

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. Louisiana Energy Services, L.P.	3. License Number: SNM-2010, Amendment 3
2. P.O. Box 1789 Eunice, New Mexico 88231	4. Expiration Date: See Condition 13
	5. Docket No. 70-3103

6. Source and/or Special Nuclear Material	7. Chemical and/or Physical Form Under This License	8. Maximum amount that Licensee May Possess at Any One Time
A. Uranium (natural and depleted) and daughter products	A.1 Physical: Solid, Liquid, and Gas A.2 Chemical: UF ₆ , UF ₄ , UO ₂ F ₂ , oxides and other compounds	A. 136,120,000 kg
B. Uranium enriched in isotope U-235 up to 5% by weight and uranium daughters	B.1 Physical: Solid, Liquid, and Gas B.2 Chemical: UF ₆ , UF ₄ , UO ₂ F ₂ , oxides, metal and other compounds	B. 545,000 kg
C. 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

9. Authorized place of use: National Enrichment Facility (NEF), located 5 miles east of Eunice, New Mexico on Highway 176 in Lea County, New Mexico.

10. The licensee shall conduct authorized activities at the NEF in accordance with the statements, representations, and conditions, or as revised in accordance with Section 19 of the Quality Assurance Program Description, 10 CFR 40.35(f), 10 CFR 51.22, 10 CFR 70.32, 10 CFR 70.72, or 10 CFR 95.19 in:

- a. Application for Material License, NRC Form 313 dated December 12, 2003.
- b. Safety Analysis Report dated December 12, 2003, as revised by letters dated February 27, 2004; July 30, 2004; September 30, 2004; April 22, 2005; April 29, 2005; May 25, 2005; June 10, 2005; February 16, 2006; February 28, 2006; March 16, 2006; March 24, 2006; January 29, 2007; April 10, 2007; July 30, 2007, October 12, 2007; and November 12, 2007.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
SNM-2010, Amendment 3Docket or Reference Number
70-3103

- c. Environmental Report dated December 12, 2003, as revised by letters dated February 27, 2004; July 30, 2004; September 30, 2004; April 22, 2005; June 10, 2005; March 16, 2006; March 24, 2006; January 29, 2007; April 10, 2007; and July 30, 2007.
 - d. Physical Security Plan dated December 12, 2003, as revised by letters dated May 12, 2004; July 30, 2004; December 10, 2004; and January 12, 2005.
 - e. Fundamental Nuclear Material Control Plan dated December 12, 2003, as revised by letters dated February 27, 2004; July 30, 2004; October 7, 2004; October 15, 2004; December 7, 2004; April 22, 2005; and October 23, 2006.
 - f. Quality Assurance Program Description dated April 9, 2004, as revised by letter dated April 22, 2005; October 23, 2006; November 12, 2007; July 30, 2007, October 12, 2007, and November 12, 2007.
 - g. Emergency Plan dated December 12, 2003, as revised by letters dated July 30, 2004; September 30, 2004; April 22, 2005; October 23, 2006; and July 30, 2007.
 - h. Standard Practice Procedures Plan for the Protection of Classified Matter dated December 12, 2003, as revised by letters dated July 30, 2004; March 16, 2006; and November 21, 2006.
 - i. Standard Practice Procedures Plan for the Protection of Classified Matter for the Construction Support Facility dated November 22, 2006, as revised by letters dated March 20, 2007; and April 27, 2007.
11. Introduction of UF₆ into any module of the NEF 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 120 days advance notice of its plan to introduce UF₆ in any module of the NEF.
 12. The licensee is hereby granted the special authorizations and exemptions identified in Section 1.2.3.6 of the National Enrichment Facility Safety Evaluation Report, dated June 2005.
 13. This license will expire 30 years after the date of license issuance.
 14. For the disposition of depleted UF₆, the licensee shall not use a depleted UF₆ deconversion facility that employs a process that results in the production of anhydrous hydrofluoric acid.
 15. The licensee shall provide proof of full liability insurance as required under 10 CFR 140.13b, at least 30 days prior to the planned date for obtaining licensed material. If the licensee is proposing to provide less than \$300 million of liability insurance coverage, the licensee shall provide, to the NRC for review and approval, an evaluation supporting liability insurance coverage in amounts less than \$300 million at least 120 days prior to the planned date for obtaining licensed material.
 16. The licensee shall provide final copies of the proposed financial assurance instruments to NRC for review at least six months prior to the planned date for obtaining licensed material, and provide to NRC final executed copies of the reviewed financial assurance instruments prior to the receipt of licensed material. The amount of the financial assurance instrument shall be updated to current year dollars and include any applicable changes to the decommissioning cost estimate. The decommissioning cost estimate shall include an update to the U.S. Department of Energy (DOE) depleted uranium disposition cost estimate. The total amount funded for depleted uranium disposition shall be no less than the updated DOE cost estimate.
 17. The Decommissioning Funding Plan cost estimate shall be updated as follows:

