MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. AREVA Enrichment Services LLC (AES)	3. License Number: SNM-2015
2. 4800 Hampden Lane	4. Expiration Date: See Condition 14
Bethesda, MD 20814	5. Docket No. 70-7015

6. Source and/or Special Nuclear Material and/or Byproduct Material	7. Chemical and/or Physical Form	8. Maximum amount that licensee may possess at any one time under this license
A. Uranium (natural and depleted) and daughter products	A.1. Physical form: solid, liquid, and gas A.2. Chemical form: Uranium hexafluoride (UF_6), uranium tetrafluoride (UF_4), uranyl fluoride (UO_2F_2), oxides and other compounds	A. 225,000,000 kilograms (kg)
B. Uranium (U) enriched in isotope U-235 up to 5 percent by weight and uranium daughter products	B.1. Physical form: solid, liquid, and gas B.2. Chemical form: UF_6, UF_4, UO_2F_2, oxides and other compounds	B. 1,750,000 kg
C. Technetium- 99 (Tc-99), transuranic isotopes and other contamination	C. Any	C. Amount that exists as contamination as a consequence of the historical feed of recycled uranium at other facilities, for example, process contaminants or material held in UF_6 cylinders from previous operations.

9) Authorized place of use: The Eagle Rock Enrichment Facility (EREF), located at 19870 West Arco Highway, Idaho Falls, in Bonneville County, Idaho, approximately 32 kilometers (20 miles) west northwest of the city of Idaho Falls, on the north side of State Highway 20.

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10) The licensee shall conduct authorized activities at the EREF in accordance with the statements, representations, and conditions as described in the documents listed below (or licensee revisions to those documents in accordance with Section 19 of the Quality Assurance Program Description; Title 10 of the *Code of Federal Regulation* (10 CFR) 40.35(f), 10 CFR 51.22, 10 CFR 70.32, 10 CFR 70.72, or 10 CFR 95.19; or License Conditions 13 or 24):
   a) Application for Material License, transmittal letter dated December 30, 2008 and supplemental transmittal letters dated April 23, 2009, April 30, 2010, and May 16, 2011.
      i) Eagle Rock Enrichment Facility Safety Analysis Report
      ii) Eagle Rock Enrichment Facility Environmental Report
      iii) Eagle Rock Enrichment Facility Physical Security Plan
      iv) Eagle Rock Enrichment Facility Fundamental Nuclear Material Control Plan
      v) Eagle Rock Enrichment Facility Quality Assurance Program Description
      vi) Eagle Rock Enrichment Facility Emergency Plan
      vii) Eagle Rock Enrichment Facility Standard Practice Procedure Plan
   b) Supplemental letter concerning liability insurance coverage for construction, dated January 31, 2011.

11) Introduction of UF_6 into any module (e.g., Separations Building Module (SBM) or any cascade within an SBM) of the EREF shall not occur until the Commission completes an operational readiness and management measures verification review to verify that management measures that ensure compliance with the performance requirements of 10 CFR 70.61 have been implemented and confirms that the facility has been constructed and will be operated safely and in accordance with the requirements of the license. The licensee shall provide the Commission with appropriate advance notice, normally no later than 120 days in advance of the date that it plans to introduce UF_6 into any module of the EREF.

12) The licensee is hereby granted the exemption request from certain provisions of 10 CFR 40.36 and 10 CFR 70.25, in order to provide forward-looking incremental funding for decommissioning, as described in Section 1.2.5 “Special Exemptions and Special Authorizations” of the EREF Safety Analysis Report, Revision 3, dated April 2011.

