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October 9, 2019

Div of Waste Management
and Radiation Control

SENT VIA E-MAIL AND EXPEDITED DELIVERY

OCT 15 2019

DRC-2019-012708

Mr. Ty L. Howard
Director
Division of Waste Management and Radiation Control
Utah Department of Environmental Quality
195 North 1950 West
P.O. Box 144880
Salt Lake City, UT 84114-4820

**Re: Volume and Procedural Modification Request for 11e.(2) Byproduct Material
Disposal, Radioactive Materials License UT1900479, White Mesa Uranium Mill,
Blanding Utah**

Dear Mr. Howard:

The Nuclear Regulatory Commission (“NRC”) regulations in 10 CFR 40 Appendix A, Criterion 2, focuses on avoiding proliferation of small disposal sites and thereby reduce perpetual surveillance obligations at in-situ uranium recovery (“ISR”) operations and other small remote uranium extraction sites. Accordingly, ISR facilities do not have permanent 11e.(2) disposal facilities on site. Instead, upon final closure ISR facilities are decommissioned to free-release (clean closure) standards. In order to accomplish this, as a condition of their licenses they are required to enter into and maintain a contract for the disposal of their 11e.(2) byproduct materials at an existing off-site licensed 11e.(2) byproduct disposal facility, such as the White Mesa Mill (the “Mill”). In response to Criterion 2 referenced above, and to accommodate the license requirements of ISR facilities under this program, the Mill has received and disposed of 11e.(2) byproduct material from ISR facilities since 1993 under Section 10.5 of the Mill’s Radioactive Materials License (“RML”), UT1900479. In order to better accommodate the operational requirements of ISR licensees, and based on the Mill’s experience to date, EFRI would like to request three changes to the current RML conditions for 11e.(2) byproduct disposal activities as delineated below. In addition, since 1993 in-situ leach (“ISL”) facilities are now referred to as ISR facilities; therefore references should be changed accordingly.

Section 10.5 of the Mill’s RML states:

“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.”

Energy Fuels Resources (USA) Inc. (“EFRI”) hereby requests that the RML Section 10.5.A be modified to read as follows:

- A. Disposal of 11e.(2) material from ISR facilities is limited to a total of 10,000 cubic yards (“cy”) per year from all sources provided that:
- i. the licensee may exceed this amount in any year if required to accept ISR waste from any facility in connection with the final reclamation/decommissioning of the facility; and
 - ii. the licensee may accept an unlimited amount of 11e.(2) byproduct material from any facility owned or operated by the licensee or an affiliate of the licensee.

This volume change reflects the original volume contemplated by the NRC in its RML, Amendment 33. Further, this volume change allows for the receipt of reclamation items from ISR facilities as necessary, without the delays associated with the submission of individual volume change requests.

To conservatively assure that sufficient disposal capacity is available, the annual tailings capacity evaluation will use 20,000 cy (unless there are any facilities that are going into final reclamation, in which case this amount will be increased accordingly, if necessary) for future receipts. This conservatism will be incorporated into the calculation as noted in Section 2.6 of the Standard Operating Procedure (“SOP”). The annual tailings capacity evaluation will include this amount converted from cubic yards to dry tons. This conservatism provides assurance that any 11e.(2) byproduct materials from ISR facilities will be accounted for prior to receipt.

Section 10.5 D of the Mill’s RML states that:

“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.”

Section 10.5.E of the Mill’s RML states that:

“ISL Disposal Requirements. The licensee shall perform ISL disposal activities in accordance with the current Director approved Standard Operating Procedure (SOP) for ISL disposal. Said plan includes the following minimum provisions:

- (3) Such ISL byproduct material shall 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 shall be segregated from the byproduct material from all other in-situ leach sources;”

EFRI hereby requests a change to the above requirements in 10.5.D and 10.5.E.(3) to remove the location documentation and waste segregation stipulations to read as follows:

D. All disposal activities shall be documented and records thereof maintained on-site. The documentation shall include the information required in the Director-approved SOP.

