\text{ml}$) @ 95 CL	Instrument Unc ($\mu\text{Ci}/\text{ml}$)	Total Vent System Flow (m^3)	Quantity Released (Ci)
1005-562-1MA1								
10055621MA1 070115	08/03/15 1121	07/01/15 - 08/03/15	Gross Alpha	0.00E+00	8.59E-16	0.00E+00	7.96E+05	Result Below MDA
10055621MA1 080315	09/01/15 1044	08/03/15 - 09/01/15		0.00E+00	8.84E-16	0.00E+00	7.87E+05	Result Below MDA
10055621MA1 090115	10/01/15 0918	09/01/15 - 10/01/15		0.00E+00	7.60E-16	0.00E+00	8.01E+05	Result Below MDA
10055621MA1 100115	11/02/15 1423	10/01/15 - 11/02/15		0.00E+00	7.25E-16	1.26E-16	9.35E+05	Result Below MDA
10055621MA1 110215	12/01/15 0828	11/02/15 - 12/01/15		-1.24E-16	8.60E-16	1.24E-16	8.22E+05	Result Below MDA
10055621MA1 120115	01/04/15 1352	12/01/15 - 01/04/16		-1.02E-16	7.13E-16	1.02E-16	9.70E+05	Result Below MDA
10055621MA1 070115	08/03/15 1121	07/01/15 - 08/03/15	Gross Beta	1.57E-15	5.15E-15	1.47E-15	7.96E+05	Result Below MDA
10055621MA1 080315	09/01/15 1044	08/03/15 - 09/01/15		-1.47E-16	5.30E-15	1.47E-15	7.87E+05	Result Below MDA
10055621MA1 090115	10/01/15 0918	09/01/15 - 10/01/15		6.96E-16	4.55E-15	1.21E-15	8.01E+05	Result Below MDA
10055621MA1 100115	11/02/15 1423	10/01/15 - 11/02/15		-1.12E-15	5.48E-15	1.44E-15	9.35E+05	Result Below MDA
10055621MA1 110215	12/01/15 0828	11/02/15 - 12/01/15		-2.21E-15	6.50E-15	1.65E-15	8.22E+05	Result Below MDA
10055621MA1 120115	01/04/15 1352	12/01/15 - 01/04/16		-2.02E-15	5.39E-15	1.36E-15	9.70E+05	Result Below MDA

Notes:

* No exceptions.

1. Ci = Curies.

2. $\mu\text{Ci}/\text{ml}$ = microCuries per milliliter.

3. CL = Confidence level.

4. m^3 = cubic meters.

5. MDA = minimum detectable activity.

6. All detected activity values were less than $1.0\text{E}-14 \mu\text{Ci}/\text{mL}$ which is less than the limits in 10 CFR 20 Appendix B table 2. Effluent Concentrations (Environmental Report, UUSA, 2013).

7. Quantity released is calculated if the result equals or exceeds the MDA.



TABLE 2-6

Separations Building Module-1005 (SBM 1005)
Pumped Extract Exhaust Gaseous Effluent Vent System, 1005-562-1MA2
Gross Alpha & Gross Beta, Quarters 3 & 4, 2015
URENCO USA
Lea County, New Mexico

Sample ID	Sample Date (Off Date/Time)	Sample Period	Analyte	Gross Result ($\mu\text{Ci/ml}$)	MDA ($\mu\text{Ci/ml}$) @ 95 CL	Instrument Unc ($\mu\text{Ci/ml}$)	Total Vent System Flow (m^3)	Quantity Released (Ci)
1005-562-1MA2								
10055621MA2 070115	08/03/15 1125	07/01/15 - 08/03/15	Gross Alpha	0.00E+00	8.21E-16	0.00E+00	7.87E+05	Result Below MDA
10055621MA2 080315	09/01/15 1041	08/03/15 - 09/01/15		0.00E+00	8.84E-16	0.00E+00	7.74E+05	Result Below MDA
10055621MA2 090115	10/01/15 0922	09/01/15 - 10/01/15		1.12E-16	8.13E-16	1.12E-16	8.01E+05	Result Below MDA
10055621MA2 100115	11/02/15 1427	10/01/15 - 11/02/15		0.00E+00	6.54E-16	1.14E-16	9.40E+05	Result Below MDA
10055621MA2 110215	12/01/15 0831	11/02/15 - 12/01/15		-1.19E-16	8.27E-16	1.19E-16	8.30E+05	Result Below MDA
10055621MA2 120115	01/04/15 1355	12/01/15 - 01/04/16		-1.22E-16	8.51E-16	1.22E-16	9.72E+05	Result Below MDA
10055621MA2 070115	08/03/15 1125	07/01/15 - 08/03/15	Gross Beta	0.00E+00	4.92E-15	1.19E-15	7.87E+05	Result Below MDA
10055621MA2 080315	09/01/15 1041	08/03/15 - 09/01/15		-1.21E-15	5.30E-15	1.07E-15	7.74E+05	Result Below MDA
10055621MA2 090115	10/01/15 0922	09/01/15 - 10/01/15		-3.71E-16	4.88E-15	1.12E-15	8.01E+05	Result Below MDA
10055621MA2 100115	11/02/15 1427	10/01/15 - 11/02/15		-1.51E-15	4.95E-15	1.27E-15	9.40E+05	Result Below MDA
10055621MA2 110215	12/01/15 0831	11/02/15 - 12/01/15		-2.55E-15	6.25E-15	1.56E-15	8.30E+05	Result Below MDA
10055621MA2 120115	01/04/15 1355	12/01/15 - 01/04/16		-3.80E-15	6.44E-15	1.58E-15	9.72E+05	Result Below MDA

Notes:

- * No exceptions.
- 1. Ci = Curies.
- 2. $\mu\text{Ci/ml}$ = microCuries per milliliter.
- 3. CL = Confidence level.
- 4. m^3 = cubic meters.
- 5. MDA = minimum detectable activity.
- 6. All detected activity values were less than $1.0\text{E}-14 \mu\text{Ci/mL}$ which is less than the limits in 10 CFR 20 Appendix B table 2. Effluent Concentrations (Environmental Report, UUSA, 2013).
- 7. Quantity released is calculated if the result equals or exceeds the MDA.

