STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
3100 Port of Benton Blvd • Richland, WA 99354 • (509) 372-7950

October 9, 2008

Mr. Gregory F. Suber
c/o Document Control Desk
U.S. Nuclear Regulatory Commission
Mailstop T-8F05
Washington DC, 20555-0001

Re: Review of the Proposed License Renewal of AREVA NP Fuel Fabrication Facility, Richland, Washington

Reference: DRAFT Environmental Assessment for the Renewal of U.S. Nuclear Regulatory Commission License No. SNM-1227 for AREVA NP, INC. Richland Fuel Fabrication Facility

Dear Mr. Suber:

The Department of Ecology completed our review of the referenced document. Copies of our comments are enclosed. Our comments are editorial and are intended for your information only and do not impact our concurrence with your determination.

Ecology concurs with the NRC's determination that the proposed license renewal action will have no significant adverse impact on the environment. Please provide us a copy of the final Environmental Assessment when it is released.

Thank you for the opportunity to review this document.

If you have any questions, please contact me at 509-372-7881 or jayr461@ecy.wa.gov.

Sincerely,

Jeff Ayres by Frederick A. Bond

Jeff Ayres
Environmental Specialist
Nuclear Waste Program

pll

Enclosure

Ecology Review of NRC Environmental Assessment: DRAFT - *ENVIRONMENTAL ASSESSMENT FOR THE RENEWAL OF U.S. NUCLEAR REGULATORY COMMISSION LICENSE NO. SNM–1227 FOR AREVA NP, INC. RICHLAND FUEL FABRICATION FACILITY.*

Background: By Email request of Gloria Kulesa [Gloria.Kulesa@nrc.gov] of September 10, 2008, Ecology was requested to review a concern that NRC developed within the drafting of the subject document. The pertinent portion of their draft is capsulized on page 21 as:

> In addition to NAAQS criteria pollutants, NRC requires AREVA NP to monitor fluoride emissions as a condition of the NRC license. The NRC standard for compliance of 0.5 micrograms/cubic meter was established by the State of Washington (WAC 173-481-110, Washington Administrative Code, ambient air quality and environmental standards for fluorides, Department of Ecology). AREVA NP made a process change in April 2004, switching from ion specific electrode to ion chromatography as the analytical method for evaluating fluoride levels in ambient air samples. AREVA NP provided the resulting raw data values in its *Supplement to Applicant's Environmental Report* (AREVA NP, April 2008). While the data is within the established limits, it appears to rise dramatically after AREVA NP made its process change. AREVA NP subsequently supplied additional information, including the following table (AREVA NP, August 2008).

Table 7. Fluoride Measurements from 2004 through 2008
(corrected results from blank subtraction and peak adjustment to minimize acetate interference; no correction for positive glycolate interference).

Year	Qtr.	Ambient Air Station #3 F, $\mu gm/m^3$	Ambient Air Station #4 F, $\mu g/m^3$
2004	3	0.12	0.08
2005	3	0.13	0.10
2006	1	0.03	0.06
2006	2	0.07	0.15
2006	3	0.26	0.20
2006	4	0.36	0.17
2007	1	0.05	0.05
2007	2	0.12	0.21
2007	3	0.24	0.40
2007	4	0.24	0.06
2008	1	0.03	0.06
2008	2	0.23	0.33
Limit		0.5^2	0.5

Ecology Review:

1. Method Selection
   a. Ecology concurs that the analytical method change that was instituted by AREVA in 2004 was and is appropriate.
      i. Ion specific electrode (ISE) analysis for fluoride is not highly repeatable so far as interferences or effective outside of high fluoride concentration ranges and is thus not a recommended method.
      ii. Ion chromatography (IC) for fluoride can be applied across a greater concentration range consistently.
      iii. The selection of sample and analysis methodology should be approved by, and on file with, Ecology (WAC 173-481-160). This document does not describe such approval nor filing and this reviewer is unfamiliar with where such filing should be conducted.
      iv. The 'dramatic' rise of ambient fluoride results described by NRC may simply be construed to be due to the previously poor response of ISE relative to IC.
   b. Ion chromatography is not perfect – its application requires careful selection of appropriate chromatography column and eluent, and diligence by the analyst to ensure that the result remains both precise and accurate.

i. Peak adjustment for acetate interference – may not be a problem dependent upon chromatographic parameters or conditions (column and eluent).
ii. No correction for glycolate interference – as acetate and glycolate may co-elute, correction for glycolate may be necessary. Use of hydroxide eluate may aid separation of peaks of the acetate, glycolate, and fluoride.