13) The licensee is granted the special authorization as requested in correspondence dated August 20, 2010. Specifically:

   a) The licensee shall not make changes to the license application that decreases the effectiveness of safety commitments in the license application, without prior U.S. Nuclear Regulatory Commission (NRC) approval. For these changes, the licensee shall submit to the NRC, for review and approval, an application to amend the license. Such changes shall not be implemented until approval is granted.

   b) Upon documented completion of a change request for a facility or process, the licensee may make changes in the facility or process as presented in the license application, or conduct tests or activities not presented in the license application, without prior NRC approval, subject to the following conditions:

      1. There is no degradation in the safety commitments in the license application, and
      2. The change, test, or activity does not conflict with any condition specifically stated in the license.

   Records of such changes shall be maintained, including technical justification and management approval, in dedicated records to enable NRC inspection upon request at the facility. A report containing a description of each such change, and appropriate revised sections to the license application, shall be submitted to the NRC within three months of implementing the change.

14) This license will expire 30 years after the date of license issuance.

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15) The licensee shall provide proof of full liability insurance as required under 10 CFR 140.13(b) at least 30 days prior to the planned date for obtaining licensed material.

16) The licensee shall not use, process, store, reproduce, transmit, handle, or allow access to classified matter except as provided by the applicable personnel and facility clearances as required under 10 CFR Part 95.

17) Prior to designating areas where the use and handling of classified information will routinely occur, the NRC will be notified to determine if additional security measures are required. If the NRC does determine the need for additional security measures, a request must be submitted, and approved, prior to establishment and use of the area(s).

18) Construction of each incremental phase of the EREF shall not commence before funding for that increment is available or committed. Of this funding, the licensee must have in place before constructing such increments, commitments for one or more of the following: equity contributions from AES or its parents, a commitment from the parent company to provide the necessary funds for the project, and lending and/or lease arrangements that solely or cumulatively are sufficient to ensure funding for the particular increment's construction costs. The licensee shall make available for NRC inspection, documentation of both the budgeted costs for each incremental phase and the source of funds available or committed to pay those costs.

19) To define the boundaries of each item relied on for safety (IROFS), the licensee shall comply with Appendix B to Chapter 3 of NUREG 1520, Revision 1, dated May 2010, "Qualitative Criteria for Evaluation of Likelihood" and utilize the licensee's guideline "Guidelines for Development of Boundary Definitions for IROFS," Appendix A of the Integrated Safety Analysis (ISA) Summary, Revision 3, dated April 2011. Completed IROFS boundaries for all IROFS shall be available for inspection prior to the operational readiness review.

20) By letter dated April 7, 2011, the licensee submitted a summary of 60 soil sample results collected at the proposed EREF site for the purpose of establishing the natural range of background concentration of radionuclides in on-site, surface soil, prior to the commencement of construction. In addition to the records of information important to decommissioning listed in 10 CFR 70.25(g), the licensee shall maintain records of the initial site characterization data for the proposed EREF, including reports of surface soil samples collected by the licensee prior to commencement of construction and analyzed for radiological constituents, in appropriate files. These records shall be retained by the licensee until the site is released for unrestricted use.

21) The licensee shall provide financial assurance on the following schedule:

a) The licensee shall provide an updated decommissioning funding plan (DFP), updated facility decommissioning cost estimate, and final copies of proposed financial assurance instruments to the NRC for review at least six months prior to the following dates:

(1) planned date for obtaining test material (≤ 20 kg uranium (U)) for the Centrifuge Assembly Building (CAB)

(2) planned date for obtaining feed material (> 50 kg U) for initial production in the first SBM

(3) planned date for obtaining feed material (> 50 kg U) for initial production in the second SBM

(4) planned date for obtaining feed material (> 50 kg U) for initial production in the third SBM

(5) planned date for obtaining feed material (> 50 kg U) for initial production in the fourth SBM

The updates shall be forward-looking through the 12-month period beginning on the applicable date listed above. For each update, the licensee shall provide final executed copies of the NRC-reviewed financial assurance instruments to NRC at least 21 days prior to receipt of test material or receipt of feed material for initial production in an SBM.

b) After the first SBM begins operations, and until the plant reaches full capacity, the licensee shall, on an annual basis, provide an updated DFP, an updated facility decommissioning cost estimate, and final copies of proposed financial assurance instruments to NRC for review. These annual updates shall be provided six months prior to the anniversary date of obtaining feed material for initial production in the first SBM, and shall be forward-looking through the 12-month period beginning on the anniversary date. For each annual update, the licensee shall provide final executed copies of the NRC-reviewed financial assurance instruments to NRC at least 21 days prior to the anniversary date.

