AREVA

August 27, 2010
RKB:10:045

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

Gentlemen:

**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 January 1, 2010 through June 30, 2010 are reported in the attached tables. All data indicate continued compliance with applicable discharge limits. If there are any questions, please contact me at (509) 375-8638.

Very truly yours,

R K Burklin

R. K. Burklin
Radiation Protection

/mah

Attachments

cc: L. A. Reyes, U.S. Nuclear Regulatory Commission, Region II
J. J. Martell, State of Washington Department of Health
M. L. Thomas, U.S. Nuclear Regulatory Commission, Region II

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**AREVA NP INC.**
**An AREVA and Siemens company**

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

| Gaseous Effluent<br>January 1, 2010 - June 30, 2010 | | | | | |
|---|---|---|---|---|---|
| **Stack** | **Average Concentration (μCi/ml)** | **Error Estimate (%)** | **Average LLD (μCi/ml)*** | **Quantity (μCi α)** | **Flow ($m^3$)** |
| Low Enriched Uranium | | | | | |
| K03 | 4.39E-16 | 63 | 4.54E-15 | .09 | 2.13E+08 |
| K06 | -4.72E-16 | 123 | 5.29E-15 | -.05 | 1.01E+08 |
| K21 | 2.54E-15 | 94 | 3.18E-14 | .13 | 4.88E+07 |
| K25 | 5.91E-16 | 105 | 6.76E-15 | .02 | 2.67E+07 |
| K31 | 2.13E-15 | 6 | 1.11E-14 | .51 | 2.42E+08 |
| K37 | 7.18E-16 | 47 | 4.80E-15 | .07 | 9.12E+07 |
| K42 | 3.24E-16 | 98 | 4.58E-15 | .01 | 4.25E+07 |
| K46 | 8.77E-16 | 40 | 4.89E-15 | .09 | 1.04E+08 |
| K47 | 1.31E-14 | 10 | 1.39E-14 | .11 | 8.00E+06 |
| K49 | 8.52E-16 | 36 | 4.28E-15 | .06 | 6.49E+07 |
| K50 | 2.64E-14 | 8 | 1.04E-14 | .03 | 1.18E+06 |
| K55 | 2.77E-15 | 24 | 7.22E-15 | .01 | 3.01E+06 |
| K56 | 7.23E-16 | 56 | 6.45E-15 | .00 | 3.29E+06 |
| K58 | 3.15E-16 | 91 | 3.68E-15 | .04 | 1.23E+08 |
| K60 | 3.31E-16 | 109 | 6.65E-15 | .03 | 8.86E+07 |
| K62 | 4.76E-16 | 69 | 5.17E-15 | .19 | 3.86E+08 |
| K65 | 5.07E-16 | 64 | 4.03E-15 | .01 | 1.68E+07 |
| K67 | 1.06E-15 | 40 | 5.74E-15 | .01 | 6.94E+06 |
| K72 | 3.01E-15 | 11 | 3.26E-15 | .65 | 2.17E+08 |
| **TOTAL** | | | | **2.01** | **1.79E+09** |
| **Total if negatives are dropped** | | | | **2.06** | |

| January 1, 2010 - June 30, 2010 | | | | | |
|---|---|---|---|---|---|
| **Stack** | **Average Concentration (μCi/ml)** | **Error Estimate (%)** | **Average LLD (μCi/ml)**** | **Quantity (μCi)** | **Flow ($m^3$)** |
| Radionuclide: Rn-220 | | | | | |
| K03 | 8.12E-09 | 10 | --- | 1.73E+06 | 2.13E+08 |
| K31 | 5.65E-09 | 7 | --- | 1.37E+06 | 2.42E+06 |
| K72 | 5.31E-08 | 6 | --- | 3.05E+06 | 2.17E+08 |
| **TOTAL** | | | | **6.15E+06** | **6.72E+07** |

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

** Rn-220 concentrations are determined by the use of E-perms, which rely on changes in voltage – no counting instruments.

| Liquid Effluent* January 1, 2010 - June 30, 2010 | | | | | |
|---|---|---|---|---|---|
| **Constituent** | **Concentration (μCi/ml)** | **Error Estimate (%)** | **LLD (μCi/ml)** | **Quantity (Ci)** | **Liquid Volume ($m^3$)** |
| U | <2.21E-07 | 92 | ** | <0.013 | 5.91E+04 |
| Tc-99 | <1.52E-07 | 89 | ** | <0.009 | |
| Total Ci | | | | <0.022 | |

* Combined liquid effluent released to City of Richland sewer system.

** 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 1 part per billion and 5 parts per trillion, respectively.