2. Environmental Impact
   a. Tabulated results are described as having already been corrected for background. Every analytical method results in some variability (deviation) in results. This variability results in error bars around the 'true' result. In correction for background, as assessed by blank samples, the error bars of the sample result become larger. A more appropriate statement of their ambient concentrations should be expressed as the result ± one standard deviation. One standard deviation is stated here when the result is not near the threshold standard – greater analytical precision and more standard deviations should be reflected when the result is critically close to the standard.
   b. The applicable standard cited here is that of WAC 173-481-110. This standard was developed by Washington for the protection of forage and livestock and applies only during the 'growing season.' Additional, progressively higher, concentration standards apply for selected periods of any consecutive thirty days, any consecutive seven days, and for any twenty-four hour period, respectively. The AREVA results should only be compared to the period-dependent concentration standards – albeit, comparison to the most stringent standard can suffice.
   c. Tabulated results across monitoring stations frequently differ within each quarter reported – this variation is considered to be primarily due to seasonal winds and placement of the monitors. Inspection suggests (not detailed in Figure 1) that Station #3 is more to the northeast of the AREVA facility than Station #4 as the annual prevailing wind is from the southwest.
   d. Inspection of tabulated results across quarters, for each monitoring station, suggests that variation is primarily due to variation in UF_6 processing rates. Additional variation may be attributable to variation in capture efficiency during HF condensation and dilution from the dry conversion process off-gas.
   e. The Benton Clean Air Agency also implements WAC 173-460 dealing with toxic air pollutants. The current threshold standard, Acceptable Source Impact Level (ASIL), for fluoride within WAC 173-460 is 8.3 $\mu g/m^3$ for the protection of the public. Revision of this standard is anticipated to be proposed in September 2008 to be 13 $\mu g/m^3$. An ASIL is not a strict limit for acceptable impact but is a threshold for detailed assessment of public health effects (i.e. exposure up to an ASIL is deemed to have no significant public health effect). Reported AREVA impacts remain low relative to this standard.

Review prepared by: Doug Hendrickson, P.E. (Chemical engineer), in consultation with Asopuru Okemgbo, PhD. (Chemist)
September 12, 2008

COMMENTS ON DRAFT ENVIRONMENTAL ASSESSMENT AND SEPA CHECKLIST FOR THE RENEWAL OF U.S. NUCLEAR REGULATORY COMMISSSION LICENSE NO. SNM-1227 FOR AREVA NP, INC. RICHLAND FUEL FABRICATION FACILITY

PAGE	SECTION REFERENCE	TEXT	COMMENTS
14	Draft Environmental Assessment, 3.1 Land Use, ¶ 4	The Horn Rapids Golf Community near SR 240 opened in early 1994. It encompasses 342 ha [835 acres] with plans to include over 3,000 homes, a village center, school, golf course, and parks.	Revise description to update total number of homes and inform reader that golf course is operational.
14	3.1 Land Use		The text does not list the Horn Rapids RV Park that is north of the Horn Rapids development and closer to AREVA. Please add.
16	3.2 Transportation	Traffic studies show a threefold increase in the average weekday count between July 1996 and July 1999	The reader cannot discern from the draft text if the traffic studies are still valid for peak hour traffic or for average counts. Please consider replacing the 1996-1999 traffic data if more current studies show that the references no longer reflect bounding conditions.
16	3.2 Transportation		The text does not make specific reference to the U.S. Department of Energy's Volpentest HAMMER Training and Education Center off of Horn Rapids Road opposite Kingsgate Way to the northwest of AREVA. Transportation impacts should address the Monday through Friday traffic surges that affect movement of materials into AREVA and shipment of products and radioactive and dangerous (mixed) wastes off-site. The EA should also evaluate the impacts to the health of passersby traveling to HAMMER that may result from transportation accidents involving AREVA products or wastes.
16	3.2 Transportation	¶ 4 "goods and the affect the materials movement may have…:	EDITORIAL: change affect to effect.
19	3.4 Climatology, Meteorology and Air Quality	¶ 1 "The Mid Columbia Basin has a dry continental climate… greatly influenced by the jet stream's flow within the local	The Pacific Northwest National Laboratory publishes the "Hanford Site National Environmental Policy Act (NEPA) Characterization" (PNNL-6415

