

UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF RADIATION CONTROL
RADIOACTIVE MATERIALS LICENSE

RENEWAL

Pursuant to Utah Code Ann. Title 19, Chapter 3 and the Radiation Control Rules, Utah Administrative Code R313, and in reliance on statements and representations heretofore made by the licensee designated below, a license is hereby issued authorizing such licensee to transfer, receive, possess and use the radioactive material designated below; and to use such radioactive material for the purpose(s) and at the place(s) designated below. This licensee is subject to all applicable rules, and orders now or hereafter in effect and to any conditions specified below.

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- LICENSEE )
1. Name Energy Fuels Resources (USA) Inc. )
2. Address 225 Union Boulevard, Suite 600 Lakewood, CO 80228 )
3. License Number UT1900479 Amendment # 8 (Renewal) \*\*\*\*\*
4. Expiration Date March 1, 2027 (approximate) March 31, 2007 (under timely renewal) \*\*\*\*\*
5. License Category 2-b )

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Table with 3 columns: Radioactive material (element and mass number), Chemical and/or physical form, Maximum quantity licensee may possess at any one time. Includes entries for Natural Uranium 11e.(2) By-product Material Approved Alternate Feed Material, Any, and Unlimited.

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SECTION 9: ADMINISTRATIVE CONDITIONS

9.1 The authorized place of use shall be the licensee's White Mesa uranium milling facility, located in San Juan County, Utah. The White Mesa uranium mill is located on fee land and mill site claims, covering approximately 5,415 acres encompassing all or part of Sections 21, 22, 27, 28, 29, 32, and 33 of T37S, R22E, and Sections and 16 of T38S, R22E Salt Lake Base and Meridian. Mill process and wastewater storage and tailings disposal shall be limited to existing engineering design, construction, and operation of Tailings Cells 1, 2, 3,

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~~4A and 4B, as authorized in Part I.D of the Ground Water Discharge Permit No. UGW370004 (hereafter Permit), issued by the Co Executive Secretary of the Utah Water Quality Board (Co Executive Secretary). New construction of any mill process water, wastewater storage, and/or tailings disposal embankments is prohibited until after the licensee demonstrates compliance with the requirements of License Condition 9.11, and receives prior Executive Secretary approval. After such approval, this license may be amended to authorize new construction of surface impoundments for storage and disposal of mill process water, wastewater and tailings. [Applicable UDRC Amendment: 8 Renewal]~~

9.2 All written notices and reports to the ~~Executive Secretary Director~~ required under this license, with the exception of incident and event notifications under R313-15-1202 and R313-19-50 requiring telephone notification, shall be addressed to the ~~Executive Secretary Director~~, Utah ~~Division of Waste Management and~~ Radiation Control ~~Board~~, Utah Department of Environmental Quality, 195 North 1950 West, P.O. Box ~~144850~~ 144880, Salt Lake City, UT 84114-4850. All written submittals to the Executive Secretary Director shall include at the time of submittal a searchable electronic copy, as required by R313-12-111. Incident and event notifications that require telephone notification shall be made to the ~~Executive Secretary Director~~ at (801) 536-~~4250-0200~~ during normal business hours or after hours to the DEQ Duty Officer at (801) 536-4123.  
*[Applicable UDRC Amendment: 8 Renewal]*

9.3 RESERVED [License Condition moved to SECTION 13: CLOSE OUT CONDITION]

9.4 A. The licensee may, without prior ~~Executive Secretary Director~~-approval, and subject to the conditions specified in Part B of this condition:

- (1) Make changes in the facility or process, as presented in the application.
- (2) Make changes in the procedures presented in the application.
- (3) Conduct tests or experiments not presented in the application.

B. The licensee shall file an application for an amendment to the license, unless the following conditions are satisfied.

- (1) The change, test, or experiment does not conflict with any requirement specifically stated in this license, or impair the licensee's ability to meet all applicable regulations.
- (2) There is no degradation in the essential safety or environmental commitments in the license application or provided by the approved reclamation plan.
- (3) The change, test, or experiment is consistent with the conclusions of actions analyzed and selected in the Nuclear Regulatory Commission (NRC) Environmental Assessment dated February 1997.

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- C. The licensee's determinations concerning Part B of this condition shall be made by a "Safety and Environmental Review Panel (SERP)." The SERP shall consist of a minimum of three individuals. One member of the SERP shall have expertise in management and shall be responsible for managerial and financial approval changes; one member shall have expertise in operations and/or construction and shall have responsibility for implementing any operational changes; and, one member shall be the ~~Corporate~~ Mill Radiation Safety Officer (MRSO) or equivalent, with the responsibility of assuring changes conform to radiation safety and environmental requirements. Additional members may be included in the SERP as appropriate, to address technical aspects such as health physics, groundwater hydrology, surface-water hydrology, specific earth sciences, and other technical disciplines. Temporary members or permanent members, other than the three above-specified individuals, may be consultants.
- D. 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 SERP, that provide the basis for determining that changes are in compliance with the requirements referred to in Part B of this condition. The licensee shall furnish, in an annual report to the ~~Executive Secretary~~ Director, 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 ~~Executive Secretary~~ Director changed pages to the Operations Plan and Reclamation Plan of the approved license application to reflect changes made under this condition. Annual reports shall address the previous calendar year and be submitted no later than March 31 each year.

The licensee's SERP shall function in accordance with the most version of the standard operating procedures submitted by letter to the Director NRC dated February 27, 2007 ~~June 10, 1997~~.  
~~[Applicable NRC Amendments: 3]~~ [Applicable UDRC Amendment 3] [Applicable UDRC Amendment: 8 Renewal]

- 9.5 The licensee shall at all times maintain a financial surety, approved by the ~~Executive Secretary~~ Director, consistent with UAC R313-24-4 (10CFR 40, Appendix A, Criteria 9 and 10, as incorporated by reference), that is adequate to cover the estimated costs, accomplished by a third party, for decommissioning and decontamination of the mill and mill site, reclamation of any tailings or waste disposal areas, groundwater ~~restoration~~ remediation as required by License Condition 10.201, and the long-term surveillance fee. The Licensee is prohibited from use and/or operation of any tailings disposal cell, or related new permanent fixture or facility not already accounted for by the currently approved surety, without prior submittal and ~~Executive Secretary~~ Director approval of written evidence of adequate financial surety. Within 60 calendar days of ~~Executive Secretary~~

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Director approval of a revised reclamation/decommissioning plan, the licensee shall submit written evidence of an adequate surety regarding the newly approved plan.

Annual updates to the surety amount, required by UAC R313-24-4 (10CFR40, Appendix A, Criteria 9 and 10, as incorporated by reference), shall be submitted for ~~Executive Secretary~~ Director approval by March 4 of each year. Within 30 calendar days of ~~Executive Secretary~~ Director approval of an annual update of surety cost estimates, the licensee shall submit written evidence of adequate surety for ~~Executive Secretary~~ Director approval.

Along with each proposed revision or annual update, the licensee shall submit supporting documentation showing a breakdown of the costs and the basis for the cost estimates with adjustments for inflation, maintenance of a minimum ~~25~~ percent contingency fee, changes in engineering plans, activities performed and any other conditions affecting estimated costs for site closure. The basis for the cost estimate is the current ~~Executive Secretary~~ Director-approved reclamation/decommissioning plan or ~~Executive Secretary~~ Director-approved revisions to the plan and guidance contained in NUREG-1620, "Standard Review Plan for the Review of a Reclamation Plan for Mill Tailings Sites under Title II of the Uranium Mill Tailings Radiation Control Act of 1978."