E. **ISR Disposal Requirements.** The licensee shall perform placement activities of 11e.(2) byproduct material from ISR facilities in accordance with the current Director-approved SOP. Said SOP includes the following minimum provisions:

(3) Such ISR byproduct material shall be disposed of in the cells pursuant to License Condition 10.4;

The proposed change would allow more expeditious and efficient placement of 11e.(2) byproduct materials with no adverse effects. It is important to note that the liner protection elements in 10.5.E would remain in effect and thereby continue to be protective of the liner.

Redlined revised SOPs for 11e.(2) byproduct material disposal and tailings capacity evaluations are included in Attachments A and B for Division of Waste Management and Radiation Control (“DWMRC”) approval.

If you should have any questions regarding this letter, please contact me.

Yours very truly,



ENERGY FUELS RESOURCES (USA) INC.

Kathy Weinel

Quality Assurance Manager

CC: Scott Bakken
Mark Chalmers
David Frydenlund
Paul Goranson
Garrin Palmer
Harold Roberts
Logan Shumway
Terry Slade

Attachment A

1.0 Purpose

Energy Fuels Resources (USA) Inc. (“EFRI”) receives 11e.(2) byproduct material (“byproduct material”) from uranium in-situ ~~leach-recovery~~ (“ISR”) operations for disposal under License Condition 10.5. The following procedure applies to acceptance, handling, and disposal of byproduct material at the White Mesa Mill (the “Mill”).

2.0 Prior to Shipment of Byproduct Material

All byproduct material must be approved for disposal by the Mill Radiation Safety Officer (“RSO”), or his designee, prior to shipment to the Mill. The byproduct material must conform to Titles 10 and 49 of the U.S. Code of Federal Regulations (“CFR”) and the Shipper must certify that the byproduct material does not contain hazardous waste as defined in the Resource Conservation and Recovery Act (“RCRA”).

Information regarding the byproduct material to be disposed of should be received prior to receipt of the shipment at the Mill, and shall include:

1. The volume of material in cubic feet or yards, or quantity of drums and their size.
2. A description of the material (e.g. sludge, process materials, filter media, pipe, etc.)
3. A description of the shipping container (i.e. end dump trailer, intermodal container, side dump container, etc.)
4. Results of analysis for U-Nat, Ra-226, Th-230 and Pb-210 on all sludges and soils and other material that is suited to sample collection. If a representative sample of the material was taken in connection with a previous shipment of material, then the results of that previous representative sample may be relied upon, and may be referred to or restated in the documentation that accompanies the shipment of the material. For byproduct material which is not suited to sample collection (i.e. metals, process equipment, filter media, pipes, etc.) the Shipper will determine the range, the average and the total activity, measured in millirem/hour (mr/hr) at a range of one meter, for each shipment.
5. A copy of the completed shipping manifest that will accompany the shipment and the anticipated shipping date.

The Environmental Coordinator or their designee will verify, prior to receipt of any shipment of byproduct material, that the disposal of such byproduct material will not cause the Mill to exceed the limits ~~of 5,000 cubic yards~~ of byproduct material ~~from a single source~~, set out in Mill License condition 10.5A.

3.0 Designated Disposal Area

The Environmental Coordinator, or their designee will designate from time to time one or more designated disposal areas (each a “Designated Disposal Area”) being a general area within a tailings cell for the disposal of byproduct material. Each Designated Disposal Area must meet the following

criteria:

1. The Designated Disposal Area must be in an active tailings cell (i.e., a tailings cell that is not fully covered with interim cover);
2. The Designated Disposal Area must be on a tailings beach area of the cell or on an area of the cell that is underlain by tailings sands;
3. There must be at least 4 feet of tailings sands under the Designated Disposal Area;
4. The Designated Disposal Area must be located at least 12 feet from the sides or dikes of the tailings cell;
5. Survey information or other document review will be maintained to confirm that the elevation of the Designated Disposal Area once filled with byproduct material must not exceed the plane or grade of the elevation of the uppermost flexible membrane liner of the tailings cell;