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**License Number
SNM-2010, Amendment 3Docket or Reference Number
70-3103

- a. In the first executed financial assurance instrument submitted prior to receipt of licensed material, the licensee shall provide full funding for decontamination and decommissioning of the full-size facility.
 - b. In the first executed financial assurance instrument submitted prior to receipt of licensed material, the licensee shall provide funding for the disposition of depleted uranium tails in an amount needed to disposition the first three years of depleted uranium tails generation.
 - c. Subsequent updated decommissioning funding estimates and revised funding instruments for facility decommissioning shall be provided, at a minimum, every three years. Any proposed reduction based on changes to module phase-in shall be submitted six months prior to the scheduled operation of the facility module.
 - d. Subsequent updated decommissioning cost estimates and revised funding instruments for depleted uranium disposition shall be provided annually on a forward-looking basis to reflect projections of depleted uranium byproduct generation. The depleted uranium disposition cost estimate shall include an update to the DOE depleted uranium disposition cost estimate. The total amount funded for depleted uranium disposition shall be no less than the updated DOE cost estimate.
18. The Decommissioning Funding Plan cost estimates shall be provided to NRC for review, and subsequently, after resolution of any NRC comments, final executed copies of the financial assurance instruments shall be provided to NRC.
19. To define the boundaries of each item relied on for safety (IROFS), the licensee shall utilize its procedure, "IROFS Boundary Definitions." Completed IROFS boundaries for all IROFS shall be available for inspection at the time of the operational readiness review.
20. Currently, there are no IROFS that have been specified as using software, firmware, microcode, programmable logic controllers, and/or any digital device, including hardware devices which implement data communication protocols (such as fieldbus devices and Local Area Network controllers), etc. Should the design of any IROFS be changed to include any of the preceding features, the licensee shall obtain Commission approval prior to implementing the change(s). The licensee's design change(s) shall adhere to accepted best practices in software and hardware engineering, including software quality assurance controls as discussed in the Quality Assurance Program Description throughout the development process and the applicable guidance of the following industry standards and regulatory guides as specified in Safety Analysis Report Chapter 3:
- a. American Society of Mechanical Engineers (ASME) NQA-1-1994, Part II, subpart Part 2.7, "Quality Assurance Requirements of Computer Software for Nuclear Facility Applications," as revised by NQA-1a-1995 Addenda of NQA-1-1994 and ASME NQA-1-1994, Part 1, Supplement 11S-2, "Supplementary Requirements for Computer Program Testing." (Refer to SAR Chapter 11, Appendix A, Section 3.)
 - b. Electric Power Research Institute (EPRI) NP-5652, "Guideline for the Utilization of Commercial Grade Items in Nuclear Safety Grade Applications," June 1988.
 - c. EPRI Topical Report (TR) -102323, "Guidelines for Electromagnetic Interference Testing in Power Plants," Revision 1, December 1996.

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number
SNM-2010, Amendment 3

Docket or Reference Number
70-3103

- d. EPRI TR-106439, "Guideline on Evaluation and Acceptance of Commercial Grade Digital Equipment for Nuclear Safety Applications," October 1996.
- e. Regulatory Guide 1.152, "Criteria for Digital Computers in Safety Systems in Nuclear Power Plants," Revision 1, January 1996.
- f. Regulatory Guide 1.168, "Verification, Validation, Reviews, and Audits for Digital Software Used in Safety Systems of Nuclear Power Plants," Revision 1, February 2004.
- g. Regulatory Guide 1.169, "Configuration Management Plans for Digital Computer Software Used in Safety Systems of Nuclear Power Plants," September 1997.
- h. Regulatory Guide 1.170, "Software Test Documentation for Digital Computer Software Used in Safety Systems of Nuclear Power Plants," September 1997.
- i. Regulatory Guide 1.172, "Software Requirements Specifications for Digital Computer Software Used in Safety Systems of Nuclear Power Plants," September 1997.
- j. Regulatory Guide 1.173, "Developing Software Life Cycle Processes for Digital Computer Software Used in Safety Systems of Nuclear Power Plants," September 1997.