The currently approved surety instrument, a Performance Bond issued by ~~National Union Fire Aspen American~~ Argonaut Insurance Company in favor of the ~~Executive Secretary~~ Director, and the associated Standby Trust Agreement, shall be continuously maintained by the Licensee in an amount not less than the amount currently approved by the ~~Executive Secretary~~ Director pursuant to the requirements of UAC R313-24-4 (10 CFR 40, Appendix A, Criteria 9 and 10 as incorporated by reference).

On or before March 4, 20128, the annual surety estimate shall also include all costs necessary to remediate any groundwater contamination required by License Condition 10.201 for a minimum period of time, after facility closure, to be determined by the Director.

*[Applicable NRC Amendments: 2, 3, 5, 13, 15, 19, 21, 23, 24, 25]*

*[Applicable UDRC Amendment: 1][Applicable UDRC Amendment 3]*

*[Applicable UDRC Amendment: 8 Renewal]*

- 9.6 Standard operating procedures (SOPs) shall be established and followed for all operational ~~and non-operational process~~ activities involving radioactive material. Up-to-date copies of the SOPs shall incorporate operating instructions and appropriate safety precautions for licensed activities. SOPs shall be kept, maintained and made available to employees in the mill area to which it applies. s that are handled, processed, or stored. The written SOPs established shall include activities for operational activities shall enumerate pertinent of the radiation safety practices to be followed. Additionally, written procedures shall be established for non-operational activities to include in plant and environmental monitoring

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programs, the employee training program, a respirator protection program, operational procedures, analytical procedures, bioassay analyses, and instrument calibrations.

~~An up-to-date copy of each written procedure shall be kept in the mill area to which it applies.~~

At least annually, the uranium milling facility Radiation Safety Officer (RSO) shall review and approve in writing all procedures to determine their continued applicability to the RML license conditions, Utah rules and Federal regulations. ~~The Corporate Radiation Safety Officer shall review and approve written SOPs and subsequent changes to the procedures related all operational and non-operational activities.~~ Up-to-date copies of all operational and non-operational SOPs shall be submitted electronically to the Executive Secretary by December 31st of each year.

~~All written procedures for both operational and non-operational activities shall be reviewed and approved in writing by the radiation safety officer (RSO) before implementation and whenever a change in procedure is proposed to ensure that proper radiation protection principles are being applied. In addition, the RSO shall perform a documented review of all existing operating procedures at least annually.~~

[Applicable UDRC Amendment: 8 Renewal]

- 9.7 As per the Memorandum of Agreement (MOA) negotiated by the Utah State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation (ACHP), the NRC and Energy Fuels Nuclear Inc. (EFN) and ratified on August 20, 1979 and as amended on May 3, 1983 and substantially as implemented in NRC License SUA-1358:

Before engaging in any activity not previously assessed by the ~~Executive Secretary Director~~, the licensee shall administer a cultural resource inventory. All disturbances associated with the proposed development will be completed in compliance with the National Historic Preservation Act (as amended) and its implementing regulations, and the Archaeological Resources Protection Act (as amended) and its implementing regulations.

In order to ensure that no unapproved disturbance of cultural resources occurs, any work resulting in the discovery of previously unknown cultural artifacts shall cease. The artifacts shall be inventoried and evaluated in accordance with the National Historic Preservation Act (as amended), and no disturbance shall occur until the licensee has received authorization from the ~~Executive Secretary Director~~ to proceed.

The licensee shall avoid by project design, where feasible, the archaeological sites designated “contributing” in the report submitted by letter to the NRC dated July 28, 1988. When it is not feasible to avoid a site designated “contributing” in the report, the licensee shall institute a data recovery program for that site based on the research design submitted by letter from C. E. Baker of Energy Fuels Nuclear to Mr. Melvin T. Smith, Utah State Historic Preservation Officer (SHPO), dated April 13, 1981.

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The licensee shall recover through archaeological excavation all “contributing” sites listed in the report which are located in or within 100 feet of borrow areas, stockpile areas, construction areas, or the perimeter of the reclaimed tailings impoundment. Data recovery fieldwork at each site meeting these criteria shall be completed prior to the start of any project related disturbance within 100 feet of the site, but analysis and report preparation need not be complete.

Additionally, the licensee shall conduct such testing as is required to enable the [Executive Secretary Director](#) to determine if those sites designated as “Undetermined” in the report and located within 100 feet of present or known future construction areas are of such significance to warrant their redesignation as “contributing.” In all cases, such testing shall be completed before any aspect of the undertaking affects a site.

Archaeological contractors shall be approved in writing by the Utah SHPO. The Utah SHPO will approve an archaeological contractor who meets the minimum standards of the State of Utah as the principal investigator.

- 9.8 The licensee is hereby authorized to possess byproduct material in the form of uranium waste tailings and other uranium byproduct waste generated by the licensee's milling operations authorized by this license. Mill tailings shall not be transferred from the site without specific prior approval of the [Executive Secretary Director](#) in the form of a license amendment. The licensee shall maintain a permanent record of all transfers made under the provisions of this condition.
- 9.9 The licensee is hereby exempted from the requirements of R313-15-902(5) for areas within the mill, provided that all entrances to the mill are conspicuously posted in accordance with R313-15-902(5) and with the words, “Any area within this mill may contain radioactive material”.
- 9.10 Release of ore trucks and intermodal containers from the restricted area for restricted release shall be in accordance with Department of Transportations standards set forth in 49 CFR 173.443 or 49 CFR 173.428, as amended. Release of equipment or packages from the restricted area for unrestricted release shall be in accordance with [Table 2 in the NRC Regulatory Guide 8.30 Rev. 1 “Health Physics Surveys in Uranium Recovery Facilities” dated May 2002, Regulatory Guide 1.86 “Termination of Operating Licenses for Nuclear Reactors” dated June 1974 or the NRC document or NRC document “Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material,” dated May 1987, or suitable alternative procedures approved by the \[Executive Secretary Director\]\(#\) prior to any such release.](#)  
*[Applicable UDRC Amendment: 8 Renewal]*

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- 9.11 ~~Reserved [Applicable UDRC Amendment:8 Renewal]  
Final Cover Design and Reclamation Plan and Specifications—the licensee shall complete the following before any new tailings cell construction at the site:~~
- ~~A. Secure Approval of the Infiltration and Contaminant Transport Modeling (ICTM) Report—by the Co Executive Secretary of the Water Quality Board pursuant to the requirements of Part I.H.2 of the Permit. Said ICTM Report shall demonstrate that the final tailings cell cover system design, specifications, and construction will meet the long term performance requirements established in Part I.D.8 of the Permit.~~
- ~~B. Submit a Revised Reclamation Plan (Revision 5.0) on or before October 1, 2011 the licensee shall submit a Revised Reclamation Plan (Revision 5.0) for Executive Secretary review and approval. Said revised plan shall:~~
- ~~(1) Provide all engineering design, specifications, construction, and other details regarding site closure and a new cover design for the final tailings embankments (Cells 1, 2, 3, 4A, and 4B), and~~
- ~~(2) Be based upon and justified by the ICTM Report that complies with the requirements of Parts I.H.2 and I.D.8 of the Permit, as approved by the Co-Executive Secretary.~~
- ~~C. Submit Interim Surety Cost Estimate Report on or before October 1, 2011, the licensee shall submit a revised surety report for Executive Secretary review and acceptance. Said report shall include a detailed and comprehensive description and justification for all unit quantities and unit costs related to site closure and the new cover design to be proposed under License Condition 9.11.A. Under no circumstances shall the surety amount be less than that already approved by the Executive Secretary on December 20, 2010 (\$18,777,388). After Executive Secretary acceptance, the licensee shall submit written evidence to demonstrate the revised interim surety is fully funded within 60 calendar days of written Executive Secretary acceptance.~~
- ~~D. Reimburse Executive Secretary Review Costs—the licensee shall reimburse the Executive Secretary for all third party consultant review costs of the following documents, and any subsequent submittals determined necessary by the Executive Secretary:~~
- ~~(1) ICTM Reports—as required by Parts I.H.2 and I.D.8 of the Permit, including but not limited to the licensee’s March 31, 2010 Revised ICTM Report, and~~
- ~~(2) Revised Reclamation Plan (Revision 5.0) and Interim Surety Report—as required by license conditions 9.11.A and B, above.~~