~~6.1. Detailed engineering drawings must have been prepared and kept on file at the Mill that demonstrate for each Designated Disposal Area that:~~

~~a) There are at least 4 feet of tailings sands under the bottom of the Designated Disposal Area; and~~

~~b)a) The bottom of the Designated Disposal Area is located at least 12 feet from the sides or dikes of the tailings cells; and~~

~~c) Each disposed ISL byproduct material has been segregated from any mill material and equipment disposed of in the cells 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;~~

~~7.6. ISLR wastes will be disposed in cells that have received prior written approval from the Director for this purpose.~~

~~8. Prior written approval must have been obtained from the Director of the Utah Radiation Control Board (the "Director") for each Designated Disposal Area, under Mill License condition 10.5C, and evidence of such approval must be on file at the Mill.~~

~~9.7. Byproduct material from each ISL facility is disposed in Designated Disposal Areas specific to that ISL facility. Designated Disposal Areas include either trench areas or tailings beach areas. The procedures for placement are not dependent on which area the byproduct material is placed in. The above procedures are the same for both trench areas and tailings beach areas.~~

Detailed engineering drawings must have been prepared and kept on file at the Mill that demonstrate for each Designated Disposal Area that: When a new Designated Disposal Area is needed, EFRI will delineate the usable area within the cell footprint with stakes, fencing, bollards or other material(s) such that it is clear that the area meets requirements in items 3 and 4 above.

~~There are at least 4 feet of tailings sands under the bottom of the Designated Disposal Area;
and~~

~~The bottom of the Designated Disposal Area is located at least 12 feet from the sides or dikes
of the tailings cells; and~~

4.0 Notification to Director

EFRI shall notify the Director in writing at least 7 calendar days prior to the proposed scheduled date for disposal of any byproduct material. Written evidence of this notification will be kept on file at the Mill.

5.0 Byproduct Material Receiving

1. When each truck driver enters the restricted area for the first time, the scale house operator will provide hazard training for the driver. The driver will be provided with the Safety Training Form (Attachment 1). All drivers will be required to read the Safety Training Form and sign and date the Safety Training Form indicating that they understand and agree to follow EFRI's safety rules and procedures while on company property. The scale house operator will sign the Safety Training Form as the instructor for EFRI. Completed Safety Training Forms will be turned in to the Safety Department for future reference.
2. The onsite transportation expert shall inspect all copies of the Shipping Manifest and the transporter's Bill of Lading to ensure that the shipment is destined for the Mill and confirm with the Environmental Coordinator, or their designee that the shipment has been approved for receipt.
3. Record the inbound date and both the truck and trailer numbers on the Scale house Weight Ticket (SWT).
4. Enter the loaded weight of the truck and trailer on the SWT.
5. The scale house operator will contact the Environmental Department so that the shipment can be escorted by Environmental personnel to the Designated Disposal Area specified by the Environmental Coordinator.
6. Prior to transporting material to the Designated Disposal Area (pending on weather), the driver will be instructed to open or untarp the load. The Environmental personnel and the transportation expert will visually inspect, to the degree possible, the byproduct material to ensure that the material matches the material description on the shipping manifest. Any discrepancies between the byproduct material received and the manifest information will be reported to the Environmental Coordinator.

- a. Any byproduct material suspected of not conforming to Section 2.0 of this SOP will not be transported to the disposal site, unless a determination is made by the Environmental Coordinator that the material in question conforms to Section 2.0 of this SOP.
- b. Barrels containing soil or sludges shall be checked to determine if they are full prior to transporting them for disposal. Barrels not completely full shall be documented and shall be filled with tailings or soil prior to disposal. (License Condition 10.5.B).
- c. If weather conditions exist that makes the opening of the conveyance impossible at the untarping station, the Environmental personnel may take the conveyance to a suitable location in which to inspect the load. A suitable location will be one where the load may be viewed where employees are safely out of the way when the conveyance doors are opened and where if material was to fall out of the conveyance, that contamination issues will not be incurred. An example area could be the tails impound area near the disposal site.