TABLE 2-7

Cylinder Receipt and Dispatch Building-1100 (CRDB 1100)
 Local Extract Exhaust Gaseous Effluent Vent System, 1100-562-1MA1
 Gross Alpha & Gross Beta, Quarters 3 & 4, 2015
 URENCO USA
 Lea County, New Mexico

Sample ID	Sample Date (Off Date/Time)	Sample Period	Analyte	Gross Result ($\mu\text{Ci/ml}$)	MDA ($\mu\text{Ci/ml}$) @ 95 CL	Instrument Unc ($\mu\text{Ci/ml}$)	Total Vent System Flow (m^3)	Quantity Released (Ci)
1100-562-1MA1								
11005621MA1 070115	08/03/15 1047	07/01/15 - 08/03/15	Gross Alpha	9.77E-17	7.12E-16	9.77E-17	2.28E+05	Result Below MDA
11005621MA1 080315	09/01/15 1058	08/03/15 - 09/01/15		1.15E-16	8.35E-16	1.15E-16	2.07E+05	Result Below MDA
11005621MA1 090115	10/01/15 0751	09/01/15 - 10/01/15		0.00E+00	8.43E-16	0.00E+00	2.43E+05	Result Below MDA
11005621MA1 100115	11/02/15 1313	10/01/15 - 11/02/15		-9.62E-17	6.69E-16	9.62E-17	7.26E+05	Result Below MDA
11005621MA1 110215	12/01/15 1101	11/02/15 - 12/01/15		-5.35E-17	7.43E-16	1.19E-16	6.43E+05	Result Below MDA
11005621MA1 120115	01/04/15 1320	12/01/15 - 01/04/16		-8.87E-17	6.18E-16	8.87E-17	7.47E+05	Result Below MDA
11005621MA1 070115	08/03/15 1047	07/01/15 - 08/03/15	Gross Beta	-6.53E-16	4.27E-15	9.22E-16	2.28E+05	Result Below MDA
11005621MA1 080315	09/01/15 1058	08/03/15 - 09/01/15		-1.53E-15	5.01E-15	9.36E-16	2.07E+05	Result Below MDA
11005621MA1 090115	10/01/15 0751	09/01/15 - 10/01/15		3.84E-16	5.06E-15	1.28E-15	2.43E+05	Result Below MDA
11005621MA1 100115	11/02/15 1313	10/01/15 - 11/02/15		-2.24E-15	5.06E-15	1.25E-15	7.26E+05	Result Below MDA
11005621MA1 110215	12/01/15 1101	11/02/15 - 12/01/15		-2.48E-15	5.62E-15	1.39E-15	6.43E+05	Result Below MDA
11005621MA1 120115	01/04/15 1320	12/01/15 - 01/04/16		-1.90E-15	4.67E-15	1.16E-15	7.47E+05	Result Below MDA

Notes:

- * No exceptions.
- 1. Ci = Curies.
- 2. $\mu\text{Ci/ml}$ = microCuries per milliliter.
- 3. CL = Confidence level.
- 4. m^3 = cubic meters.
- 5. MDA = minimum detectable activity.
- 6. All detected activity values were less than $1.0\text{E}-14 \mu\text{Ci/mL}$ which is less than the limits in 10 CFR 20 Appendix B table 2. Effluent Concentrations (Environmental Report, UUSA, 2013).
- 7. Quantity released is calculated if the result equals or exceeds the MDA.

TABLE 2-8

Cylinder Receipt and Dispatch Building-1100 (CRDB 1100)
 Local Extract Exhaust Gaseous Effluent Vent System, 1100-562-1MA2
 Gross Alpha & Gross Beta, Quarters 3 & 4, 2015
 URENCO USA
 Lea County, New Mexico

Sample ID	Sample Date (Off Date/Time)	Sample Period	Analyte	Gross Result ($\mu\text{Ci/ml}$)	MDA ($\mu\text{Ci/ml}$) @ 95 CL	Instrument Unc ($\mu\text{Ci/ml}$)	Total Vent System Flow (m^3)	Quantity Released (Ci)
1100-562-1MA2								
11005621MA2 070115	08/03/15 1049	07/01/15 - 08/03/15	Gross Alpha	0.00E+00	6.96E-16	0.00E+00	6.83E+05	Result Below MDA
11005621MA2 080315	09/01/15 1059	08/03/15 - 09/01/15		1.38E-16	1.00E-15	1.38E-16	6.27E+04	Result Below MDA
11005621MA2 090115	10/01/15 0756	09/01/15 - 10/01/15		0.00E+00	9.01E-16	0.00E+00	3.48E+05	Result Below MDA
11005621MA2 100115	11/02/15 1315	10/01/15 - 11/02/15		-5.05E-17	7.02E-16	1.12E-16	7.53E+05	Result Below MDA
11005621MA2 110215	12/01/15 1103	11/02/15 - 12/01/15		-1.16E-16	8.05E-16	1.16E-16	6.70E+05	Result Below MDA
11005621MA2 120115	01/04/15 1323	12/01/15 - 01/04/16		-9.20E-17	6.40E-16	9.20E-17	7.79E+05	Result Below MDA
11005621MA2 070115	08/03/15 1049	07/01/15 - 08/03/15	Gross Beta	-6.38E-16	4.17E-15	9.02E-16	6.83E+05	Result Below MDA
11005621MA2 080315	09/01/15 1059	08/03/15 - 09/01/15		-4.57E-16	6.02E-15	1.38E-15	6.27E+04	Result Below MDA
11005621MA2 090115	10/01/15 0756	09/01/15 - 10/01/15		-8.25E-16	5.40E-15	1.17E-15	3.48E+05	Result Below MDA
11005621MA2 100115	11/02/15 1315	10/01/15 - 11/02/15		-3.12E-15	5.30E-15	1.31E-15	7.53E+05	Result Below MDA
11005621MA2 110215	12/01/15 1103	11/02/15 - 12/01/15		-2.48E-15	6.08E-15	1.51E-15	6.70E+05	Result Below MDA
11005621MA2 120115	01/04/15 1323	12/01/15 - 01/04/16		-2.63E-15	4.84E-15	1.16E-15	7.79E+05	Result Below MDA

