

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and the applicable parts of Title 10, Code of Federal Regulations, Chapter I, Parts 19, 20, 30, 31, 32, 33, 34, 35, 36, 39, 40, 51, 70, and 71, and in reliance on statements and representations heretofore made by the licensee, a licensee 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.	Sequoyah Fuels Corporation	3.	License Number	SUB-1010, Amendment 35
2.	Sequoyah Facility I-40 and Highway 10 Gore, Oklahoma 74435	4.	Expiration Date	September 30, 1990
		5.	Docket or Reference Number	40-8027
6.	Byproduct, Source, and/or Special Nuclear Material: Source; 11e.(2) byproduct material [Applicable Amendment: 29]	7.	Chemical and/or Physical Form: Any	8. Maximum Amount that Licensee May Possess at Any One Time Under This License: 20 million MTU

SECTION 9:

9.1 Authorized use: For use in accordance with the statements, representations, and conditions contained in Chapters 1 through 7 of the license renewal application dated August 23, 1985; supplements dated February 16, 1993, July 7, 1993, [Amendment #20--C-Plan, September 2, 1994; November 21, 1994; January 9, 1995], [Amendment #21--Reorganization, May 6, 1994; November 23, 1994; March 3, 1995], [Amendment #22--Well-Plugging, October 3, 1994; February 9, 1996], [Amendment #23--Part 20, July 19, 1994; February 2, 1996; April 2, 1996; September 27, 1996], [Amendment #24--Chapter 6, November 18, 1996], [Amendment #25--Paragraph 9, December 3, 1997], [Amendment #26--Chapter 5, March 30, 1998], [Amendment #27--off-site air sampling, October 14, 1998], [Amendment #28--F₆ cylinder area restrictions, November 19, 1999], [Amendment #32--Changes to the general arrangement drawing, November 1, 2005], and [Amendment #35--Reflecting Approval of Reclamation Plan] which are hereby incorporated by reference, except where superseded by license conditions below.

Whenever the word "will" or "shall" is used in the above referenced documents, it shall denote a requirement. Notwithstanding the above, the following conditions shall override any conflicting statements contained in the licensee's application and supplements.

[Applicable Amendment: 29, 32]

9.2 All written notices and reports to NRC required under this license shall be addressed in care of the Document Control Desk, Deputy Director, Decommissioning and Uranium Recovery Licensing Directorate (Mailstop T-8 F-5), Division of Waste Management and Environmental Protection, Office of Federal and State Materials and Environmental Management Programs, Nuclear Regulatory Commission, Washington D.C. 20555-0001, or by express delivery to 11545 Rockville Pike, Two White Flint North, Rockville, MD 20852-2738. Required telephone notification shall be made to the NRC Operations Center at (301) 816-5100 unless otherwise specified.

[Applicable Amendment: 29]

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9.3 The licensee shall comply with the provisions of the Settlement Agreement between Sequoyah Fuels Corporation and the NRC dated August 18, 1995.

SFC's currently approved surety instruments, an escrow account to provide financial assurance for decommissioning the Sequoyah Fuels Facility, shall be continuously maintained in the sum total amount of no less than \$750,000. In addition, the licensee shall continuously maintain a Standby Trust Agreement, to which SFC may add funds from time to time, which funds shall be devoted to the completion of decommissioning, reclamation and closure of the Sequoyah Facility.

[Applicable Amendment: 29]

9.4 The licensee shall follow the guidance set forth in U.S. Nuclear Regulatory Commission, Regulatory Guides 8.22, "Bioassay at Uranium Recovery Facilities," 8.30, "Health Physics Surveys in Uranium Recovery Facilities," and 8.31, "Information Relevant to Ensuring that Occupational Radiation Exposure at Uranium Recovery Facilities will be As Low As is Reasonably Achievable (ALARA)," or NRC-approved equivalent.

[Applicable Amendment: 29]

10. Authorized place of use: The licensee's existing facilities at Gore, Oklahoma.

11. Deleted.

12. Deleted.

13. Deleted.

14. Deleted by Amendment 29.

15. Deleted

16. Deleted.

17. Deleted by Amendment 29.

18. Deleted.

19. Deleted.

20. Deleted.

21. Deleted.



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22. Deleted.