6.0 Byproduct Material Unloading

1. The Environmental Coordinator will specify the specific location within the broader Designated Disposal Area for disposal of the shipment. ~~In designating the specific location within the broader Designated Disposal Area for disposal of the shipment, the Environmental Coordinator will ensure that all byproduct material will be segregated from any Mill material and equipment disposed of in the cell pursuant to Mill license condition 10.4, and that the byproduct material from each ISL source will be segregated from the byproduct material from all other ISL sources.~~
2. Environmental personnel will escort the shipment to the designated location in the Designated Disposal Area for unloading of the byproduct material.
3. Proposed Methods and Procedures to Fully Protect the Liner While Accessing Tailings Cells for Disposal of ~~ISRL~~ Byproduct Material and Mill Equipment
 - a. The shipment will be transported to the Designated Disposal Area only on established roadways onto the tailings cells.
 - b. At no time will a shipment be transported over or in a manner that will damage unprotected dikes, liners, other structures or settlement monitors associated with any of the tailings cells.
 - c. There must be at least 4 feet of tailings sands under the Designated Disposal Area (~~documentation of the disposal area must be completed and on file prior to any disposal activities~~);
 - d. The Designated Disposal Area must be located at least 12 feet from the sides or dikes of the tailings cell (~~active areas will be marked as noted above documentation of the disposal area must be completed and on file prior to any disposal activities~~);
 - e. No travel into the disposal area will be allowed unless the disposal cell liner is covered by at least 18 inches of soil or fill material at the point of access.

4. If the 7 calendar day notice referred to in Section 4.0 above has not been given, or the 7 days have not lapsed, then the shipment may be, but is not required to be contained in the shipping container (that is, the container-bin or trailer) on site until the required 7 day notice has been given and the 7 calendar days have lapsed.
5. If the shipment is determined to be acceptable, the following procedures will be followed:
 - a) If the 7-day notice has been given under Section 4.0 above and the 7 calendar days have lapsed, the byproduct material will then be unloaded in the designated area. If such notice has not been given or if such 7 day period has not lapsed, then the byproduct material will be unloaded in an area of the tailings cell that is not covered with interim cover and from which the material can be removed if necessary. Once the required notice has been given and the required 7 days have lapsed, the byproduct material will then be placed into the designated area.
 - b) If the material is in a self-unloading container, the driver will be instructed to unload ensuring all personnel are clear of the trailer and the immediate area. Byproduct material will be dumped from the transport in a safe manner to minimize dust. If the material requires unloading by a fork truck, a ramp will be installed and unloading will proceed.
 - c) After unloading, the Environmental personnel will visually inspect the unloaded byproduct material to ensure that there is no newly discovered material which does not match the material description on the shipping manifest. Any discrepancies between the byproduct material received and the manifest information will be reported to the Environmental Coordinator. Any byproduct material suspected of not meeting the requirements set forth in Section 2.0 of this SOP will be kept segregated from other waste material until a determination is made of its acceptability for disposal.
 - d) After unloading, a photo of the unloaded material will be taken which is attached to the shipping documentation for verification of shipment contents.
 - ~~e) The location of the shipment of the byproduct material will be documented on the plat of each Designated Disposal Area illustrating the disposal area within the Designated Disposal Area where the byproduct material will be disposed of.~~
 - f) Beta-gamma measurements will be taken at several locations around the unloaded material. This information will be recorded on the Radiation Department's copy of the shipment documentation. The measurement range in mrem/hr at 2 meters, and the average measurement, measured in mrem/hr at 2 meters, shall be recorded.
 - g) Measurements using a photoionization detection meter ("PID") will be taken at several locations around the unloaded material to ensure that there are no organics present. The information will be recorded on the Environmental Department's copy of the shipment documentation. If organics are detected, the Environmental Coordinator must be advised, and no compaction or covering activities relating to the shipment shall occur until specifically instructed by the Environmental Coordinator. The Environmental Coordinator and Safety Coordinator will determine if any additional safety precautions are required to be taken by workers or otherwise as a result of the