Notes:

* No exceptions.

1. Ci = Curies.

2. $\mu\text{Ci/ml}$ = microCuries per milliliter.

3. CL = Confidence level.

4. m^3 = cubic meters.

5. MDA = minimum detectable activity.

6. All detected activity values were less than $1.0\text{E-}14 \mu\text{Ci/mL}$ which is less than the limits in 10 CFR 20 Appendix B table 2. Effluent Concentrations (Environmental Report, UUSA, 2013).

7. Quantity released is calculated if the result equals or exceeds the MDA.



TABLE 2-9

Cylinder Receipt and Dispatch Building-1100 (CRDB 1100)
 Fume Hood Exhaust Gaseous Effluent Vent System, 1100-562-2MA1
 Gross Alpha & Gross Beta, Quarters 3 & 4, 2015
 URENCO USA
 Lea County, New Mexico

Sample ID	Sample Date (Off Date/Time)	Sample Period	Analyte	Gross Result ($\mu\text{Ci/ml}$)	MDA ($\mu\text{Ci/ml}$) @ 95 CL	Instrument Unc ($\mu\text{Ci/ml}$)	Total Vent System Flow (m3)	Quantity Released (Ci)
1100-562-2MA1								
11005622MA1 070115	08/03/15 1053	07/01/15 - 08/03/15	Gross Alpha	3.52E-16	6.47E-16	1.77E-16	2.73E+07	Result Below MDA
11005622MA1 080315	09/01/15 1102	08/03/15 - 09/01/15		2.97E-16	7.29E-16	1.71E-16	2.61E+07	Result Below MDA
11005622MA1 090115	10/01/15 0800	09/01/15 - 10/01/15		1.97E-16	7.18E-16	1.38E-16	2.71E+07	Result Below MDA
11005622MA1 100115	11/02/15 1317	10/01/15 - 11/02/15		-8.03E-17	5.59E-16	8.03E-17	2.89E+07	Result Below MDA
11005622MA1 110215	12/01/15 1105	11/02/15 - 12/01/15		-9.77E-17	6.80E-16	9.77E-17	2.45E+07	Result Below MDA
11005622MA1 120115	01/04/15 1313	12/01/15 - 01/04/16		-7.37E-17	5.13E-16	7.37E-17	2.92E+07	Result Below MDA
11005622MA1 070115	08/03/15 1053	07/01/15 - 08/03/15	Gross Beta	1.18E-15	3.88E-15	1.11E-15	2.73E+07	Result Below MDA
11005622MA1 080315	09/01/15 1102	08/03/15 - 09/01/15		3.33E-16	4.37E-15	1.10E-15	2.61E+07	Result Below MDA
11005622MA1 090115	10/01/15 0800	09/01/15 - 10/01/15		0.00E+00	4.30E-15	1.04E-15	2.71E+07	Result Below MDA
11005622MA1 100115	11/02/15 1317	10/01/15 - 11/02/15		-2.15E-15	4.22E-15	1.03E-15	2.89E+07	Result Below MDA
11005622MA1 110215	12/01/15 1105	11/02/15 - 12/01/15		-1.57E-15	5.14E-15	1.32E-15	2.45E+07	Result Below MDA
11005622MA1 120115	01/04/15 1313	12/01/15 - 01/04/16		-2.24E-15	3.88E-15	9.24E-16	2.92E+07	Result Below MDA

Notes:

* No exceptions.

1. Ci = Curies.

2. $\mu\text{Ci/ml}$ = microCuries per milliliter.

3. CL = Confidence level.

4. m³ = cubic meters.

5. MDA = minimum detectable activity.

6. All detected activity values were less than 1.0E-14 $\mu\text{Ci/mL}$ which is less than the limits in 10 CFR 20 Appendix B table 2. Effluent Concentrations (Environmental Report, UUSA, 2013).