If the licensee provides an annual update at least six months prior to the planned date for obtaining feed material for initial production in the second, third, or fourth SBM, that annual update may also serve as the update required in paragraph (a) for that date.

c) The updated DFPs, updated cost estimates, and financial assurance instruments described in paragraphs (a) and (b) shall include full funding for decontamination and decommissioning of: (1) any part of the facility currently in operation; (2) any part of the facility that has been in operation, or any other part of the site or facility reasonably believed to be contaminated, that has not been fully decontaminated and decommissioned as approved by NRC (including the CAB); (3) all plant areas where licensed material is stored or used; and (4) any part of the facility (including SBMs) expected to be in operation by the end of the applicable forward-looking 12-month period in paragraph (a) or (b).

d) The licensee shall provide an initial depleted uranium (DU) disposition cost estimate and final copies of proposed financial assurance instruments for DU disposition in conjunction with the updated DFP, updated facility decommissioning cost estimate, and financial assurance instruments that will be submitted at least six months prior to obtaining feed material for initial production in the first SBM. The initial DU disposition cost estimate and proposed financial assurance instruments shall include full funding to cover disposition of the first three years of DU tails generation. The initial DU disposition cost estimate shall include an update to the U.S. Department of Energy (DOE) DU disposition cost estimate. The total amount funded for DU disposition shall not be less than the updated DOE cost estimate.

For the initial DU disposition cost estimate, the licensee shall provide final executed copies of the NRC-reviewed financial assurance instruments for DU disposition to the NRC at least 21 days prior to the receipt of feed material for the first SBM.

e) The licensee shall provide updates to the DU disposition cost estimate and financial assurance instruments for DU disposition as described below:

(1) During the first two years of operation, the licensee shall provide updated DU disposition cost estimates and final copies of proposed financial assurance instruments for DU disposition in conjunction with the updates required in paragraphs (a) and (b). The updated cost estimates shall provide full funding to cover disposition of the first three years of DU tails generation.

(2) After the first two years of operation and until the facility reaches full capacity, the licensee shall provide updated DU disposition cost estimates and final copies of proposed financial assurance instruments for

DU disposition in conjunction with the updates required in paragraphs (a) and (b). The updated DU disposition cost estimates shall provide full funding to cover disposition of all DU stored onsite and all DU expected to be generated by the end of the applicable forward-looking 12-month period in paragraph (a) or (b).

(3) After the plant reaches full capacity, the licensee shall continue to provide annual updates to the DU disposition cost estimate, along with revised financial assurance instruments. These annual updates shall include full funding to cover disposition of all DU stored onsite and all DU expected to be generated by the end of the 12-month period beginning on the date of obtaining feed material for initial production in the first SBM. The annual updates to the DU disposition cost estimate and final copies of proposed financial assurance instruments shall be provided to the NRC for review six months prior to the anniversary date of obtaining feed material for initial production in the first SBM.

The licensee may exclude from the updated DU disposition cost estimates any DU that the DOE has taken title to and possession of pursuant to Section 3113 of the USEC Privatization Act. All updates to the DU disposition cost estimates shall include an update to the DOE cost estimate for DU disposition. The total amount funded for DU disposition shall not be less than the updated DOE cost estimate.