detection of the organics, and will implement any such precautions. The Environmental Coordinator will also contact EFR I corporate regulatory personnel and the shipper to verify that the detected organics are 11e.(2) byproduct material from the shipper's ISRL facility. Once the Environmental Coordinator has verified that the organics are byproduct material compaction and covering activities will proceed.

- hg) A breathing zone sample will be taken periodically during unloading and cover activities. If the gross alpha exceeds 25% of the applicable DAC, then the RSO will be notified, and all other unloading activities of byproduct material from that particular ISRL site will require the use of respiratory protection, until further notice by the RSO.
- ih) After unloading the byproduct material, replace the tarp or close the trailer, unless the trailer is being decontaminated for unrestricted release.
- ji) Direct the driver back to the scales for an empty weight.
- kj) The scale house operator will record the empty weight on the appropriate SWT.
- hk) Shipment and disposal activities will be documented as described in Section 10, below.

7.0 Covering of Byproduct Material

1. After the byproduct material has been accepted by the Environmental Coordinator, or their designee, the byproduct material will be spread within the designated area within the Designated Disposal Area to facilitate compaction and covering.
2. The byproduct material will be compacted with at least four passes of the construction equipment prior to placing an additional layer.
3. Free volumes in the byproduct material will be minimized by filling, sectioning, or crushing. Random fill or tailings sands will be used to fill voids in and around the byproduct material.
4. All 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 to be full prior to disposal. Barrels not completely full shall be filled with tailings or soil.
5. A one foot thick, or thicker, cover comprised of native soil will be placed over the byproduct material working area. The fill and cover material will be compacted with at least one pass of the construction equipment.
6. The Environmental Coordinator or their designee will inspect the placement of the byproduct material prior to covering to physically verify that the procedures in this Section 7.0 have been adequately performed.

8.0 Decontamination and Release of Trailers and Trucks

All trailers and trucks will be decontaminated after unloading prior to leaving the Mill. Shippers or transporters will notify EFR~~I~~ whether a specific trailer is to be released for restricted or unrestricted use. Any trailers that are to be released for restricted use will be decontaminated according to the requirements contained in DOT Part 49 CFR 173.428 or 173.443. Any trailers that are to be released for unrestricted use will be decontaminated according to the requirements found in Table 2 of the Nuclear Regulatory Commission's (NRC's) Regulatory Guide 8.30 Rev. 1 "Health Physics Surveys in Uranium Recovery Facilities" 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" issued May 1987. Trailers requiring repair will be decontaminated for unrestricted release, to facilitate repairs by the transporter at the transporter's own site. Trailers may be repaired without undergoing full decontamination if repaired within the restricted area of the Mill.

For the appropriate decontamination procedures, refer to the following Standard Operating Procedures for the appropriate conveyance:

End Dump Trailer	SOP PBL-9
Intermodal Container	SOP PBL-2
Standard Container Trailer	SOP-PBL-2

9.0 Hazard Identification and Safety

1. Required Personal Protective Equipment (PPE)

In all areas of the Mill covered by this procedure, hard hats, safety glasses and steel-toed shoes are required at a minimum. These must be worn in the restricted area of the Mill. Prior to disposal, the RSO will determine what level of respiratory protection, if any, will be required.