7. Quantity released is calculated if the result equals or exceeds the MDA.



TABLE 2-10

Cylinder Receipt and Dispatch Building-1100 (CRDB 1100)
 Fume Hood Exhaust Gaseous Effluent Vent System, 1100-562-2MA2
 Gross Alpha & Gross Beta, Quarters 3 & 4, 2015
 URENCO USA
 Lea County, New Mexico

Sample ID	Sample Date (Off Date/Time)	Sample Period	Analyte	Gross Result ($\mu\text{Ci}/\text{ml}$)	MDA ($\mu\text{Ci}/\text{ml}$) @ 95 CL	Instrument Unc ($\mu\text{Ci}/\text{ml}$)	Total Vent System Flow (m^3)	Quantity Released (Ci)
1100-562-2MA2								
11005622MA2 070115	08/03/15 1055	07/01/15 - 08/03/15	Gross Alpha	-6.32E-17	8.06E-16	2.31E-19	2.68E+07	Result Below MDA
11005622MA2 080315	09/01/15 1108	08/03/15 - 09/01/15		2.00E-16	7.29E-16	1.40E-16	2.63E+07	Result Below MDA
11005622MA2 090115	10/01/15 0802	09/01/15 - 10/01/15		0.00E+00	7.12E-16	0.00E+00	2.68E+07	Result Below MDA
11005622MA2 100115	11/02/15 1319	10/01/15 - 11/02/15		-8.18E-17	5.69E-16	8.18E-17	2.92E+07	Result Below MDA
11005622MA2 110215	12/01/15 1107	11/02/15 - 12/01/15		-1.01E-16	7.02E-16	1.01E-16	2.58E+07	Result Below MDA
11005622MA2 120115	01/04/15 1315	12/01/15 - 01/04/16		0.00E+00	5.45E-16	9.50E-17	2.97E+07	Result Below MDA
11005622MA2 070115	08/03/15 1055	07/01/15 - 08/03/15	Gross Beta	-7.51E-16	4.83E-15	1.39E-15	2.68E+07	Result Below MDA
11005622MA2 080315	09/01/15 1108	08/03/15 - 09/01/15		-9.05E-16	4.37E-15	1.26E-15	2.63E+07	Result Below MDA
11005622MA2 090115	10/01/15 0802	09/01/15 - 10/01/15		3.25E-16	4.27E-15	1.08E-15	2.68E+07	Result Below MDA
11005622MA2 100115	11/02/15 1319	10/01/15 - 11/02/15		-2.19E-15	4.31E-15	1.05E-15	2.92E+07	Result Below MDA
11005622MA2 110215	12/01/15 1107	11/02/15 - 12/01/15		-2.22E-15	5.30E-15	1.36E-15	2.58E+07	Result Below MDA
11005622MA2 120115	01/04/15 1315	12/01/15 - 01/04/16		-2.10E-15	4.12E-15	1.00E-15	2.97E+07	Result Below MDA

Notes:

* No exceptions.

1. Ci = Curies.

2. $\mu\text{Ci}/\text{ml}$ = microCuries per milliliter.

3. CL = Confidence level.

4. m^3 = cubic meters.

5. MDA = minimum detectable activity.

6. All detected activity values were less than $1.0\text{E}-14 \mu\text{Ci}/\text{mL}$ which is less than the limits in 10 CFR 20 Appendix B table 2. Effluent Concentrations (Environmental Report, UUSA, 2013).

7. Quantity released is calculated if the result equals or exceeds the MDA.



TABLE 2-11

Centrifuge Test and Post Mortem Facilities - 1300 (CTPMF)
 Exhaust Filtration System Gaseous Effluent
 Gross Alpha & Gross Beta, Quarters 3 & 4, 2015
 URENCO USA
 Lea County, New Mexico

Sample ID	Sample Date (Off Date/Time)	Sample Period	Analyte	Gross Result ($\mu\text{Ci}/\text{ml}$)	MDA ($\mu\text{Ci}/\text{ml}$) @ 95 CL	Instrument Unc ($\mu\text{Ci}/\text{ml}$)	Total Vent System Flow (m^3)	Quantity Released (Ci)
1300-562-1MA1								
13005621MA1 070115	08/05/15 0927	07/01/15 - 08/05/15	Gross Alpha	0.00E+00	6.21E-16	0.00E+00	1.49E+07	Result Below MDA
13005621MA1 080515	09/02/15 0910	08/05/15 - 09/02/15		0.00E+00	7.29E-16	0.00E+00	1.19E+07	Result Below MDA
13005621MA1 090215	09/30/15 1009	09/02/15 - 09/30/15		0.00E+00	7.29E-16	0.00E+00	1.19E+07	Result Below MDA
13005621MA1 093015	11/04/15 0917	09/30/15 - 11/04/15		-8.51E-17	5.93E-16	8.51E-17	1.49E+07	Result Below MDA
13005621MA1 110415	12/02/15 1435	11/04/15 - 12/02/15		-1.01E-16	7.02E-16	1.01E-16	1.20E+07	Result Below MDA
13005621MA1 120215	01/04/15 0937	12/02/15 - 01/04/16		-9.13E-17	6.36E-16	9.13E-17	1.39E+07	Result Below MDA
13005621MA1 070115	08/05/15 0927	07/01/15 - 08/05/15	Gross Beta	5.69E-16	3.72E-15	9.86E-16	1.49E+07	Result Below MDA
13005621MA1 080515	09/02/15 0910	08/05/15 - 09/02/15		-3.33E-16	4.37E-15	1.00E-15	1.19E+07	Result Below MDA
13005621MA1 090215	09/30/15 1009	09/02/15 - 09/30/15		3.33E-16	4.37E-15	1.10E-15	1.19E+07	Result Below MDA
13005621MA1 093015	11/04/15 0917	09/30/15 - 11/04/15		-1.98E-15	4.48E-15	1.11E-15	1.49E+07	Result Below MDA
13005621MA1 110415	12/02/15 1435	11/04/15 - 12/02/15		-2.52E-15	5.30E-15	1.30E-15	1.20E+07	Result Below MDA
13005621MA1 120215	01/04/15 0937	12/02/15 - 01/04/16		-2.18E-15	4.80E-15	1.22E-15	1.39E+07	Result Below MDA

Notes:

* No exceptions.

1. Ci = Curies.

2. $\mu\text{Ci}/\text{ml}$ = microCuries per milliliter.

3. CL = Confidence level.

4. m^3 = cubic meters.