For DU disposition cost estimate updates, the licensee shall provide final executed copies of the NRC-reviewed financial assurance instruments for DU disposition to the NRC at least 21 days prior to the receipt of feed material for an SBM, or the anniversary date of obtaining feed material for initial production in the first SBM, as applicable.

f) If the construction and/or operation of any SBM is delayed or cancelled, the licensee is not relieved of its commitment to provide updated DFP, facility decommissioning cost estimates, DU disposition cost estimates, and final copies of proposed financial assurance instruments to the NRC as described in paragraphs (a)-(e).

g) When an update to the DFP, cost estimates for facility decommissioning and DU disposition, and financial assurance instruments encompasses the first delivery of natural uranium hexafluoride (> 50 kg U) as feed material to an SBM not previously in operation, the licensee shall not receive such initial feed material until the NRC reviews the updated DFP and cost estimates and confirms the executed financial assurance instrument(s).

h) All updates to the DFP, cost estimates for facility decommissioning and DU disposition, and financial assurance instruments, shall be updated to current year United States dollars and shall encompass all current cost data, taking into account changes in inflation, foreign currency exchange rates, possession limits, licensed material, labor rates, disposal and shipping rates, and site and facility factors. All costs shall be based on the costs of a third party contractor and shall not take credit for any salvage value that might be realized from the sale of potential assets during or after decommissioning. All costs (including those for DU disposition) shall include a contingency factor of at least 25 percent.

22) For those IROFS requiring operator actions, a human factors engineering review of the human-system interfaces shall be conducted using the applicable guidance in NUREG-0700, "Human-System Interface Design Review Guidelines," Revision 2, dated May 2002; NUREG-0711, "Human Factors Engineering Program Review Model," Revision 2, dated February 2004; and as described in Section 3.3.8 of the Safety Analysis Report (Revision 3, dated April 2011), “Human System Interface Design.”

23) Currently, the design information concerning any IROFS that may use software, firmware, microcode, programmable logic controllers, and/or any digital device, including hardware devices which implement data communication

protocols (for example, Fieldbus devices and Local Area Network controllers) is preliminary and not complete. Should the completed design of any IROFS (including every component within an IROFS boundary) include any of the preceding features, the licensee shall obtain Commission approval prior to implementing the IROFS.

24) The licensee shall maintain and follow the Fundamental Nuclear Material Control Program for control and accounting and measurement control of uranium source material and special nuclear material at the facility pursuant to 10 CFR 74.33(b). The licensee shall make no change to material control procedures essential for the safeguarding of uranium source material or special nuclear material that would decrease the effectiveness of the material control and accounting program implemented pursuant to 10 CFR 74.33(b) without prior approval of the Commission. If the licensee desires to make changes that would decrease the effectiveness of its material control and accounting program or its measurement control program, the licensee shall submit an application for amendment to its license pursuant to 10 CFR 70.34.

    The licensee shall maintain records of changes to the material control and accounting program made without prior Commission approval a period of 5 years from the date of the change. The licensee shall furnish to the Director, Division of Nuclear Material Safety and Security, using an appropriate method listed in 10 CFR 70.5(a), a report containing a description of each change within 6 months of the change.

25) The Nuclear Criticality Safety Manager shall have, as a minimum, a bachelor's degree (or equivalent) in physical science or engineering, as well as two year's experience as a nuclear criticality safety engineer at the EREF or three year's experience as a nuclear criticality engineer at another nuclear facility.

26) The licensee shall comply with the provisions of the "Memorandum of Agreement among the U.S. NRC, the Idaho State Historic Preservation Office, and AREVA Enrichment Services LLC regarding the Proposed EREF Project in Bonneville County, Idaho," dated September 8, 2011, or as revised, which was developed during NRC's implementation of the National Historic Preservation Act of 1966, as amended, (NHPA, 16 U.S.C. §470) Section 106 process.

FOR THE NUCLEAR REGULATORY COMMISSION

Date: October 12, 2011

By: **/RA/**

Anthony H. Hsia, Acting Deputy Director
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Division of Fuel Cycle Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001