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~~Reimbursement of the above review costs shall be in accordance with a Memorandum of Agreement (MOA) to include deadlines and a timeline agreed to by both the licensee and the Executive Secretary.~~

~~E. Submit Final Surety Estimate Report and Evidence of Funding—the licensee shall submit a final surety cost estimate report for Executive Secretary review and approval, within 30 calendar days of the following:~~

- ~~(1) Written Executive Secretary approval of the Revised Reclamation Plan (Revision 5.0), and~~
- ~~(2) Written Co Executive Secretary approval of ICTM Report required by Parts I.H.2 and I.D.8 of the Permit, including, but not limited to the March 31, 2010 ICTM Report.~~

~~Upon Executive Secretary approval of the final Surety amount, the licensee shall submit written evidence of the final approved surety amount within 60 calendar days.~~

~~Updated Reclamation Plan and Specifications—the licensee shall complete and submit an updated Reclamation Plan and Specifications for the White Mesa Mill Facility, for Executive Secretary approval on or before June 30, 2010. The plan and specifications shall include information identified in this condition and information that is adequate for determining financial surety requirements for the White Mesa Mill with all tailings management cells, including Cells 4A and 4B, and any new features or facilities that are constructed in conjunction with operation of Cells 4A and 4B. Said Reclamation Plan and specifications shall be approved by the Executive Secretary before disposal of any tailings or wastewater in Cell 4B. The updated reclamation plan shall revise the information contained in the Reclamation Plan Revision 3.0 submitted to the NRC on July 17, 2000, and an update to Rev 3.0 of the Reclamation Plan that was prepared by the Licensee July 25, 2008, and approved on August 4, 2008 (now referred to as Rev. 3.1). After revision of Rev. 3.1, the updated Reclamation Plan shall be referred to as Rev. 3.2, and shall contain the following information:~~

~~A. Information pertaining to the design and use of Cells 4A and 4B for tailings management/disposal, including information on the design of the final top cap(s), and design of the final cap side slopes including rock sizing and fill depth, and the estimated quantities of materials required for final cover construction and final erosion protection, adequate for assessing the needs of the associated financial surety based on currently approved Cover design extended to include Cell 4B;~~



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- ~~B. Estimated costs for constructing the final cover system and for installing final stormwater control systems for the tailings management cells, including Cells 4A and 4B, following completion of tailings management operations;~~
- ~~C. Information on reclamation activities required for reclaiming any new permanent fixtures or facilities that have been installed or are contemplated to be constructed in conjunction with construction and operation of Cells 4A and 4B, and the financial surety needs associated therewith; and~~
- ~~D. Information demonstrating the adequacy of the long-term care fund with respect to the White Mesa Mill Facility that includes consideration of Cells 4A and 4B, the final cover and drainage systems associated with these cells and any other new structure or facility installed or contemplated to be constructed in conjunction with the construction and operation of these two cells.~~

~~*[Applicable UDRC Amendment: 4]*~~

- 9.12 The Licensee shall at all times have a valid groundwater discharge permit issued by the Co-Executive Secretary-Director of the Water Quality Board. No transfer of this License will be approved unless the Ground Water Quality Discharge Permit is also transferred.

*[Applicable UDRC Amendment: 8 Renewal]*

**SECTION 10: OPERATIONAL CONTROLS, LIMITS, AND RESTRICTIONS**

- 10.1 A. The mill production rate shall not exceed 4380 tons of yellowcake per year.
- B. The licensee may not dispose of any material on site that is not “byproduct material,” as that term is defined in 42 U.S.C. Section 2014(e)(2) (Atomic Energy Act of 1953~~4~~, Section 11(e)(2) *as amended*).
- C. The licensee may not receive or process any alternate feed material without first applying for and obtaining approval of a license amendment. For any such proposal, the licensee shall demonstrate that it will comply with Condition 10.1(B). Any such demonstration shall include:
- (1) Demonstration of compliance with the NRC Regulatory Summary 2000-23 Recent Changes to Uranium Recovery Policy, November 30, 2000; and
  - (2) Demonstration of compliance with the November 22, 1999 Protocol for Determining Whether Alternate Feed Materials are Listed Hazardous Wastes, as approved by the Utah Division of Solid and Hazardous Waste (*now Utah Division of Waste Management and Radiation Control*) December 7, 1999.

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- D. Maximum quantities of feed material stored on the mill site, including alternate feed materials or other ores, shall not exceed the total material storage quantity found in the currently approved mill surety pursuant to License Condition 9.5, without prior approval of the ~~Executive Secretary Director~~.
- E. The licensee may not receive any alternate feed materials or other ores if those materials would cause the facility to exceed the tailings cell disposal capacity established by the currently approved tailing cells engineering design and construction reclamation plan and/or the annual surety report required by License Conditions ~~9.11, and 9.5, respectively~~, without prior approval of the ~~Executive Secretary Director~~.  
*[Applicable UDRC Amendment: 2] [Applicable UDRC Amendment: 8 Renewal]*
- 10.2 All liquid effluents from mill process buildings, with the exception of sanitary wastes, shall be returned to the mill circuit or discharged to the tailings impoundment.
- 10.3 Freeboard limits, stormwater and wastewater management for the tailings cells shall be determined as follows:
- A. The Freeboard limit for Cell 1 shall be set annually in accordance with the procedures set out in Section 3.0 to Appendix E of the previously approved NRC license application, including the January 10, 1990 Drainage Report. Discharge of any surface water or wastewater from Cell 1 is expressly prohibited.
- B. The freeboard limit for Cells ~~3, 4A, and 4B~~ shall be recalculated annually in accordance with the procedures approved by the ~~Executive Secretary Director~~. Said calculations for freeboard limits shall be submitted as part of the Annual Technical Evaluation Report (ATER), as described in Condition 12.~~23~~ below.
- C. The discharge of any surface water, stormwater or wastewater from Cells 3, 4A, and 4B shall only be through ~~an~~ a ~~Executive Secretary Director~~ authorized spillway structure.  
*[Applicable UDRC Amendment 3] [Applicable UDRC Amendment: 4] [Applicable UDRC Amendment:8 Renewal]*
- 10.4 Disposal of material and equipment generated at the mill site shall be conducted as described in the licensee's submittals to the NRC dated December 12, 1994 and May 23, 1995, with the following addition:
- A. The maximum lift thickness for materials placed over tailings shall be less than 4-feet thick. Subsequent lifts shall be less than 2-feet thick. Each lift shall be

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compacted by tracking of heavy equipment, such as a Cat D-6, at least 4 times prior to placement of subsequent lifts.