5. MDA = minimum detectable activity.

6. All detected activity values were less than $1.0\text{E}-14 \mu\text{Ci}/\text{mL}$ which is less than the limits in 10 CFR 20 Appendix B table 2. Effluent Concentrations (Environmental Report, UUSA, 2013).

7. Quantity released is calculated if the result equals or exceeds the MDA.



TABLE 2-12

Separations Building Module-1001 (SBM 1001) Pumped Extract Exhaust Gaseous Effluent Vent System

Quarterly Filter Composite Results - Radionuclides

URENCO USA

Lea County, New Mexico

Radionuclide	Sample Date (Off Date)	Sample Period	Result (μCi/ml)	Uncertainty (2σ TPU) (μCi/ml)	Uncertainty (1σ TPU) (μCi/ml)	MDC (μCi/ml)	Total Flow (m3)	Quantity Released (Ci)	% of Table 2 of Appendix B to 10 CFR 20 Values
Sample ID: 1001-562-1MA1									
Uranium-233/234 3rd Qtr 2015	10/1/2015	07/01/15	2.05E-18	9.10E-18	4.64E-18	2.40E-17	1.34E+06	Result Below MDC	Result Below MDC
Uranium-235/236 3rd Qtr 2015		-	-1.66E-18	5.51E-18	2.81E-18	1.96E-17	1.34E+06	Result Below MDC	Result Below MDC
Uranium-238 3rd Qtr 2015		10/01/15	-1.06E-17	8.07E-18	4.12E-18	2.90E-17	1.34E+06	Result Below MDC	Result Below MDC
Uranium-233/234 4th Qtr 2015	1/4/2016	10/01/15	-2.60E-19	1.32E-17	6.73E-18	3.66E-17	1.42E+06	Result Below MDC	Result Below MDC
Uranium-235/236 4th Qtr 2015		-	-2.10E-18	4.12E-18	2.10E-18	2.01E-17	1.42E+06	Result Below MDC	Result Below MDC
Uranium-238 4th Qtr 2015		01/04/16	-5.21E-18	1.02E-17	5.20E-18	3.29E-17	1.42E+06	Result Below MDC	Result Below MDC
Sample ID: 1001-562-1MA2									
Uranium-233/234 3rd Qtr 2015	10/1/2015	07/01/15	-1.94E-18	7.58E-18	3.87E-18	2.29E-17	1.39E+06	Result Below MDC	Result Below MDC
Uranium-235/236 3rd Qtr 2015		-	-2.37E-19	6.16E-18	3.14E-18	1.92E-17	1.39E+06	Result Below MDC	Result Below MDC
Uranium-238 3rd Qtr 2015		10/01/15	-4.84E-18	9.22E-18	4.70E-18	2.80E-17	1.39E+06	Result Below MDC	Result Below MDC
Uranium-233/234 4th Qtr 2015	1/4/2016	10/01/15	-3.73E-19	1.51E-17	7.70E-18	4.38E-17	1.47E+06	Result Below MDC	Result Below MDC
Uranium-235/236 4th Qtr 2015		-	3.16E-18	8.79E-18	4.48E-18	2.42E-17	1.47E+06	Result Below MDC	Result Below MDC
Uranium-238 4th Qtr 2015		01/04/16	2.37E-18	1.36E-17	6.94E-18	3.80E-17	1.47E+06	Result Below MDC	Result Below MDC

Notes:1. $\mu\text{Ci/mL}$ = microCuries per milliliter.2. m³ = cubic meters.

3. MDC = minimum detectable concentration.

4. Radionuclides analyzed using Procedure WL-1017 Revision 2 by WIPP Laboratories of Carlsbad, New Mexico.

5. All detected activity values were less than the facility-required lower level of detection of $1.0\text{E-}14$ $\mu\text{Ci/mL}$ which is less than 1% of the limits in 10 CFR 20 Appendix B Table 2 Effluent Concentrations (Environmental Report, UUSA, 2013).

6. Quantity released is calculated if the result Equals or Exceeds the MDC.



TABLE 2-13

Separations Building Module-1003 (SBM 1003) Pumped Extract Exhaust Gaseous Effluent Vent System
 Quarterly Filter Composite Results - Radionuclides
 URENCO USA
 Lea County, New Mexico

Radionuclide	Sample Date (Off Date)	Sample Period	Result (μCi/ml)	Uncertainty (2σ TPU) (μCi/ml)	Uncertainty (1σ TPU) (μCi/ml)	MDC (μCi/ml)	Total Flow (m3)	Quantity Released (Ci)	% of Table 2 of Appendix B to 10 10 CFR 20 Values
1003-562-1MA1									
Uranium-233/234 3rd Qtr 2015	10/1/2015	07/01/15	1.27E-18	9.26E-18	4.72E-18	2.53E-17	1.09E+06	Result Below MDC	Result Below MDC
Uranium-235/236 3rd Qtr 2015		-	-4.11E-20	6.88E-18	3.51E-18	2.16E-17	1.09E+06	Result Below MDC	Result Below MDC
Uranium-238 3rd Qtr 2015		10/01/15	-5.82E-18	9.78E-18	4.99E-18	3.09E-17	1.09E+06	Result Below MDC	Result Below MDC
Uranium-233/234 4th Qtr 2015	1/4/2016	10/01/15	-2.96E-18	1.28E-17	6.53E-18	3.78E-17	1.16E+06	Result Below MDC	Result Below MDC
Uranium-235/236 4th Qtr 2015		-	2.30E-18	6.39E-18	3.26E-18	1.76E-17	1.16E+06	Result Below MDC	Result Below MDC
Uranium-238 4th Qtr 2015		01/04/16	3.85E-19	1.05E-17	5.36E-18	3.03E-17	1.16E+06	Result Below MDC	Result Below MDC
1003-562-1MA2									
Uranium-233/234 3rd Qtr 2015	10/1/2015	07/01/15	7.80E-19	8.18E-18	4.17E-18	2.24E-17	1.20E+06	Result Below MDC	Result Below MDC
Uranium-235/236 3rd Qtr 2015		-	-1.55E-18	5.13E-18	2.62E-18	1.83E-17	1.20E+06	Result Below MDC	Result Below MDC
Uranium-238 3rd Qtr 2015		10/01/15	-7.59E-18	7.80E-18	3.98E-18	2.64E-17	1.20E+06	Result Below MDC	Result Below MDC
Uranium-233/234 4th Qtr 2015	1/4/2016	10/01/15	-8.03E-22	4.49E-21	2.29E-21	1.26E-20	9.77E+05	Result Below MDC	Result Below MDC
Uranium-235/236 4th Qtr 2015		-	0.00E+00	1.24E-21	6.33E-22	4.83E-21	9.77E+05	Result Below MDC	Result Below MDC
Uranium-238 4th Qtr 2015		01/04/16	6.18E-22	3.74E-21	1.91E-21	1.00E-20	9.77E+05	Result Below MDC	Result Below MDC