2. Industrial Hazards and Safety

- d) Use caution when the trailers are backing to the unloading area.
- e) Ensure that all personnel within 50 feet of the area where an end dump trailer is about to dump its load are aware that unloading is about to commence. Move at least 25 feet away from the rear of the trailer during the initial unloading operation.
- f) Drivers must use caution during the unloading process and be aware of any overhead hazards.
- g) Do not place any part of your body inside the trailer when the trailer is being tipped and the tailgate is open. Only work around the tailgate after it has been properly blocked open.
- h) Use caution when entering or exiting equipment. Be sure to use the ladders and hand rails. **Do not jump off the equipment.**

- i) Always use a ladder when entering and/or exiting the interior of a trailer.

3. Mobile Equipment

- a) Only trained and authorized persons may operate mobile equipment.
- b) All mobile equipment shall be inspected by the operator and any safety defects corrected before the equipment is used. If safe to do so, the equipment may be driven to the shop for repairs. Otherwise, the equipment must be towed or repaired at the location.
- c) Audible backup alarms shall be in operating condition.
- d) Walk around any piece of equipment before starting or moving it. Make certain no one is in a dangerous position and there are no obvious defects or hazards.
- e) Use caution when entering or exiting equipment. Be sure to use the ladders and hand rails. **Do not jump off the equipment.**
- f) Seat belts shall be used at all times when equipment is in motion.
- g) Equipment shall be operated at a reasonable speed consistent with road and weather conditions, subject to a maximum speed limit of 15 mph.
- h) Keep the cabs of equipment clean. Loose items that could jam controls or create other hazards are not allowed.
- i) Report all accidents to your supervisor regardless of how minor they are. If property damage or personal injury is involved, do not move the equipment until your supervisor has released it.
- j) All gasoline engines must be shut off when refueling.
- k) Keep equipment clear of edges, drop offs, and unstable banks. Maintain adequate berms where required.

10.0 Documentation

1. a) Documentation of Shipments

For each shipment of byproduct material the following records will be maintained in the Mill's Environmental Department files:

- Shipper's Manifest and Bill of Lading.
- Laboratory/activity analysis of the byproduct material performed by the Shipper.
- Completed SWT.
- 7-day notice to Director.
- Photo of the byproduct material.

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- Byproduct material radiological scan information.
- Breathing zone monitoring data, if applicable.
- Equipment release forms.

All documents and photographs should be dated and the Shipper's Manifest and or Bill of Lading number indicated on the document.

b) Documentation of Disposal

Byproduct material disposal will be documented on the Disposal Documentation Form provided in Attachment 2. Attachment 2 may be accompanied by photographs, a written description or both. Attachment 2 or other written description will include:

- How the material was placed in the tailing cells;
- If void spaces in the drums/barrels containing soil or sludge were filled with tailings sands;
- How the area was compacted;
- Document that materials placed on tailings are no more than 4 feet thick and subsequent lifts no more than 2 feet thick ~~(this information will be obtained for each ISL disposal area and maintained by the engineering department);~~
- Document that there are 4 feet of tailings under the bottom of each disposal area and the bottom of each disposal area is located at least 12 feet from the sides or dikes of the tailings area ~~this information will be obtained for each ISL disposal area and maintained by the engineering department);~~
- Document that the elevation of the material will not exceed the plane or grade of the elevation of the uppermost flexible membrane liner of the cell.
- Confirmation that the shipment was properly covered; and
- Where settlement markers were placed. The Mill will maintain a plat of each Designated Disposal Area, which illustrates the location of each shipment of byproduct material.

2. The Mill will maintain on file a copy of the Director's written approval of each Designated Disposal Area.

An annual summary of the amounts of byproduct material disposed of in each calendar year shall be sent to the Director on or before November 1 of the calendar year. (License Condition 10.5F).
 [summary due same year]

11.0 Training

An annual basis, all onsite personnel that are involved in the receiving or disposing of this material shall be trained in the activities associated with this procedure. This training shall be documented and maintained on file.

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ATTACHMENT 1
SAFETY TRAINING FOR DELIVERY PERSONNEL

Welcome to Energy Fuels Resources (USA) Inc.'s, White Mesa Mill. In order to assure your safety while on our property, we would like to acquaint you with the safety rules and procedures, which you will be required to follow while on our property.