23. Deleted.

24. The licensee shall perform representative sampling of the workers' breathing air when measurements of concentrations of radioactive materials in air are necessary to demonstrate compliance with 10 CFR 20.1204.

25. Deleted.

26. Deleted.

27. Deleted.

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39. Deleted.

40. Deleted.

41. Any natural or depleted UF₄ produced by the UF₆ Reduction Plant that is not suitable for sale or recycle shall be shipped to an authorized facility for disposal.



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42. Any time uranium in a worker's urine specimen exceeds 15 micrograms per liter ($\mu\text{g/l}$), the annual ALARA audit will indicate what corrective actions were considered or performed.

[Applicable Amendment: 29]

43. Any time a uranium action level of 35 $\mu\text{g/l}$ for two consecutive urine specimens or 130 $\mu\text{g/l}$ for any one specimen is reached or exceeded, the licensee shall provide documentation within 30 days to the NRC indicating what corrective actions have been performed.

[Applicable Amendment: 29]

44. Spills, Pond Leaks, Leaks, Excursions, and Incident/Event Reporting

Until license termination, the licensee shall maintain documentation on unplanned release of source or 11e.(2) byproduct materials (including extraction solutions) and process chemicals. Documented information shall include, but not be limited to: date, volume, total activity of each radionuclide released, radiological survey results, soil sample results (if taken), corrective actions, results of post remediation surveys (if taken), and a map showing the spill location and the impacted area.

The licensee shall have procedures which will evaluate the consequences of the spill or incident/event against 10 CFR 20, Subpart "M," and 10 CFR 40.60 reporting criteria. If the criteria are met, then the licensee shall report to the NRC Operations Center as required.

If the licensee is required to report any spills, pond leaks, excursions of source, 11e.(2) byproduct material, and process chemicals that may have an impact on the environment, or any other incidents/events to State or Federal agencies, a report shall be made to the NRC Region IV Uranium Recovery Branch Chief and NRC Headquarters Project Manager by telephone or electronic mail (e-mail) within 48 hours of the event. This notification shall be followed, within thirty (30) days of the notification, by submittal of a written report to NRC Region IV and NRC Headquarters as per License Condition 9.2, detailing the conditions leading to the spill or incident/event, corrective actions taken, and results achieved.

[Applicable Amendment: 29]

45. The licensee shall, at least three months prior to license termination, provide a report which demonstrates the site has met all applicable provisions for license termination and transfer of the facility to the government for long-term custody in accordance with 10 CFR Part 40, Appendix A, Criterion 11. Specifically, the licensee shall document that: (1) the concentrations of all of the listed hazardous constituents at the POC are within their designated concentration limits (standards); (2) if a corrective action program was carried out, that the hazardous constituents contaminating the groundwater were returned to their designated limits; and, (3) the facility has been properly decontaminated and decommissioned in accordance with the decontamination and decommissioning plan proposed by the

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applicant in the license application approved by the NRC. The license termination will not occur until the licensee has demonstrated that these actions have been completed.

[Applicable Amendment: 29]

- 46. The Licensee shall perform and document daily inspections of tailings and waste retention systems during normally scheduled workdays.

[Applicable Amendment: 29]

- 47. Deleted.

- 48. Deleted.

- 49. The licensee shall implement a groundwater compliance monitoring program containing the following:

- A. Implement a groundwater compliance monitoring program as described in the licensee submittal dated February 25, 2005. All sampling points identified in table 4 of that submittal shall be designated as compliance points and are subject to part B of this condition.

- B. Comply with the following groundwater protection standards at compliance points designated in part A of this license condition:

Antimony = 0.006 mg/L, arsenic = 0.01 mg/l, barium = 1.0 mg/l, beryllium = 0.004 mg/l, cadmium = 0.01 mg/l, chromium = 0.05 mg/l, fluoride = 4.0 mg/L, lead = 0.05 mg/l, mercury 0.002 mg/L, molybdenum = 0.012 mg/l, nickel = 0.023 mg/l, nitrate = 10 mg/l, combined radium-226 and 228 = 5.0 pCi/l, selenium = 0.01 mg/l, silver = 0.05 mg/L, thallium = 0.005 mg/L, thorium-230 = 1.2 pCi/l, and uranium = 0.03 mg/l.