Notes:

1. $\mu\text{Ci}/\text{mL}$ = microCuries per milliliter.
2. m³ = cubic meters.
3. MDC = minimum detectable concentration.
4. Radionuclides analyzed using Procedure WL-1017 Revision 2 by WIPP Laboratories of Carlsbad, New Mexico.
5. All detected activity values were less than the facility-required lower level of detection of $1.0\text{E}-14$ $\mu\text{Ci}/\text{mL}$ which is less than 1% of the limits in 10 CFR 20 Appendix B Table 2 Effluent Concentrations (Environmental Report, UUSA, 2013).
6. Quantity released is calculated if the result Equals or Exceeds the MDC.



TABLE 2-14

Separations Building Module-1005 (SBM 1005) Pumped Extract Exhaust Gaseous Effluent Vent System
 Quarterly Filter Composite Results - Radionuclides
 URENCO USA
 Lea County, New Mexico

Radionuclide	Sample Date (Off Date)	Sample Period	Result (μCi/ml)	Uncertainty (2σ TPU) (μCi/ml)	Uncertainty (1σ TPU) (μCi/ml)	MDC (μCi/ml)	Total Flow (m3)	Quantity Released (Ci)	% of Table 2 of Appendix B to 10 CFR 20 Values
1005-562-1MA1									
Uranium-233/234 3rd Qtr 2015	10/1/2015	07/01/15	2.35E-18	1.23E-17	6.28E-18	3.25E-17	2.38E+06	Result Below MDC	Result Below MDC
Uranium-235/236 3rd Qtr 2015		-	-2.15E-18	7.05E-18	3.60E-18	2.50E-17	2.38E+06	Result Below MDC	Result Below MDC
Uranium-238 3rd Qtr 2015		10/01/15	-1.06E-17	1.12E-17	5.71E-18	3.70E-17	2.38E+06	Result Below MDC	Result Below MDC
Uranium-233/234 4th Qtr 2015	1/4/2016	10/01/15	-2.05E-18	1.61E-17	8.21E-18	4.62E-17	2.73E+06	Result Below MDC	Result Below MDC
Uranium-235/236 4th Qtr 2015		-	2.71E-18	7.51E-18	3.83E-18	2.07E-17	2.73E+06	Result Below MDC	Result Below MDC
Uranium-238 4th Qtr 2015		01/04/16	7.15E-20	1.28E-17	6.53E-18	3.70E-17	2.73E+06	Result Below MDC	Result Below MDC
1005-562-1MA2									
Uranium-233/234 3rd Qtr 2015	10/1/2015	07/01/15	-1.82E-18	1.04E-17	5.31E-18	3.13E-17	2.36E+06	Result Below MDC	Result Below MDC
Uranium-235/236 3rd Qtr 2015		-	-2.18E-18	7.37E-18	3.76E-18	2.67E-17	2.36E+06	Result Below MDC	Result Below MDC
Uranium-238 3rd Qtr 2015		10/01/15	-1.23E-17	1.11E-17	5.66E-18	3.91E-17	2.36E+06	Result Below MDC	Result Below MDC
Uranium-233/234 4th Qtr 2015	1/4/2016	10/01/15	-8.69E-18	1.70E-17	8.67E-18	5.88E-17	2.74E+06	Result Below MDC	Result Below MDC
Uranium-235/236 4th Qtr 2015		-	-4.46E-18	8.78E-18	4.48E-18	4.28E-17	2.74E+06	Result Below MDC	Result Below MDC
Uranium-238 4th Qtr 2015		01/04/16	-6.13E-18	1.15E-17	5.87E-18	4.57E-17	2.74E+06	Result Below MDC	Result Below MDC

Notes:

1. μCi/mL = microCuries per milliliter.
2. m³ = cubic meters.
3. MDC = minimum detectable concentration.
4. Radionuclides analyzed using Procedure WL-1017 Revision 2 by WIPP Laboratories of Carlsbad, New Mexico.
5. All detected activity values were less than the facility-required lower level of detection of 1.0E-14 μCi/mL which is less than 1% of the limits in 10 CFR 20 Appendix B Table 2 Effluent Concentrations (Environmental Report, UUSA, 2013).
6. Quantity released is calculated if the result Equals or Exceeds the MDC.