1.0 General Safety

1. Approved hard hats and safety glasses are required at all times except when inside the cab of your truck.
2. This is a smoke free facility. No smoking is allowed on the property. Eating anything, drinking, chewing candy, gum or tobacco is also not allowed in the Mill Restricted Area due to radiation hazards.
3. Maintain a safe speed at all times when driving in the Mill Restricted Area. The maximum speed limit is posted at 15 mph. Energy Fuels Resources (USA) Inc.'s equipment has the right of way on the ore pad and Mill roadways.
4. Be aware of the possibility of a truck turning over while dumping. Ensure that the truck is on level ground and brakes are set prior to dumping.
5. Check for potential overhead hazards prior to dumping.
6. If material is hung up in the trailer bed, it is not permissible to work in the bed while it is in the dump position. If it is necessary to get in the bed of the trailer to free a hang up, the bed must be lowered.
7. Be aware of slippery conditions on the ore pad during periods of inclement weather.
8. Be aware of the potential for ice build-up on and around the decontamination pad during periods of cold weather.
9. Use caution when entering or exiting equipment.

2.0 Radiation Safety

1. All drivers are required to scan for alpha radiation prior to leaving the Mill Restricted Area.
2. All equipment, i.e. trucks and trailers, will be scanned for radiation prior to leaving the Mill's Restricted Area.

 Driver (Printed)

 Scale House Operator

 Driver (Signature)

 Date

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ATTACHMENT 2
11e.(2) BYPRODUCT MATERIAL DISPOSAL DOCUMENTATION FORM

Date: _____

Name of employee receiving the load: _____

Generator of the Byproduct Material: _____

Shipper's Manifest or Bill of Lading number: _____

Was the State of Utah given notice to the receipt/disposal activities associated with this load? Yes or No

Who gave and when was the notification given?

Description of byproduct material disposal area/activities:

Has each drum been inspected to identify the presence of any void spaces? _____

Have all drums with void spaces been filled with tailings sands or soil? _____

Which tailings cell was the material placed in? _____

Was the material placed on a tailings beach area of the cell or on an area of the cell that was underlain by tailings sands?

~~Was the material segregated from any Mill material or equipment disposed of in the cell?~~

~~Was the material segregated from byproduct material from other ISL sources disposed of in the cell?~~

Manifest or BOL #: _____

Have the thickness and placement measurements been verified and documented for the disposal area by the engineer, specifically:

	Engineer's or Environmental Coordinator's Initials
Was the material placed in a cell approved by the executive Secretary <u>Director</u> for ISL waste disposal? _____ Documentation of approval _____	
Was the ISL material segregated from disposed Mill material and other ISL material? _____ Refer to plat(s) used to confirm. _____	
Was the maximum lift thickness above tailings less than 4 feet thick? _____	
Was the maximum lift thickness of subsequent lifts less than 2 feet thick? _____	
Has 4 foot of tailings sands been maintained under each disposal area? _____ Refer to drawings used to confirm _____	
Is the bottom of each disposal area at least 12 feet from the sides or dikes of the tailings cell? _____ Refer to drawings used to confirm. _____	
Will the elevation of the material exceed the plane or grade of the elevation of the uppermost flexible membrane liner of the cell? _____ How was this confirmed (e.g., survey or review) _____	

-How was the area compacted? Was each lift compacted by heavy equipment (such as a Cat D-6) at least 4 times prior to placement of subsequent lifts?

Were void spaces filled with tailings?

Was the shipment properly covered?

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~~2018~~October 9, 2019

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Manifest or BOL #: _____

Are additional settlement monitors required to be placed ~~for this generator~~?

If required, where were the settlement markers placed?