- 10.5 In accordance with the licensee's submittal to the NRC dated May 20, 1993, the licensee is hereby authorized to dispose of byproduct material generated at licensed in-situ leach (ISL) facilities, subject to the following conditions:
- A. Disposal of ISL waste is limited to 5000 cubic yards from a single source.
  - B. All ISL contaminated equipment shall be dismantled, crushed, or sectioned to minimize void spaces. Barrels containing waste other than soil or sludges shall be emptied into the disposal area and the barrels crushed. Barrels containing soil or sludges shall be verified by the Licensee to be full prior to disposal. Barrels not completely full shall be filled with tailings or soil prior to disposal.
  - C. All ISL waste shall be buried in Cell No. 3 unless prior written approval is obtained from the ~~Executive Secretary~~ Director for alternate burial locations.
  - D. All disposal activities shall be documented and records thereof maintained on-site. The documentation shall include descriptions of the ISL waste and the disposal locations, as well as all actions required by this License condition.
  - E. ISL Disposal Requirements- ~~The licensee shall perform ISL disposal activities in accordance with the currently also submit for Executive Secretary Director approved approval a revised written~~ Standard Operating Procedure (SOP) for ISL disposal ~~on or before December 1, 2010. The revised SOP shall describe the documentation required for ISL disposal, which shall include but is not limited to the following;~~ Said plan includes the following minimum provisions:
    - (1) The material disposal area must be located on a tailings beach area of the disposal cell or on an area of the cell that is underlain by tailings sands;
    - (2) The elevation of the material disposal area will not exceed the plane or grade of the elevations of the uppermost flexible membrane liner of the tailings cell;
    - (3) Such ISL byproduct material will be segregated from any mill material and equipment disposed of in the cells pursuant to License Condition 10.4, and the ISL byproduct material from each in-situ leach source will be segregated from the byproduct material from all other in-situ leach sources;
    - (4) Absence of void space inside barrels disposed, including physical verification before disposal; and
    - (5) Detailed engineering drawings which demonstrate:

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- a. There are at least 4 feet of tailings sands under the bottom of each disposal area; and
- b. The bottom of each disposal area is located at least 12 feet from the sides or dikes of the tailings cell.
- F. The Licensee shall notify the ~~Executive Secretary~~ Director in writing at least 7 calendar days prior to the proposed scheduled date for disposal of any byproduct material generated at ISL facilities in the tailings cells.

An annual summary of the amounts of waste disposed of from off-site ISL generators shall be sent to the ~~Executive Secretary~~ Director on or before November 1 of each calendar year.

*[Applicable UDRC Amendment: 4] [Applicable UDRC Amendment: 8 Renewal]*

- 10.6 The licensee is authorized to receive and process source materials from the Allied Signal Corporation's Metropolis, Illinois, facility in accordance with the amendment request to the NRC dated June 15, 1993.
- 10.7 The licensee is authorized to receive and process source material from Allied Signal, Inc. of Metropolis, Illinois, in accordance with the amendment request to the NRC dated September 20, 1996, and amended by letters to the NRC dated October 30, 1996 and November 11, 1996.
- 10.8 The Licensee is authorized to receive source material (the SFC Uranium Material) from the Sequoyah Fuels Corporation Facility located near Gore, Oklahoma, in accordance with statements, representations, and commitments contained in the Amendment Request submitted to the Director dated December 15, 2011 and supplemented by submittals dated August 30, 2013, and October 21, 2013. The total amount of material stored and processed shall not exceed the following parameters:
- (1) Alternate feed material stockpiled in bulk form shall not exceed 16,700 tons gross weight (approximately 7,520 tons dry weight), without prior approval of the Director; and
  - (2) The number of bags of the SFC Uranium Material stored on the ore storage pad is not to exceed 17,250 SuperSaks, without prior approval of the Director, and the weight of any SuperSak contain the SFC Uranium Material shall not exceed approximately 2,200 pounds.

The following specific provisions apply to off-loading and on-site storage of the SFC Uranium Material: (1) SuperSaks of the SFC Uranium Material stored (stockpiled) at the Mill Site shall be covered with a minimum 6-inch-thick layer of soil to provide resistance to damage of the fabric bags containing the SFC Uranium Material by ultraviolet (UV) radiation and provide shielding of the gamma radiation field emanating from the bagged

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material, and to the extent any SuperSacs are damaged or leaking, such SuperSacs shall be kept in a moist condition by daily water sprays until such time as they are covered with soil; (2) Such soil cover shall be applied over SuperSaks within 3 days following placement of the SuperSaks on the ore storage pad; (3) Soil cover shall be monitored daily for apparent dusting and will be sprayed with water when the cover soil, or the ore pad conditions in general, indicate the potential for dust generation; (4) If at any time, visible dust is observed to be originating from SFC Uranium Material stored on site or from the cover placed over this material, the EFRI RSO or his or her authorized representative shall take actions within 30 minutes to stop the generation of visible dust; and (5) All offloading of SuperSaks onto the storage pad shall cease when wind speeds exceed 20 mph, unless such Super Sacs are not damaged or leaking upon arrival and during offloading.

*[Applicable UDWMRC Amendment: 8 Renewal]*

~~The licensee is authorized to receive and process source material, in accordance with the amendment request to the NRC dated March 5, 1997.~~

~~*[Applicable NRC Amendments: 1]*~~

- 10.9 The licensee is authorized to receive and process source material from Cabot Performance Materials' facility near Boyertown, Pennsylvania, in accordance with the amendment request to the NRC dated April 3, 1997, as amended by submittals to the NRC dated May 19, 1997 and August 6, 1997.

*[Applicable NRC Amendments: 4]*

- 10.10 ~~DELETED by DWMRC Reserved~~ *[Applicable UDWMRC Amendment:8 Renewal]*

~~The licensee is authorized to receive and process source material from the Ashland 2 Formerly Utilized Sites Remedial Action Program (FUSRAP) site, located near Tonawanda, New York, in accordance with the amendment request to the NRC dated May 8, 1998, as amended by the submittals to the NRC dated May 27, 1998, June 3, 1998, and June 11, 1998.~~

~~*[Applicable NRC Amendments: 6]*~~

- 10.11 The licensee is authorized to receive and process source material from Cameco Corporation's Blind River and Port Hope facilities, located in Ontario, Canada, in accordance with the amendment request to the NRC dated June 4, 1998, and by the submittals to the NRC dated September 14, 1998, September 16, 1998, September 25, 1998, October 7, 1998, and October 8, 1998.

However, the licensee is not authorized to receive or process from these facilities, the crushed carbon anodes identified in these submittals, either as a separate material or mixed in with material already approved for receipt or processing.

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10.12 ~~DELETED by DWMRC Reserved [Applicable UDWMRC Amendment: 8 Renewal]~~

~~The licensee is authorized to receive and process source material from the Ashland 1 and Seaway Area D Formerly Utilized Sites Remedial Action Program (FUSRAP) site, located near Tonowanda, New York, in accordance with statements, representations, and commitments contained in the amendment request to the NRC dated October 15, 1998, as amended by letters to the NRC dated November 23, 1998, November 24, 1998, December 23, 1998, January 11, 1999, January 27, 1999, and February 1, 1999.~~

~~————— [Applicable NRC Amendment: 10]~~

10.13 ~~DELETED by DWMRC Reserved [Applicable UDWMRC Amendment: 8 Renewal]~~

~~The licensee is authorized to receive and process source material from the St. Louis Formerly Utilized Sites Remedial Action Program (FUSRAP) site, in accordance with statements, representations, and commitments contained in the amendment request to the NRC dated March 2, 1999, and as amended and supplemented by submittals dated June 21, 1999; June 29, 1999 (2); and July 8, 1999. Prior to the licensee receiving materials from the St. Louis FUSRAP site, the licensee must make a determination that adequate tailings space is available for the tailings produced from the processing of this material. This determination shall be made based on a SERP approved internal procedure.~~

~~[Applicable NRC Amendments: 13, 14]~~

10.14 ~~DELETED by DWMRC Reserved [Applicable UDWMRC Amendment: 8 Renewal]~~

~~The licensee is authorized to receive and process source material from the Linde Formerly Utilized Sites Remedial Action Program (FUSRAP) site, in accordance with statements, representations, and commitments contained in the NRC amendment request dated March 16, 2000, and as amended and supplemented by submittals dated April 26, 2000, May 15, 2000, June 16, 2000, June 19, 2000, and June 23, 2000.~~