TABLE 2-15

Cylinder Receipt and Dispatch Building (CRDB 1100) Local Extract Exhaust Gaseous Effluent Vent System
 Quarterly Filter Composite Results - Radionuclides
 URENCO USA
 Lea County, New Mexico

Radionuclide	Sample Date (Off Date)	Sample Period	Result (μCi/ml)	Uncertainty (2σ TPU) (μCi/ml)	Uncertainty (1σ TPU) (μCi/ml)	MDC (μCi/ml)	Total Flow (m3)	Quantity Released (Ci)	% of Table 2 of Appendix B to 10 10 CFR 20 Values
1100-562-1MA1									
Uranium-233/234 3rd Qtr 2015	10/1/2015	07/01/15	-6.09E-19	1.01E-17	5.15E-18	2.89E-17	6.78E+05	Result Below MDC	Result Below MDC
Uranium-235/236 3rd Qtr 2015		-	-1.88E-19	7.53E-18	3.84E-18	2.36E-17	6.78E+05	Result Below MDC	Result Below MDC
Uranium-238 3rd Qtr 2015		10/01/15	-6.95E-18	1.12E-17	5.71E-18	3.49E-17	6.78E+05	Result Below MDC	Result Below MDC
Uranium-233/234 4th Qtr 2015	1/4/2016	10/01/15	-9.45E-18	1.30E-17	6.63E-18	4.31E-17	2.12E+06	Result Below MDC	Result Below MDC
Uranium-235/236 4th Qtr 2015		-	2.54E-18	7.06E-18	3.60E-18	1.95E-17	2.12E+06	Result Below MDC	Result Below MDC
Uranium-238 4th Qtr 2015		01/04/16	-9.84E-18	1.03E-17	5.26E-18	3.81E-17	2.12E+06	Result Below MDC	Result Below MDC
1100-562-1MA2									
Uranium-233/234 3rd Qtr 2015	10/1/2015	07/01/15	-2.55E-18	9.63E-18	4.91E-18	2.90E-17	1.09E+06	Result Below MDC	Result Below MDC
Uranium-235/236 3rd Qtr 2015		-	-2.15E-18	6.96E-18	3.55E-18	2.44E-17	1.09E+06	Result Below MDC	Result Below MDC
Uranium-238 3rd Qtr 2015		10/01/15	-6.27E-18	1.17E-17	5.97E-18	3.56E-17	1.09E+06	Result Below MDC	Result Below MDC
Uranium-233/234 4th Qtr 2015	1/4/2016	10/01/15	-9.93E-18	1.34E-17	6.84E-18	4.58E-17	2.20E+06	Result Below MDC	Result Below MDC
Uranium-235/236 4th Qtr 2015		-	-2.91E-18	5.71E-18	2.91E-18	2.79E-17	2.20E+06	Result Below MDC	Result Below MDC
Uranium-238 4th Qtr 2015		01/04/16	-3.77E-18	1.11E-17	5.66E-18	3.68E-17	2.20E+06	Result Below MDC	Result Below MDC

Notes:

1. $\mu\text{Ci}/\text{mL}$ = microCuries per milliliter.
2. m^3 = cubic meters.
3. MDC = minimum detectable concentration.
4. Radionuclides analyzed using Procedure WL-1017 Revision 2 by WIPP Laboratories of Carlsbad, New Mexico.
5. All detected activity values were less than the facility-required lower level of detection of $1.0\text{E}-14$ $\mu\text{Ci}/\text{mL}$ which is less than 1% of the limits in 10 CFR 20 Appendix B Table 2 Effluent Concentrations (Environmental Report, UUSA, 2013).
6. Quantity released is calculated if the result Equals or Exceeds the MDC.



TABLE 2-16

Cylinder Receipt and Dispatch Building (CRDB 1100) Fume Hood Exhaust Gaseous Effluent Vent System
 Quarterly Filter Composite Results - Radionuclides
 URENCO USA
 Lea County, New Mexico

Radionuclide	Sample Date (Off Date)	Sample Period	Result (μCi/ml)	Uncertainty (2σ TPU) (μCi/ml)	Uncertainty (1σ TPU) (μCi/ml)	MDC (μCi/ml)	Total Flow (m3)	Quantity Released (Ci)	% of Table 2 of Appendix B to 10 CFR 20 Values
1100-562-2MA1									
Uranium-233/234 3rd Qtr 2015	10/1/2015	07/01/15	6.26E-17	2.18E-17	1.11E-17	2.50E-17	8.05E+07	0.00	0.002%
Uranium-235/236 3rd Qtr 2015		-	3.18E-18	8.19E-18	4.18E-18	2.12E-17	8.05E+07	Result Below MDC	Result Below MDC
Uranium-238 3rd Qtr 2015		10/01/15	3.00E-17	1.72E-17	8.78E-18	3.06E-17	8.05E+07	Result Below MDC	Result Below MDC
Uranium-233/234 4th Qtr 2015	1/4/2016	10/01/15	1.76E-17	1.65E-17	8.42E-18	3.50E-17	8.26E+07	Result Below MDC	Result Below MDC
Uranium-235/236 4th Qtr 2015		-	0.00E+00	5.01E-18	2.56E-18	1.73E-17	8.26E+07	Result Below MDC	Result Below MDC
Uranium-238 4th Qtr 2015		01/04/16	2.99E-17	1.67E-17	8.52E-18	2.73E-17	8.26E+07	0.00	0.001%
1100-562-2MA2									
Uranium-233/234 3rd Qtr 2015	10/1/2015	07/01/15	6.82E-17	2.33E-17	1.19E-17	2.66E-17	7.99E+07	0.00	0.002%
Uranium-235/236 3rd Qtr 2015		-	3.28E-18	9.28E-18	4.73E-18	2.42E-17	7.99E+07	Result Below MDC	Result Below MDC
Uranium-238 3rd Qtr 2015		10/01/15	1.43E-17	1.52E-17	7.76E-18	3.32E-17	7.99E+07	Result Below MDC	Result Below MDC
Uranium-233/234 4th Qtr 2015	1/4/2016	10/01/15	2.06E-18	1.53E-17	7.81E-18	4.23E-17	8.47E+07	Result Below MDC	Result Below MDC
Uranium-235/236 4th Qtr 2015		-	0.00E+00	5.98E-18	3.05E-18	2.34E-17	8.47E+07	Result Below MDC	Result Below MDC
Uranium-238 4th Qtr 2015		01/04/16	1.70E-17	1.73E-17	8.83E-18	3.44E-17	8.47E+07	Result Below MDC	Result Below MDC