If any above changes result in 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 (NRC, 2002d), and NUREG-0711, "Human Factors Engineering Program Review Model," Revision 2, dated February 2004.

- 21. Onsite storage of DUF₆ generated at the NEF shall be limited to a maximum of 5,016 48Y cylinders (or the equivalent amount of uranium stored in other NRC accepted and Department of Transportation ("DOT") certified cylinder types) of DUF₆. The generation of any additional DUF₆ to be stored onsite by the licensee beyond this limit shall constitute noncompliance with the license. The licensee shall suspend production of any additional DUF₆ for onsite storage until this noncompliance is remedied. In no event shall the licensee store DUF₆ generated at the NEF in New Mexico other than at the NEF.
- 22. Onsite storage of any one cylinder of DUF₆ generated at the NEF shall be limited to a maximum of 15 years, beginning from the date that each cylinder is filled in accordance with the licensee's standard procedures. The storage of any one DUF₆ cylinder beyond this limit by the licensee shall constitute noncompliance with the license. The licensee shall suspend production of any additional DUF₆ for onsite storage until this noncompliance is remedied. In no event shall the licensee store DUF₆ generated at the NEF in New Mexico other than at the NEF.
- 23. The licensee shall provide financial assurance for the offsite disposal of DUF₆ from the NEF using a minimum contingency factor of twenty-five percent (25%).

Upon reaching 4,000 cylinders of DUF₆ in 48Y cylinders (or the equivalent amount of uranium stored in other NRC accepted and DOT certified cylinder types) in onsite storage, the licensee shall immediately increase the financial assurance to provide a fifty percent (50%) contingency factor for disposition of DUF₆ stored at the NEF unless: (a) an application to construct and operate a deconversion facility outside of New Mexico that is specifically designated to deconvert the DUF₆ stored onsite at the NEF has been docketed by the agency responsible for reviewing the application; (b) an application for such a facility has been

**MATERIALS LICENSE
SUPPLEMENTARY SHEET**

License Number
SNM-2010, Amendment 3

Docket or Reference Number
70-3103

approved by the agency responsible for reviewing the application; or (c) the licensee is using another alternate method for removing the DUF₆ stored onsite.

In addition, upon reaching the limit of 5,016 cylinders of DUF₆ in 48Y cylinders (or the equivalent amount of uranium stored in other NRC accepted and DOT certified cylinder types) in onsite storage, the licensee shall immediately increase the financial assurance to provide fifty percent (50%) contingency factor for disposition of DUF₆ stored at NEF if the contingency factor has not already been increased to fifty percent (50%). The contingency factor shall remain at fifty percent (50%) until the number of cylinders stored onsite is reduced to ninety-eight percent (98%) of the 5,016 limit and either: (a) an application to construct and operate a deconversion facility outside of New Mexico that is specifically designated to deconvert the DUF₆ stored onsite at the NEF has been docketed by the agency responsible for reviewing the application; (b) an application for such a facility has been approved by the agency responsible for reviewing the application; or (c) the licensee is using another alternate method for removing the DUF₆ from New Mexico.

Nothing herein shall release the licensee from other financial assurance obligations set forth in applicable laws and regulations.

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 NEF 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 five years from the date of the change. The licensee shall furnish to the Director, Division of Nuclear Security, Office Nuclear Security and Incident Response, using an appropriate method listed in 10 CFR 70.5(a), a report containing a description of each change within six months of the change if it pertains to uranium enriched less than 20 percent in the uranium-235 isotope.

25. If there are any revisions to the nuclear criticality safety validation report, then the licensee shall provide a letter to NRC describing the changes and shall provide the revised validation report upon request. The licensee may not implement the changes in the revised validation report until NRC approves the changes.
26. The licensee shall not use, process, store, reproduce, transmit, handle, or allow access to classified matter except provided by applicable personnel and facility clearances as required under 10 CFR Part 95.

FOR THE NUCLEAR REGULATORY COMMISSION

Date: 01 /25 /2008

By: /RA/
 Michael D. Tschiltz, Deputy Director
 Fuel Facility Licensing Directorate
 Division of Fuel Cycle Safety and Safeguards
 U.S. Nuclear Regulatory Commission
 Washington, DC 20555-0001