~~Prior to the licensee receiving materials from the Linde FUSRAP site, the licensee must make a determination that adequate tailings space is available for the tailings produced from the processing of this material. This determination shall be made based on a SERP approved internal procedure. Design changes to the cells or the reclamation plan require the licensee to submit an amendment request for Executive Secretary review and approval.~~

~~Prior to the licensee receiving materials from the Linde FUSRAP site, the licensee must require that the generator of the material certify that the material does not contain listed hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) per a Radioactive Material Profile Record.~~

~~————— [Applicable NRC Amendment: 14]~~

10.15 ~~DELETED by DWMRC Reserved [Applicable UDWMRC Amendment: 8 Renewal]~~

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~~The licensee is authorized to receive and process source material from the W.R. Grace site located in Chattanooga, Tennessee, in accordance with statements, representations, and commitments contained in the amendment request to the NRC dated April 12, 2000, as amended and supplemented by submittals dated April 24, 2000, April 26, 2000, May 5, 2000, November 16, 2000, and December 18, 2000.~~

~~Prior to the licensee receiving materials from the W.R. Grace site, the licensee must make a determination that adequate tailings space is available for the tailings produced from the processing of this material. This determination shall be made based on the SERP approved standard operating procedure for determination of tailings capacity. Design changes to the cells or the reclamation plan require the licensee to submit an amendment request for Executive Secretary review and approval.~~

~~Prior to the licensee receiving materials from the W.R. Grace site, the licensee must require that the generator of the material certify that the material does not contain listed hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) per a Radioactive Material Profile Record.  
[Applicable NRC Amendment: 17]~~

- 10.16 ~~DELETED by DWMRC Reserved~~*[Applicable UDWMRC Amendment: 8 Renewal]*  
~~The licensee is authorized to receive and process source material from the Heritage Minerals Incorporated site, in accordance with statements, representations, and commitments contained in the amendment request to the NRC dated July 5, 2000, and as supplemented by submittals dated November 16, 2000, and December 18, 2000.~~

~~Prior to the licensee receiving materials from the Heritage Minerals Incorporated site, the licensee must make a determination that adequate tailings space is available for the tailings produced from the processing of this material. This determination shall be made based on the SERP approved standard operating procedure for determination of tailings capacity. Design changes to the cells or the reclamation plan require the licensee to submit an amendment request for Executive Secretary review and approval.~~

~~Prior to the licensee receiving materials from the Heritage Minerals Incorporated site, the licensee must require that the generator of the material certify that the material does not contain listed hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) per a Radioactive Material Profile Record.  
[Applicable NRC Amendment: 18]~~

- 10.17 The licensee is authorized to receive and process source material from the Molycorp site located in Mountain Pass, California, in accordance with statements, representations, and commitments contained in the amendment request to the NRC dated December 19, 2000,

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and supplemental information in letters dated January 29, 2001, February 2, 2001, March 20, 2001, August 15, 2001, October 17, 2001, and November 16, 2001.

~~Prior to the licensee receiving materials from the Molycorp site, the licensee must make a determination that adequate tailings space is available for the tailings produced from the processing of this material. This determination shall be made based on a SERP approved internal procedure. Design changes to the cells or the reclamation plan require the licensee to submit an amendment request for Executive Secretary review and approval.~~

~~[Applicable NRC Amendment: 20] [Applicable UDWMRC Amendment: 8 Renewal]~~

10.18 ~~DELETED by DWMRC Reserved~~[Applicable UDWMRC Amendment: 8 Renewal]

~~The licensee is authorized to receive and process source material from the Maywood site located in Maywood, New Jersey, in accordance with statements, representations, and commitments contained in the amendment requests to the NRC dated June 15, 2001, June 22, 2001, August 3, 2001, and supplemented by letters dated November 19, 2001, December 6, 2001, December 10, 2001, March 11, 2002, and July 1, 2002.~~

~~Prior to the licensee receiving materials from the Maywood site, the licensee must make a determination that adequate tailings space is available for the tailings produced from the processing of this material. This determination shall be made based on a SERP approved internal procedure. If such determination requires the licensee to make design changes to the cells or the reclamation plan, the licensee shall submit an amendment request for Executive Secretary review and approval.~~

~~Prior to the licensee receiving materials from the Maywood site, the licensee must require that the generator of the material certify that the material does not contain listed hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) per a Radioactive Material Profile Record.~~

~~[Applicable NRC Amendment: 22]~~

10.19 The licensee is authorized to receive and process source material from Ponds 2 and 3 of the FMRI's Muskogee Facility located in Muskogee, Oklahoma, in accordance with statements, representations, and commitments contained in the amendment requests and submittals to the ~~Executive Secretary~~ Director dated March 7, 2005, June 22, 2005, and April 28, 2006.  
[Applicable UDRC Amendment: 2]

10.20 The licensee is authorized to receive and process source material from Dawn Mining Company's Midnite Mine site in Wellpinit, Washington, in accordance with statements, representations, and commitments contained in the Amendment Request submitted to the Director, Utah Division of Radiation Control (Director) dated April 27, 2011 and submittals to the Director dated December 5, 2012, June 14, 2013, August 7, 2013. The Licensee is authorized to receive no more than 1,000 tons per year and a total limit of 4,500 tons (dry weight) under this license condition without prior approval from the Director.



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- A. (1) Unless contained within a closed SuperSac or other container that is not damaged or leaking, Dawn Mining Uranium Material stored (stockpiled) at the Mill Site longer than 14 days shall be covered with a durable geomembrane cover resistant to damage by ultraviolet (UV) radiation and sufficient ballast shall be placed over the cover to prevent wind uplift of the cover during peak wind conditions at the site; and
- (2) If at any time, visible dust is observed to be originating from Uranium Material stored on site, the EFRI RSO or his or her authorized representative shall take actions within 30 minutes to stop the generation of visible dust."  
[Applicable UDRC Amendment: 7]

- 10.21 The licensee shall remediate in accordance with applicable rules and regulations any groundwater contamination found at or near the White Mesa facility in a manner and schedule approved by the ~~Co-Executive Secretary of the Utah Water Quality Board~~ Director. Any wastewater or contaminated groundwater generated, recovered, or produced by a remediation process or activity at the White Mesa facility shall be 11e.(2) byproduct material. As of ~~July~~ May 1, 2014, groundwater contaminants that require remediation at or near the site include, but are not limited to: chloroform, carbon tetrachloride, dichloromethane, chloromethane, and nitrate.  
[Applicable UDWMRC Amendment: 8 Renewal]

**SECTION 11: MONITORING, RECORDING, AND BOOKKEEPING REQUIREMENTS**

- 11.1 The results of sampling, analyses, surveys and monitoring, the results of calibration of equipment, reports on audits and inspections, all meetings and training courses required by this license and any subsequent reviews, investigations, and corrective actions, shall be documented. Unless otherwise specified in the State of Utah regulations all such documentation shall be maintained for a period of at least five (5) years.
- 11.2 The licensee shall implement ~~the~~ an effluent and environmental monitoring program specified in Section 5.5 of the renewal application, as amended by the submittal to the NRC dated June 8, 1995 as described in Sections 2 through 7 of the NRC Regulatory Guide 4.14 Radiological Effluent and Environmental Monitoring at Uranium Mills, and as revised with the following modifications, ~~or~~ additions and exceptions:
- A. Stack sampling shall include a determination of flow rate.
- B. Surface water samples shall also be analyzed semiannually for total and dissolved U-nat, Ra-226, and Th-230, with the exception of the Westwater Creek, which shall be sampled annually for water or sediments and analyzed as above. A sediment

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sample shall not be taken in place of a water sample unless a water sample was not available.