- C. Submit, by April 1 of each year, a groundwater compliance monitoring summary report, including a table of results, groundwater contour maps, and groundwater isoconcentration maps for arsenic, fluoride, nitrate, and uranium.

[Applicable Amendment: 29, 31]

- 50. The licensee is authorized to implement the Raffinate Sludge Dewatering Project, as described in its submittals dated January 7, 2004, and March 8, 2004, with the following conditions:

- A. The licensee must establish procedures to ensure that no bag is filled to more than 2200 lbs;

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- B. The licensee must not stack filled bags of dewatered raffinate sludge more than six high; and
- C. The licensee must establish an inspection procedure to ensure that the temporary cell covers are periodically inspected and repaired, if necessary, and that liquid is not ponding inside the cells.

[Applicable Amendment: 30]

51. The licensee is authorized to implement the Reclamation Plan as described in its submittal dated January 4, 2008, as supplemented by letter dated June 25, 2008, subject to the following conditions:
- A. The licensee shall submit a written request for NRC approval prior to the installation of the Radon Barrier. The licensee will use data obtained from the upper 15 feet of contaminated material placed in the cell to demonstrate that the long-term radon flux will meet the requirement of 10 CFR Part 40, Appendix A Criterion 6(1).
 - B. The licensee shall submit a written request for NRC approval of gamma guideline values prior to use in verification of soil cleanup. The licensee will provide the gamma-radium correlation graph and indicate the gamma guideline value and its use. The licensee will also provide the Ra-226 to Th-230 correlation for NRC approval, if it plans to use it.
 - C. The licensee shall develop a quality assurance project procedure (QAPP) prior to the initiation of remediation activities that incorporates the Data Management Plan, oversight and QA, soil sampling quality assurance, and the final status survey. Implementation of the QAPP will be reviewed during inspections.
52. Clearing of the proposed clay borrow area shall be conducted in accordance with the U.S. Nuclear Regulatory Commission's mitigation plan for the Sequoyah Fuels Corporation (SFC) site dated May 2, 2008 (ML081210037).

This action shall be subject to the following two (2) conditions:

- A. In order to avoid any adverse impacts on the endangered American burying beetle identified at the Sequoyah Fuels site, SFC will follow Conservation Approach 1 and Avoidance Measure 1 as described in United States Fish and Wildlife Service (USFWS) guidance "Conservation Approaches for the American Burying Beetle. The *"Bait Away Protocol"* for the American burying beetle must be employed prior to ground disturbance and during the beetle's active season (May 20 to September 20) to avoid adversely affecting the beetle. Bait away stations shall be placed in timbered areas in areas T1, T2, T3 and T4 shown in Figure 1 of NRC's mitigation plan. The bait away must be coordinated with the Oklahoma Field Office of the USFWS under an appropriate section 10 permit from the USFWS. To complete the required Section 7 consultation, SFC must submit the completed "Bait Away Form" to the Oklahoma Field Office of the USFWS within 30 days following cessation of bait away efforts.

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- B. To meet the no “take” (i.e., no mortality) provision of the Migratory Bird Treaty Act, clearing of the clay borrow area woodland and other potential nesting areas must be performed outside of the nesting season of migratory birds in Oklahoma – from August 1 to the end of February as per USFWS recommendations.

Further, to help mitigate the habitat loss associated with modification of the existing borrow area habitat, SFC shall recontour, regrade and revegetate portions of the site outside of the engineered disposal cell footprint (18 acres) within the 324 acre proposed institutional control boundary (ICB). A total of 124 acres inside the ICB will be regraded, covered with 6 inches of topsoil, and revegetated with a native seed mix (see Table 1 below). Of the 124 acres, 83 acres will involve substantial excavating and recontouring in order to recreate, to the extent practicable, the original topography of the site prior to its development (following the United States Geologic Survey 7.5 minute quadrangle maps).

