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July 19, 2021

SENT VIA E-MAIL AND EXPEDITED DELIVERY

Mr. Douglas J. Hansen
Director
Division of Waste Management and Radiation Control
Utah Department of Environmental Quality
195 North 1950 West
Salt Lake City, UT 84116

Re: Response to Request for Information (“RFI”) regarding Energy Fuels Resources (USA) Inc. (“EFRI”) White Mesa Mill Radioactive Material License 1900479 Amendment 10.

Dear Mr. Hansen:

This letter responds to the Division of Waste Management and Radiation Control’s (“DWMRC’s”) above-referenced RFI dated July 7, 2021, requesting supplemental information regarding EFRI’s proposed 11e.(2) Annual Limit Increase. DWMRC’s RFI requested additional information regarding the environmental impacts of the proposed change identified in condition 10.5.A.2 of the proposed revision to Radioactive Materials License Amendment 10 (the “RML” or the “License”). Specifically, EFRI requested that a proposed condition be added to the RML allowing disposal of an unlimited quantity of 11e.(2) byproduct material (“Byproduct Material”) from any in situ uranium recovery (“ISR”; also known as in-situ leach, or “ISL”) facility owned by EFRI (“EFRI Byproduct Material”) regardless of the source location.

DWMRC has requested that:

“To assist the Division in its review of this matter, the Director requests that Energy Fuels Resources, Inc. (“Licensee”) submit supplemental information regarding its request to remove all volume limitations for 11e.(2) materials generated from licensed facilities that the Licensee owns. More specifically, the Division requests that the Licensee submit a summary of relevant environmental analysis that applies to its request to remove volume limitations for disposal of 11e.(2) material generated from licensed facilities that the Licensee owns, including controls that are in place to ensure that material is not received in excess of the capacity available at White Mesa Mill (“Mill”)

As DWMRC noted in its RFI, “information exists in the larger administrative record of the Mill that includes the required environmental analysis. However, the Licensee’s amendment request did not include a description of the portions of the larger administrative record upon which the

Licensee relies to support its amendment request for the removal of the volume limitation for licensed facilities it owns.”

In response to DWMRC’s RFI, the evaluation below assesses each of the components of Environmental Analysis (“EA”) as required by Utah regulations in R313-24-3, and in so-doing describes the portions of the larger administrative record upon which EFRI relies to support its amendment request. The documentation below is provided in the interest of completeness and was developed by integrating evaluations previously performed and documented in the extensive administrative record for the Mill. As described in detail and compiled below, the previously performed and documented evaluations support EFRI’s determination that there are no additional short-term, long-term or cumulative impacts to the environment or the health and safety of workers or the public as a result of the amendment request.

It should be noted that, while DWMRC did not request supplemental information regarding other proposed changes or additions to RML condition 10.5, the evaluation below would also apply to the proposed changes to conditions 10.5.A.1, 10.5.A.3 and 10.5.A.4, as described below.

1. PROPOSED ACTION AND PURPOSE

EFRI requested a change in the RML to allow receipt of greater quantities of EFRI Byproduct Materials from ISR facilities. Specifically, RML condition 10.5.A would be changed by adding Condition 10.5.A.2, which provides that disposal of EFRI Byproduct Material would be

“unlimited in quantity from any in-situ recovery source outside the state of Utah owned by the holder of this license or its affiliates.”

The evaluation below addresses condition 10.5.A.2 but applies as well to three additional subsections of condition 10.5.A cited below:

10.5.A.1 The condition which previously allowed disposal in the Mill’s tailing management system (“TMS”) of 5,000 cubic yards of Byproduct Material from any one ISR source outside of Utah over the life of that source, would be revised to allow disposal of 10,000 cubic yards per year from any source outside the state of Utah.

10.5.A.3 A condition would be added allowing disposal of an unlimited quantity of Byproduct Material from any source within the state of Utah.

10.5.A.4 A condition would be added restricting receipt of Byproduct Material for disposal to the current available volume capacity as identified in the approved reclamation plan and surety estimate.