- C. Groundwater sampling shall be conducted in accordance with the requirements in the current Utah Ground Water Discharge Permit No. UGW370004.
- D. With the exception of groundwater sampling the licensee shall utilize lower limits of detection in accordance with Section 5 of the NRC Regulatory Guide 4.14, as amended, for analysis of effluent and environmental samples.
- E. The inspections performed semiannually of the critical orifice assembly committed to in the submittal to the NRC dated March 15, 1986, shall be documented. The critical orifice assembly shall be calibrated at least every 2 years against a positive displacement Roots meter to obtain the required calibration curve.  
~~[Applicable NRC Amendment: 5]~~[Applicable UDRC Amendment 3] [Applicable UDWMRC Amendment: 8 Renewal]
- 11.3 The licensee shall implement a monitoring program of the leak detection systems for disposal Cells 4A and 4B in accordance with requirements of the ~~Ground Water Discharge~~ Permit. The licensee shall also implement an operation, maintenance, and monitoring program of the leak detection systems for disposal Cells 1, 2, and 3 as follows:
- A. The licensee shall maintain all leak detection system piping, including any access pipes, open, fully functional and free of soil, debris or detritus. All access pipes shall be capped to prevent inflow of rainwater, soil, debris, or detritus when not in use for monitoring or pumping. The licensee shall conduct annual video logs of said access pipes to demonstrate the physical condition of the system. In the event that the licensee determines any access pipe is blocked, partially blocked, or otherwise not fully functional, the licensee shall: 1) remove all blockages within 14 calendar days of discovery, and 2) submit a written report for ~~Executive Secretary~~ Director approval within 30 calendar days of discovery.
- B. Leak Detection System - The licensee shall measure and record the inches of water pressure head on the pump transducer in each of the tailings disposal cell leak detection system standpipes on a weekly basis in a manner approved by the ~~Executive Secretary~~ Director. The transducer and pump will be placed as low as reasonably practical in the standpipe as approved by the ~~Executive Secretary~~ Director. The system will be set such that ~~that~~ the alarm will be triggered when the transducer senses a pressure of 2 inches of water head or greater, and the pump will turn on when the transducer senses a water head pressure on the transducer at or above the level for the cell specified in the following table:

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<u>Cell</u>	<u>Water Head Pressure on Transducer</u>
<u>Cell 1</u>	<u>12 inches</u>
<u>Cell 2</u>	<u>18 inches</u>
<u>Cell 3</u>	<u>12 inches</u>

- C. If fluid is present in the leak detection system (LDS) of any cell above the water head pressure on the transducer specified in the table set out in License Condition 11.3B, the licensee shall:
1. Pump the fluid from the LDS immediately upon discovery, to a water head pressure on the transducer at or below the level for the cell specified in the table set out in License Condition 11.3B.
  2. Immediately commence and continue daily monitoring of LDS water head pressure on the transducer, and volumes removed, until otherwise approved by the ~~Executive Secretary~~Director.
  3. Maintain the water head pressure on the transducer at or below the level for the cell specified in the table set out in License Condition 11.3(B).
  4. Return any LDS fluid pumped to an approved disposal cell.
- D. If fluid is pumped from a LDS, the licensee shall calculate the flow rate either by a flow meter or by dividing the recorded volume of fluid recovered by the elapsed time since fluid was last pumped or increases in the LDS fluid levels were recorded, whichever is the more recent. The licensee shall document the results of this calculation.
- E. If the flow rate calculated under License Condition 11.3(D) is greater than zero for 30 continuous calendar days, but does not exceed one gallon per minute, the licensee shall, unless it determines the root cause of the failure through other means, reduce the solution level in the Cell by up to 12 inches elevation to determine whether or not the reduction in solution elevation materially reduces the flow rate. If the flow rate is materially reduced, this will be considered to indicate that one or more liner repairs are required above the reduced elevation level, where exposure to wave action and the elements are most likely to have impacted the liner. If any such repairs are required, the licensee will submit a plan and schedule for ~~Executive~~

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SecretaryDirector approval for an investigation of the liner above such reduced solution level and for completion of such repairs.

If the licensee is unable to determine the root cause of the leak after following the steps described in this license condition, the licensee shall meet with the Executive SecretaryDirector to determine whether or not any further actions are warranted and practicable in the circumstances.

F. Either of the following events shall constitute a violation of this License: 1. Failure to maintain the LDS fluid level elevation pursuant to License Condition 11.3(C)(1), above, and such failure is not rectified within two days after discovery; or 2. the flow rate calculated under License Condition 11.3(D) is equal to or greater than one gallon per minute. Immediately upon determination of such an event, the licensee shall:

- (1) Evaluate the root cause of the event and take appropriate and timely actions to mitigate the event and any consequent potential impacts;
- (2) Continue to measure and record LDS water head pressure on the transducer, and removed volume measurements daily until otherwise approved by the Executive SecretaryDirector; and
- (3) Notify the Executive SecretaryDirector by telephone within 48 hours, in accordance with License Condition 9.2, and submit a written report, for Executive SecretaryDirector approval, within 30 calendar days of said telephone notice, in accordance with License Condition 9.2. The written report shall include a description of the mitigative action(s) taken and a discussion of the mitigative action results. In the event that mitigative actions have yet to be taken, the written report will include a detailed workplan and schedule.

~~G. The licensee shall measure and record the “depth to fluid” in each of the tailings disposal cell standpipes on a weekly basis. If sufficient fluid is present in the leak detection system (LDS) of any cell, the licensee shall pump fluid from the LDS, to the extent reasonably possible, and record the volume of fluid recovered. Any fluid pumped from an LDS shall be returned to a disposal cell.~~

~~If fluid is pumped from an LDS, the licensee shall calculate the flow rate by dividing the recorded volume of fluid recovered by the elapsed time since fluid was last pumped or increases in the LDS fluid levels were recorded, whichever is the more recent. The licensee shall document the results of this calculation.~~

~~H. Upon the initial pumping of fluid from an LDS, the licensee shall collect a fluid sample and analyze the fluid for pH and the parameters listed in paragraph A of this license condition. The licensee shall determine whether the LDS fluid originated~~

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~~from the disposal cell by ascertaining if the collected fluid contains elevated levels of the constituents listed in paragraph A of this license condition or has a pH level less than 5.0. If either elevated constituent levels or a pH less than 5.0 is observed, the licensee shall assume that the disposal cell is the origin of the fluid.~~

~~If the LDS fluid is determined not to have originated from the disposal cell, the licensee shall continue with weekly measurements of “depth to fluid” in the LDS standpipes. The licensee shall confirm, on an annual basis, that fluid from the disposal cell has not entered the LDS by collecting (to the extent possible) and analyzing an LDS fluid sample for the above stated parameters.~~

~~I. Upon indication that the LDS fluids originated from the disposal cell, the licensee shall determine the flow rate through the liner by the calculation method in paragraph B of this license condition. If the flow rate is equal to or greater than one gallon per minute, the licensee shall:~~

~~(4) Evaluate the cause of the liner distress and take appropriate and timely actions to mitigate the leak and any consequent potential impacts;~~

~~(5) Continue to measure and record LDS “depth to fluid” measurements weekly; and~~

~~(6) Notify the Executive Secretary by telephone within 48 hours, in accordance with License Condition 9.2, and submit a written report within 30 calendar days of notifying the Executive Secretary by telephone, in accordance with License Condition 9.2. The written report shall include a description of the mitigative action(s) taken and a discussion of the mitigative action results.~~

~~If the calculated flow rate is less than one gallon per minute, the licensee shall continue with weekly measurements of “depth to fluid” in the LDS standpipes.~~

~~D.G. In addition to the reporting required in License Condition 11.3(A), (B), (C), and (D),~~  
~~a~~All sampling, analysis, and evaluation of LDS fluids shall be documented and all records retained onsite until license termination for Executive Secretary Director inspection.