		topography"... The average... minimum temperature of 7° C [0 ° F] occurs in January.	Rev. 18). In Section 4.1 of the document, PNNL attributes the climate within the semiarid Pasco Basin of the Columbia Plateau (where the Tri-Cities lies) to influence of the Pacific Ocean and the Cascade Mountain Range to the west, and other mountain ranges to the north and east. PNNL attributes moderation in temperatures to the Ocean and creation of a rain shadow that limits rain and snowfall in eastern Washington to the Cascade Range. PNNL-6415 does not attribute the dry climate to the jet stream directly. Please correct 7° C to -7° C to reflect a temperature below 0° C [32° F]. Please consider incorporating specific information from the PNNL document, including data from the meteorological station at the Richland Airport, into the final Environmental Assessment.
20	3.4 Climatology, Meteorology and Air Quality	¶ 3 "Affects on air quality can result..."	EDITORIAL: Please change "Affects on air quality..." to "Effects on air quality..."
27	Figure 5	Figure 5 (DOE, 2004) shows the locations of know earthquakes that occurred in the Columbia Plateau between 1850 and 2000 with a Modified Mercalli Intensity (MMI) of V or more and at Richter magnitude 3.0 or more.	PNNL-6415 Rev. 18 shows a version of the figure that the Advanced National Siesmic Service published in 2005.
25	3.6.2 Seismology	The largest earthquake occurred [sic] 1872 in the eastern Washington area. It had an MMI of IX and an estimated magnitude of 7.0 It location has been variously estimated from Wenatchee to British Columbia. The largest known earthquake in the Columbia Plateau occurred in 1936 near Milton-	PNNL 6415 Rev. 18 updated information on the 1872 central Washington earthquake, and states that the Milton-Freewater earthquake had a Richter magnitude of 5.75. It also attributes a reduction in magnitude to 5.35 that Bakun et al. concluded in 2002.

		Freewater, Oregon. This earthquake had a Richter magnitude of approximately 6.0 and a maximum MMI of VII and was followed by a number of aftershocks indicating northeast-trending fault plane. Other earthquakes with Richter magnitudes greater than or equal to 5 occurred along the boundaries of the Columbia Plateau in a cluster near Lake Chelan.	
28	3.7.1 Terrestrial	¶ 1 lists buckwheat (*Fallopia convolvus)*	PNNL 6415 Rev. 18 lists snow buckwheat (*Eriognam niveam*). The text in the EA does not clarify if *Fallopia* is peculiar to the area around AREVA; please clarify.
31	3.10 Scenic/Visual Resources	The Hanford Reach Protection and Management Program Interim Action Plan (Benton County Planning Department, 1998) outlines guidelines for facilities along the Hanford Reach (such as designing buildings to be visually subordinate: whereby buildings and/or structures are shielded from or blended into the existing landscape as much as possible).	That Plan is still available on the Benton County web site; however, there is now a *Final Hanford Reach Monument Comprehensive Conservation Plan and EIS* available. It shows multiple jurisdictions among the USDOE, the US Fish & Wildlife Service, and Washington Department of Fish & Wildlife (Map 3) now, but no role for Benton County. Maps that show proposals for new management areas do not show Benton County in management of the Reach, either. It may be of use to inform those making a decision if the management plans the county established will become final and affect Monument activities. Alternative C-1 is the USF&WS preferred alternative, which requires development of plans or standards for aesthetic/resource variables.
37	4.3 Socioeconomics	¶ 1 (first full) At the same time, Kadlec is working with Columbia Basin College and Washington State University Tri-Cities on developing a new health sciences training and education center on the local campus.	A new building labeled as Columbia Basin College stands near Kadlec. Please add information about when the new health sciences center will be available and clarify its location (which "local campus")

37	4.3 Socioeconomics	¶ 1 (first full) Kadlec considerably increased their…and are in the early planning stage…	EDITORIAL: Change *are* to *is*.
39	4.5 Water Quality	¶ 1 (first full) Since changes in o perations with respect to….is not anticipated…	EDITORIAL: Change *is* to *are*.
41	4.7 Ecology	¶ 3 The characteristics of the Horn Rapids Industrial Park show that the land and its habitants have already been disturbed.	EDITORIAL: Change *habitants* to *habitats*.
42-42	4.10 Scenic and Visual	Any visual/scenic changes will need to conform to the Benton County Planning's Guidelines outlined in the *Hanford Reach Protection and Management Program Interim Action Plans.*	Inform reader if guidelines are now replaced by the Reach Plan and EIS.