

February 28, 2013
RKB:13:013



U.S. Nuclear Regulatory Commission
Attn: Document Control Desk (03-H8)
Director, Office of Nuclear Material
Safety and Safeguards
One White Flint North
11555 Rockville Pike
Rockville, Maryland 20852-2738

License SNM-1227
Docket 70-1257

Subject: Required Reporting of Effluents per 10 CFR 70.59

As required by 10 CFR 70.59, AREVA NP Inc. (AREVA NP) is reporting discharges of radioactive materials in the effluents from its nuclear fuels fabrication plant on Horn Rapids Road in Richland, Washington. Data from July 1 through December 31, 2012 are reported in the attached tables.

If there are any questions, please contact me at (509) 375-8638.

Very truly yours,

A handwritten signature in black ink, appearing to read 'R K Burklin'.

R. K. Burklin
Radiation Protection

/mah

Attachments

cc: V. McCree, U.S. Nuclear Regulatory Commission, Region II
P. J. Martell, State of Washington Department of Health
M. L. Thomas, U.S. Nuclear Regulatory Commission, Region II
Director, Office of Radiation Protection (WDOH)

AREVA NP INC.

2101 Horn Rapids Road, Richland, WA 99354
Tel.: 509 375 8100 - www.aveva.com

NM 5801

Gaseous Effluent July 1, 2012 – December 31, 2012					
Stack	Average Concentration ($\mu\text{Ci/ml}$)	Average LLD ($\mu\text{Ci/ml}$)*	Quantity ($\mu\text{Ci alpha}$)**	Quantity, if negatives are dropped	Flow (m^3)
Low Enriched Uranium					
K03	9.00E-16	3.27E-15	0.27	0.27	2.99E+08
K06	-1.97E-16	3.68E-15	-0.02	0.00	1.01E+08
K21	-1.70E-15	2.21E-14	-0.08	0.00	4.59E+07
K25	-8.40E-17	4.26E-15	0.00	0.00	2.64E+07
K31	2.58E-15	3.86E-15	0.64	0.64	2.49E+08
K37	4.95E-16	3.94E-15	0.05	0.05	9.34E+07
K42	6.74E-16	3.60E-15	0.03	0.03	4.75E+07
K46	-1.56E-16	3.66E-15	-0.02	0.00	1.02E+08
K47	4.74E-15	1.45E-14	0.03	0.03	7.20E+06
K49	6.39E-16	3.62E-15	0.04	0.06	6.29E+07
K56	1.07E-15	4.55E-15	0.01	0.01	4.96E+06
K58	1.12E-16	2.41E-15	0.01	0.01	1.27E+08
K60	3.18E-16	5.34E-15	0.03	0.03	1.05E+08
K62	4.03E-16	5.24E-15	0.16	0.16	3.96E+08
K65	6.07E-16	3.52E-15	0.01	0.01	1.48E+07
K67	-8.39E-17	5.25E-15	0.00	0.00	7.21E+06
K72	2.15E-15	2.95E-15	0.48	0.48	2.25E+08
K75	1.03E-16	3.15E-15	0.00	0.00	1.11E+06
TOTAL			1.65		
Total if negatives are dropped				1.77	

* Typical lower limit of detection for 7-day sampling.

** Based on low enriched uranium

Stack	Average Concentration ($\mu\text{Ci/ml}$)*	Average LLD ($\mu\text{Ci/ml}$)*	Quantity (μCi)	Flow (m^3)
Radionuclide: RN-220				
K03	3.65E-09	---	1.09E+06	2.99E+08
K31	4.98E-09	---	1.24E+06	2.49E+08
K37	0.00E+00	---	0.00E+06	9.34E+07
K72	2.86E-08	---	6.43E+06	2.25E+08
K75	1.39E-08	---	1.54E+04	1.11E+06
TOTAL			8.77E+06	

* Radon concentrations are determined by e-perms, which rely on changes in voltage; not counting instruments

Liquid Effluent*				
July 1, 2012 – December 31, 2012				
Constituent	Concentration ($\mu\text{Ci/ml}$)	LLD ($\mu\text{Ci/ml}$)	Quantity (Ci)	Liquid Volume (m^3)
Soluble U	1.48E-08	***	0.0006	4.07E+04
Insoluble U**	4.92E-08	***	0.0020	
Tc-99	1.97E-07	***	0.0080	
Total Ci			0.0105	

- * Combined liquid effluent released to City of Richland sewer system.
- For each calendar month the average concentration of insoluble uranium was less than 50 ppb.
- *** These constituents are analyzed chemically via Inductively Coupled Plasma/Mass Spectroscopy (ICP/MS) as opposed to radiation counting. Laboratory detection limits for uranium and Tc-99 are generally 1 ppb and 5 ppt, respectively.