Notes:

1. $\mu\text{Ci}/\text{mL}$ = microCuries per milliliter.
2. m^3 = cubic meters.
3. MDC = minimum detectable concentration.
4. Radionuclides analyzed using Procedure WL-1017 Revision 2 by WIPP Laboratories of Carlsbad, New Mexico.
5. All detected activity values were less than the facility-required lower level of detection of $1.0\text{E}-14$ $\mu\text{Ci}/\text{mL}$ which is less than 1% of the limits in 10 CFR 20 Appendix B Table 2 Effluent Concentrations (Environmental Report, UUSA, 2013).
6. Quantity released is calculated if the result Equals or Exceeds the MDC.



TABLE 2-17

Centrifuge Test and Post Mortem Facilities - 1300 (CTPMF)
 Exhaust Filtration System Gaseous Effluent
 Quarterly Filter Composite Results - Radionuclides
 URENCO USA
 Lea County, New Mexico

Radionuclide	Sample Date (Off Date)	Sample Period	Result ($\mu\text{Ci/ml}$)	Uncertainty (2σ TPU) ($\mu\text{Ci/ml}$)	Uncertainty (1σ TPU) ($\mu\text{Ci/ml}$)	MDC ($\mu\text{Ci/ml}$)	Total Flow (m^3)	Quantity Released (Ci)	% of Table 2 of Appendix B to 10 CFR 20 Values
1300-562-1MA1									
Uranium-233/234 3rd Qtr 2015	9/30/2015	07/01/15	-2.91E-18	7.80E-18	3.98E-18	2.49E-17	3.87E+07	Result Below MDC	Result Below MDC
Uranium-235/236 3rd Qtr 2015		-	-1.74E-18	5.87E-18	2.99E-18	2.12E-17	3.87E+07	Result Below MDC	Result Below MDC
Uranium-238 3rd Qtr 2015		09/30/15	8.48E-18	9.26E-18	4.72E-18	3.11E-17	3.87E+07	Result Below MDC	Result Below MDC
Uranium-233/234 4th Qtr 2015	1/4/2016	09/30/15	-8.16E-19	1.46E-17	7.45E-18	4.06E-17	4.08E+07	Result Below MDC	Result Below MDC
Uranium-235/236 4th Qtr 2015		-	-2.20E-18	4.32E-18	2.20E-18	2.11E-17	4.08E+07	Result Below MDC	Result Below MDC
Uranium-238 4th Qtr 2015		01/04/16	-5.72E-18	9.78E-18	4.99E-18	3.28E-17	4.08E+07	Result Below MDC	Result Below MDC

Notes:

1. $\mu\text{Ci/mL}$ = microCuries per milliliter.
2. m^3 = cubic meters.
3. MDC = minimum detectable concentration .
4. Radionuclides analyzed using Procedure WL-1017 Revision 2 by WIPP Laboratories of Carlsbad, New Mexico.
5. All detected activity values were less than the facility-required lower level of detection of $1.0\text{E-}14 \mu\text{Ci/mL}$ which is less than 1% of the limits in 10 CFR 20 Appendix B Table 2 Effluent Concentrations (Environmental Report, UUSA, 2013).
6. Quantity released is calculated if the result Equals or Exceeds the MDC.

Report of Dose to Members of the Public for the Period July - December 2015

DOSE TO MEMBERS OF THE PUBLIC FOR THE PERIOD JULY - DECEMBER 2015

The potential maximum doses directly at the discharge points for liquid and gaseous effluent were shown to be less than 10% of the radionuclide concentrations which, if ingested or inhaled continuously over the course of a year, would produce an unacceptable total effective dose equivalent.

In gaseous effluent, this is shown because the isotopic uranium activity was either below the MDA/MDC 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 given in 10 CFR 20, Appendix B, Table 2 are equivalent to the radionuclide concentrations, which, if inhaled continuously over the course of a year, would produce a total effective dose equivalent of 0.05 rem (50 millirem). Because the maximum potential dose directly at the point of gaseous effluent discharge was acceptable, actual dose assessment was not performed.

The concentrations of isotopic uranium in gaseous effluent demonstrate compliance with 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.

For liquid effluent, the potential maximum dose directly at the point of liquid effluent discharge is shown to be less than 10% of the radionuclide concentrations which, if ingested continuously over the course of a year, would produce an unacceptable total effective dose equivalent. This is shown because the domestic wastewater effluent activity ranged from 0.003% - 0.10% of the value listed in 10 CFR 20, Appendix B, Table 3, "Releases to Sewers" (Attachment 1, Table 1-1). The concentrations in 10 CFR 20, Appendix B, Table 3 are such that if the sewage released by the licensee (URENCO USA) were the only source of water ingested by a reference man during a year, it would result in a committed effective dose equivalent of 0.5 rem (500 millirem). Because the maximum potential dose directly at the point of liquid effluent discharge was acceptable, actual dose assessment was not performed.

The concentrations of isotopic uranium in liquid effluent demonstrate compliance with 10 CFR 20.1301 and 10 CFR 20.1302.