~~[Applicable NRC Amendment: 8] [Applicable UDRC Amendment 3] [Applicable UDRC Amendment: 4] [Applicable UDWMRC Amendment: 8 Renewal]~~

~~[Applicable NRC Amendment: 8]~~

- 11.4 Annually, the licensee shall collect, during mill operations, a set of air samples covering eight hours of sampling, at a high collection flow rate (i.e., greater than or equal to 40 liters per minute), in routinely or frequently occupied areas of the mill. These samples shall be analyzed for gross alpha. In addition, with each change in mill feed material or at least annually, the licensee shall analyze the mill feed or production product for U-nat, Th-230,

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Ra-226, and Pb-210 and use the analysis results to assess the fundamental constituent composition of air sample particulates.

*[Applicable NRC Amendment: 7]*

- 11.5 Calibration of in-plant air and radiation monitoring equipment shall be performed as specified in the license renewal application, under Section 3.0 of the "Radiation Protection Procedures Manual," with the exception that in-plant air sampling equipment shall be calibrated at least quarterly and air sampling equipment checks shall be documented.
- 11.6 The licensee shall perform an annual ALARA audit of the radiation safety program in accordance with the NRC Regulatory Guide 8.31.
- 11.7 Settlement Monitoring Standard Operating Procedure - the licensee shall ~~submit for Executive Secretary approval a written~~ perform settlement monitoring for vertical settlement in the tailings management cell area in accordance with the currently Director approved Settlement Monitoring Standard Operating Procedure (SOP) ~~on or before December 1, 2010. The proposed SOP shall describe methods for monitoring vertical settlement in the tailings management cell areas and for recording and~~ The Licensee shall documenting settlement monitoring data and ~~comparing~~compare such data to previous data to track potential settlement. All data collected by the Licensee for these purposes shall be included in an annual report to be submitted to the ~~Executive Secretary~~Director, pursuant to License Condition 12.32. ~~The SOP shall also~~ Said SOP includes the following minimum provisions:
- A. Require that settlement monitors (e.g., settlement stands) be promptly installed following placement of temporary cover over placed tailings;
  - B. Require installation of one or more representative settlement monitoring stand(s) above each ISL source disposal area that has been closed to further disposal pursuant to License Condition 10.5.A. There shall be at least one settlement monitoring stand for each ISL source disposal area, estimated to be about 22,500 square feet. Installation of said settlement monitoring stand and initial elevation survey shall be completed by the Licensee within 30 calendar days of completion of each ISL source disposal area. ~~For ISL source disposal areas or trenches completed before April 1, 2010 the Licensee shall install the required settlement stand(s) and complete the initial elevation survey prior to June 1, 2010;~~
  - C. Indicate that the licensee will utilize settlement monitoring devices and methods that are resistant to shifting in their positions as a result of such forces as frost heave, erosion, burrowing animals, or other environmental factors;
  - D. Include provisions to prevent man-caused damage to settlement monitoring devices, including, but not limited to vehicle and construction traffic damage. Such measures

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will include: 1) all equipment, procedures, and provisions needed to protect said settlement monitoring devices, 2) schedules for rapid verbal and written reporting of any such damage, and 3) corrective actions taken or to be taken by the Licensee to replace and/or repair said devices;

- E. Indicate that settlement monitors will be:
- (1) Initially surveyed by a Utah Licensed Professional Land Surveyor within, 30 calendar days of installation;
  - (2) Surveyed monthly; and
  - (3) Surveyed annually by a Utah Licensed Land Surveyor. Review of the data and an analysis shall be performed and certified by a Utah Licensed Professional Engineer and submitted annually as part of the ATER required by License Condition 12.~~32~~;
- F. Include procedures requiring that such settlement monitors be placed, surveyed, mapped, and maintained; that corrective action and maintenance activities be performed to maintain existing monitoring devices in a reliable, good working condition, as needed; that the addition, surveying and mapping of new settlement monitoring devices installed be documented; and that records be made of observations of site conditions as they relate to the conditions at and in the vicinity of the installed monitoring devices;
- G. Provide quantitative performance criteria and describe how such criteria will be used to evaluate vertical movement;
- H. Indicate that any settlement monitoring device that is irreparably damaged as a result of environmental stresses or through man-caused contact, including but not limited to cell construction or other operational equipment, shall be promptly replaced with an identical or equivalent monitoring device; and provisions provided to guide the interpretation of data from both the former and the replacement device;
- I. Indicate that where survey evidence suggests that significant apparent movement in a settlement monitor has occurred, in excess of the approved performance criteria, that the departure(s) will be investigated and explained, and errors corrected and resolved in a timely manner, subject to ~~Executive Secretary~~ Director approval;
- J. Indicate that photographs shall be taken of the monitoring areas at least annually to document site and device conditions. Additionally, the SOP shall indicate that photographs shall be taken following any instances of unusually severe weather or incidents involving equipment if they result in physical damage or disturbance to any

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settlement monitoring device, or significant changes to the ground surface areas adjacent to or surrounding a settlement or displacement monitoring device;

- K. Include a list of records that will be prepared for documenting settlement data for each settlement monitoring device and related site observations and activities; and
- L. Indicate that results and records of settlement monitoring shall be submitted annually as part of the ATER required by License Condition 12.32.  
*[Applicable UDRC Amendment: 4]*

11.8 Movement (Displacement) Monitoring Standard Operating Procedure - the Licensee shall ~~submit for Executive Secretary approval a written~~ perform monitoring for potential vertical and horizontal movements in the constructed dike portions of the tailings management cells in accordance with the currently Director approved Movement Monitoring Standard Operating Procedure (SOP) ~~on or before December 1, 2010. The proposed SOP shall describe methods for monitoring potential vertical and horizontal movements in the constructed dike portions of the tailings management cells, and for recording and~~ The Licensee shall documenting displacement monitoring data and comparing such data to previous data to track potential movement (displacement). All data collected by the Licensee for these purposes shall be included in an annual report to be submitted to the ~~Executive Secretary~~ Director, pursuant to License Condition 12.32. ~~The SOP shall also~~ Said SOP includes the following minimum provisions:

- A. Require that movement monuments be promptly installed following completion of construction of cell dikes;
- B. Indicate that the licensee will utilize movement monuments and monitoring methods that are resistant to shifting in their positions as a result of such forces as frost heave, erosion, burrowing animals, or other environmental factors;
- C. Include an obligation for the Licensee to prevent man-caused damage to movement monuments, including, but not limited to vehicle and construction traffic damage. Such measures will include: 1) all equipment, procedures, provisions need to protect said settlement monitoring devices, 2) schedules for rapid verbal and written reporting of any such damage, and 3) corrective actions taken or to be taken by the Licensee to replace and/or repair said devices;
- D. Indicate that movement monuments will be:
  - (1) Initially surveyed by a Utah Licensed Land Surveyor within 30 calendar days of installation;