Table 1 Proposed Seed Mix for Revegetation

Species		Pounds of Pure Live Seed per Acre
Common Name	Latin Name	
Big bluestem	<i>Andropogon gerardii</i>	6
Little bluestem	<i>Schizachyrium scoparium</i>	3
Switchgrass	<i>Panicum virgatum</i>	2
Indiangrass	<i>Sorghastrum nutans</i>	2
Hairy wildrye	<i>Elymus villosus</i>	2
High plains goldenrod	<i>Solidago altiplanities</i>	1.5
Prairie sunflower	<i>Helianthus petiolaris</i>	1.5
Compassplant	<i>Silphium laciniatum</i>	0.5
Blazing star	<i>Liatris Gaertn. Ex Schreb.</i>	0.5
Littleleaf sumac	<i>Rhus microphylla</i>	2

53. The Licensee is authorized to implement the June 18, 2010, Groundwater Corrective Action Plan as described in its submittal dated August 18, 2010.
54. Change, Test and Experiment License Condition
- a. The licensee may, without obtaining a license amendment pursuant to 10 CFR 40.44, and subject to conditions specified in paragraph (b) of this condition:
 - i. make changes in the facility as described in the license application (as updated);
 - ii. make changes in the procedures as described in the license application (as updated); and
 - iii. conduct test or experiments not described in the license application (as updated).
 - b. The licensee shall obtain a license amendment pursuant to 10 CFR 40.44 prior to implementing a proposed change, test or experiment if the change, test, or experiment would:

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- i. result in more than a minimal increase in the frequency of occurrence of an accident previously evaluated in the license application (as updated);
 - ii. result in more than a minimal increase in the likelihood of occurrence of a malfunction of a facility structure, equipment, or monitoring system (SEMS) important to safety previously evaluated in the license application (as updated);
 - iii. result in more than a minimal increase in the consequences of an accident previously evaluated in the license application (as updated);
 - iv. result in more than a minimal increase in the consequences of a malfunction of an SEMS previously evaluated in the license application (as updated);
 - v. create a possibility for an accident of a different type than any previously evaluated in the license application (as updated);
 - vi. create a possibility for a malfunction of an SEMS with a different result than previously evaluated in the license application (as updated); or
 - vii. result in a departure from the method of evaluation described in the license application (as updated) used in establishing the final safety evaluation report (FSER) or the environmental assessment (EA) or technical evaluation reports (TERs) or other analyses and evaluations for license amendments.
 - viii. For purposes of this paragraph as applied to this license, SEMS means any SEMS which has been referenced in a staff SER, TER, EA, or environmental impact statement (EIS) and supplements and amendments thereof.
- c. Additionally the licensee must obtain a license amendment for any change, test, or experiment unless the change, test, or experiment is consistent with the NRC conclusions, or the basis of, or analysis leading to, the conclusions of actions, designs, or design configurations analyzed and selected in the site or facility Safety Evaluation Report, TER, and EIS or EA. This would include all supplements and amendments, and TERs, EAs, EISs issued with amendments to this license.
- d. The licensee's determinations concerning paragraphs (b) and (c) of this condition shall be made by a Plant Review Committee (PRC). The PRC shall consist of a minimum of three individuals. One member of the PRC shall have expertise in management (e.g., Director, Decommissioning Projects) and shall be responsible for financial approval of changes. This member shall also have expertise in operations and/or construction and shall have responsibility for implementing any operational changes. One member shall be the Manager, Health and Safety or equivalent, with the responsibility of assuring changes conform to radiation safety and environmental requirements; and one member shall be responsible for ensuring compliance with regulations and license requirements (e.g., Director, Regulatory Affairs). Additional members, temporary or permanent, may be included in the PRC, as appropriate, to address technical aspects such as groundwater hydrology, surface-water hydrology, specific earth sciences, and other technical disciplines. Additional members, other than the three above-specified individuals, may be consultants.
- e. The licensee shall maintain records of any changes made pursuant to this condition until license termination. These records shall include written safety and environmental evaluations made by the

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PRC that provide the basis for determining changes are in compliance with paragraph (b) of this condition. The licensee shall furnish, in an annual report to the NRC, a description of such changes, tests, or experiments, including a summary of the safety and environmental evaluation of each. In addition, the licensee shall annually submit to the NRC, changed pages, which shall include both a change indicator for the area changed, e.g., a bold line vertically drawn in the margin adjacent to the portion actually changed, and a page change identification (date of change or change number or both), to the operations plan and reclamation plan of the approved license application (as updated) to reflect changes made under this condition.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date: 12/21/22010

/RA/

Keith I. McConnell, Deputy Director
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