Radiological receipt survey measurements:

Breathing Zone:

1. Was a Breathing Zone Sample collected? Yes or No
2. If yes, what were the results of the sampling?

Was a photograph taken during the unloading activities? Yes or No

Attachment B

No.: PBL-3
Rev. No.: R-~~54~~
Date: ~~June 9~~October
~~9, 2019, 2018~~

ENERGY FUELS RESOURCES (USA) INC.
STANDARD OPERATING PROCEDURES
Title: Tailings Capacity Evaluation

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1.0 Purpose:

The State of Utah Division of Waste Management and Radiation Control (“DWMRC”) license for the White Mesa uranium mill (“Mill”) is a Performance-Based License (“PBL”). The PBL allows Energy Fuels Resources (USA) Inc. (“EFRI”) to evaluate and implement certain changes in the licensed operation without applying for and receiving a formal amendment to the DWMRC license. The following procedure outlines the steps to follow when accepting additional conventional ore or alternate feed materials, to ensure that the currently permitted capacity of the Tailings Management System is not exceeded. This Standard Operating Procedure (SOP) is in conformance with the Mill’s DWMRC License.

2.0 Tailings Capacity Determination Procedure:

Whenever the Mill is considering receiving conventional ore, 11e.(2) material, or an alternate feed, the capacity of the Mill Tailings Management System will have to be evaluated to ensure that sufficient volume is available to store the projected incremental volumes of tailings material, as well as the projected volumes of waste material from final reclamation of the Mill facility, based on the approved Reclamation Plan. This evaluation will be performed on an annual basis by the Mill Manager, or his designee, and approved by the President and CEO of EFRI, or his designee. The Tailings Capacity Determination will be completed by ~~December 1~~January 31 of each calendar year utilizing the volumes of conventional ore, 11e.(2) material and alternate feed materials projected to be received in EFRI’s approved operating budget for the ~~following~~that year.

The procedure for determining whether there is sufficient capacity is described as follows and documented on the attached Tailings Capacity Form.

- 2.1 For the initial evaluation, the base volume (“BV”) available will be based on the remaining capacity in the active tailings cell, as determined by the Mill Manager from land surveys and production records (~~copies of which are attached~~). For each subsequent evaluation, the previous evaluation will produce a current remaining tailings capacity value, which will become the new BV for each active tailings cell.
- 2.2 Mill Management will maintain a Tailings Capacity Evaluation Record (“TCER”) book, in which all evaluation forms and supporting calculations will be maintained. Refer to the TCER to obtain the BV value to be used in each subsequent evaluation.
- 2.3 The volume of tailings discharged to the active tailings cells between the date of the BV and the evaluation date will be estimated based on the Mill’s production reports.

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- 2.4 The amount of 11(e).2 in-situ waste material deposited into the tailings system between the date of the BV and the evaluation date will be summarized. The quantities of material will be listed by supplier and will be based on the Scale House Weigh Tickets from each shipment.
- 2.5 The BV, minus the quantities in items 2.3 and 2.4 above, will become the current tailings capacity. This number will be used as the BV (item 2.1 above) for the subsequent evaluation.
- 2.6 The amount of alternate feed material or conventional ore committed to be processed and deposited into the tailings system will be summarized. The maximum projected quantities of material will be listed by supplier and stated in dry tons, i.e. less the estimated moisture content. Maximum Annual calculations will use 20,000 cy of 11(e).2 materials converted from stated in cubic yards to dry tons. In instances where the Mill will accept more material to accommodate decommissioning/reclamation of an ISR facility, the volume will be estimated based on projections from the supplier.
- 2.7 The sum of the quantities estimated in item 2.6 above will be subtracted from the current tailings capacity calculated in item 2.5 above, to determine the remaining capacity available.
- 2.8 The remaining available volume in each of the active tailings cells will be converted to an equivalent volume in dry tons using a factor of 86 dry pounds cubic foot of available storage, or 2,322 dry pounds per cubic yard (1.16 dry tons per cubic yard). This factor was calculated in the Tailings Capacity Evaluation prepared in May of 2000. The factor was subsequently confirmed from drilling conducted in preparation of the Tailings Data Analysis Report, MWM, April 2015.