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- (2) Surveyed semi-annually for the first three years following installation by a Utah Licensed Land Surveyor.
  - (3) Surveyed annually after the first three years by a Utah Licensed Land Surveyor
  - (4) Subjected to accelerated monitoring conducted under certain circumstances, at a frequency and in a manner approved by the Executive Secretary; and
  - (5) Reviewed annually by a Utah Licensed Professional Engineer, who shall perform and certify an analysis of all survey data. This analysis shall be submitted pursuant to License Condition 12.~~32~~;
- E. Include procedures requiring that such movement monuments be placed, surveyed, mapped, and maintained; that corrective action and maintenance activities be performed to maintain existing movement monuments in a reliable, good working condition, as needed; that the addition, surveying and mapping of new movement monuments installed be documented; and that records be made of observations of site conditions as they relate to the conditions at and in the vicinity of the installed monuments;
- F. Provide quantitative performance criteria and describe how such criteria will be used to evaluate movements (displacements);
- G. Indicate that any movement monument that is irreparably damaged as a result of environmental stresses or through man-caused contact, including but not limited to cell construction or other operational equipment, shall be promptly replaced with an identical or equivalent movement monument; and provisions provided to guide the interpretation of data from both the former and the replacement device;
- H. Include a list of records that will be prepared for documenting movement (displacement) data for each movement monument and related site observations and activities; and
- I. Indicate that results and records of movements (displacements) shall be submitted annually as part of the ATER required by License Condition 12.~~32~~.  
*[Applicable UDRC Amendment: 4]*

~~11.9 The licensee shall submit a revised Environmental Protection Manual for the White Mesa Mill within 60 days of license approval. The revised Environmental Protection Manual shall include 2 additional air monitoring stations and a revised soil sampling program. The licensee shall also analyze whether a revised vegetation sampling program is appropriate. In addition, air particulate sample analysis will include Thorium 232, and every air monitoring station will also monitor for radon (Rn222) and gamma detection devices on a quarterly basis. Implementation of the revised environmental monitoring program shall be~~

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~~completed 90 days after Director approval of the revised Environmental Protection Manual unless another deadline is approved by the Director. [Applicable UDRC Amendment: 7]~~

**SECTION 12: REPORTING REQUIREMENTS**

- 12.1 The licensee shall submit a detailed decommissioning plan to the ~~Executive Secretary~~ Director at least twelve (12) months prior to planned final shutdown of mill operations that includes a detailed Quality Assurance Plan. The plan will be in accordance with NRC Regulatory Guide 4.15, "Quality Assurance for Radiological Monitoring Programs" and NUREG-1575, "Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)" or equivalent most current guidance.  
*[Applicable NRC Amendment: 13][Applicable UDRC Amendment: 1]  
[Applicable UDRC Amendment: 2]*
- 12.2 Annual Technical Evaluation Report (ATER) - the licensee shall submit an ATER for ~~Executive Secretary~~ Director approval no later than November 15, of each year, to coincide with the annual freeboard calculation date of November 1<sup>st</sup> of each year when using the new Freeboard Calculation Method, as described in the letter from David A. Rupp of the Utah Division of Radiation Control to Mr. David C. Frydenlund of Denison Mines (USA) Corp, dated April 29, 2010. Each ATER shall incorporate all documents and attachments, including applicable updates to previously submitted documents with attachments that support information presented in the ATER, including, but not limited to maps, drawings, tables, and figures. The licensee shall include, as part of the ATER, results of tailings cell temporary cover settlement and dike displacement monitoring activities. The content of the tailings cell temporary cover settlement and displacement monitoring program related information shall include those records required under the Settlement Monitoring and Movement Monitoring SOPs (License Conditions 11.7 and 11.8), as approved by the ~~Executive Secretary~~ Director.  
*[Applicable UDRC Amendment: 4]*
- 12.3 The licensee shall conduct an annual survey of land use (private residences, grazing areas, private and public potable water and agricultural wells, non-residential structures and uses and assess population growth or industry growth) in the area within five kilometers radius once every two years of the White Mesa Uranium Mill facility property boundaries and submit a report of this survey to the Executive Secretary-Director. The report shall be submitted on or before June 30 on even numbered years. This report shall indicate any differences in land use from that described in the last report including the following: 1) providing references and/or a description of methods utilized to obtain information included in the report; 2) listing all water wells, owners, approved use, and contact information within the specified search radius; and 3) including information on an updated land use map to be included with the report.  
*[Applicable UDWMRC Amendment: 8 Renewal]*

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**SECTION 13: CLOSEOUT CONDITIONe**

- 13.1 Except as specifically provided otherwise by this license, the licensee shall conduct operations in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. Whenever the word "will" is used in the documents referenced below, it shall denote a requirement. The Utah Radiation Control Rules shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the rules.\*
- A. Licensee's Standby Trust Agreement, as amended;
  - B. Licensee's letter to the NRC dated August 23, 1991 (including the license renewal application);
  - C. Licensee's revision submitted to NRC January 13, 1992;
  - D. Licensee's revision submitted to NRC April 7, 1992;
  - E. Licensee's revision submitted to NRC November 22, 1994;
  - F. Licensee's revision submitted to NRC July 27, 1995;
  - G. Licensee's revision submitted to NRC December 13, 1996;
  - H. Licensee's revision submitted to NRC December 31, 1996;
  - I. Licensee's revision submitted to NRC January 30, 1997.
  - J. Licensee's letter dated May 25, 2012 (Transfer of Control)
  - K. Licensee's letter dated June 27, 2012 (Transfer of Control)
  - L. Director's Letter dated June 27, 2012 (Transfer of Control Approval)
  - M. Licensee's letter dated August 3, 2012 (Name Change)
  - N. Electronic Mail from David Frydenlund dated August 15, 2012 (Change Mailing Address)
  - O. Electronic Emails from David Frydenlund dated October 22 and 23, 2013
  - P. Licensee's letter dated December 13, 2013 (Performance Bond)
  - Q. Director's letter dated December 20, 2013
  - R. Licensee's letter dated April 27, 2011 (Dawn Mining Alt feed)
  - S. Licensee's letter dated December 5, 2012 (Dawn Mining Alt feed)
  - T. Licensee's letter dated June 14, 2013 (Dawn Mining Alt feed)
  - U. Licensee's letter dated August 7, 2013 (Dawn Mining Alt feed)
  - V. Electronic Email from Kathy Weinel dated April 24, 2014 to John Hultquist requesting minor mod to LC 11.9.
  - W. White Mesa Uranium Mill License Renewal Application State of Utah Radioactive Materials License No. UT1900479, Volumes 1 through 5, from Denison Mines (USA) Corp. dated February 28, 2007 to Utah Division of Radiation Control.
  - X. Health Physics and Engineering Interrogatories, Rounds 1 through 3, from Utah Division of Radiation Control dated November 24, 2008, July 2, 2009, and December 28, 2009 to Denison Mines.

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- Y. Responses to DRC Health Physics and Engineering Interrogatories, From Denison Mines dated February 5, 2009, April 20, 2009, May 15, 2009, August 14, 2009, September 14, 2009, September 28, 2009, November 24, 2009, November 25, 2009, and March 5, 2010 to Utah Division of Radiation Control
  - Z. Sequoyah Fuels Alternate Feed Request dated December 15, 2012, from Energy Fuels Resources Inc. to Utah Division of Radiation Control.
  - AA. White Mesa Uranium Mill Reclamation and Decommissioning Plan Rev 5.1, from Energy Fuels dated August 10, 2016 and February 23, 2017 to UDWMRC.

*\* For 13. LB through 13.1.1- NRC Amendment: 2;  
For 13. I.J through 13.1.N- UDRC Amendment 5  
For 13.1.0 through 13.1.Q - UDRC Amendment 6  
For 13.1.R through 13.1. V- UDRC Amendment 7  
For 13.1 W through 13.1AA – UDWMRC Amendment 8*

**UTAH DIVISION OF WASTE MANAGEMENT AND RADIATION CONTROL BOARD**

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~~Dane L. Finerfrock~~ ~~Rusty Lundberg~~ Scott Anderson, ~~Executive Secretary~~ Director

Date