The change to an unlimited quantity of EFRI Byproduct Material is consistent with the U.S. Nuclear Regulatory Commission (“NRC”) original approval of ISR disposal as that approval relied on 10 CFR 40 Appendix A Criterion 2 (the desire to prevent proliferation of small disposal

sites) for its justification. As long as the EFRI Byproduct Material meets the definition of Byproduct Material, changing the requirement to remove any volume limit does not affect health, safety or the environment at the Mill as discussed in the environmental analysis below. Further, as EFRI Byproduct Material meets the definition of Byproduct Material, removing the volume limit for EFRI Byproduct Material will not affect in any way the transfer of responsibility for this waste to the federal government upon decommissioning of the Mill, because the federal government is required to take title to all Byproduct Material upon final Mill reclamation.

Per the proposed License Condition 10.5.A.4, the receipt of EFRI Byproduct Material remains limited to the available volume capacity of the proposed impoundment and the TMS as defined in the Mill's reclamation plan and surety estimates as required by License Condition 9.5 and by the Mill's Annual Tailings Capacity Evaluation. That is, the total permissible EFRI Byproduct Material volume and tailings volume remains bounded by License Conditions 9.5 and 10.5. Therefore, the approval of an unlimited quantity of EFRI Byproduct Material is not an approval of, and does not have the effect of, an unlimited increase in tailings volume or size of the Mill's TMS.

2. AFFECTED ENVIRONMENT

2.1. Focus on Incremental Impacts

The Mill is a licensed uranium processing facility that has processed to date over 5,000,000 tons of uranium-bearing conventionally mined ores and alternate feed materials primarily for the recovery of uranium, with the resulting tailings being permanently disposed of as Byproduct Material in the Mill's TMS. Environmental impacts associated with such previously licensed Mill operations have been thoroughly evaluated and documented in the past. See, for example:

- the original 1979 Final Environmental Statement ("**FES**") for the Mill;
- EAs, dated 1985 and 1997;
- an EA for the Mill's reclamation plan dated 2000;
- EAs for alternate feed materials dated 2001 and 2002, in each case prepared by the NRC;
- the Safety Evaluation Report for the Receipt, Storage and Processing of Fansteel Alternate Feed Material prepared by DWMRC;
- the Safety Evaluation Report for the Receipt, Storage and Processing of Dawn Mining Alternate Feed Material prepared by DWMRC;
- the Safety Evaluation Report for the Receipt, Storage and Processing of Sequoyah Fuels Corporation ("**SFC**") Alternate Feed Material prepared by DWMRC; and
- The Technical Evaluation and Environmental Assessment Reports prepared in connection with the 2018 Radioactive Materials License Renewal for the Mill, prepared by DWMRC.

These environmental statements and assessments have addressed, among other issues and requirements:

- Geology and soils;
- Liquid effluents;
- Airborne effluents;
- Direct radiation;
- Management of sanitary wastes;
- Human and ecological receptor hazard assessment;
- Mill accidents;
- Transportation accidents;
- Groundwater impacts;
- Surface water impacts;
- Mill decommissioning;
- Land, structures, site and tailings reclamation;
- Internal inspection program;
- Corporate organization and management;
- Radiological protection training;
- Security;
- Quality assurance for all phases of the milling program;
- Operational effluent monitoring;
- Operational radiological monitoring;
- Meteorological monitoring;
- Capacity of TMS over the lifetime of the Mill operations;
- Permanent isolation of tailings including slope stability, settlement, and liquefaction potential;
- Consideration of below-grade disposal of tailings;
- Tailings design requirements including site location and layout, site area, geography, land use and demographic surveys, use of adjacent lands and waters, population distribution, demography, meteorology, air models, geology and soils, seismology, hydrologic description of the site, surface water, flooding determination, surface water profiles, channel velocities, shear stresses, groundwater hydrology, radiological surveys, site and uranium mill tailings characteristics, disposal cell cover engineering design, and design of erosion protection covers,
- Groundwater protection standards;
- Liner construction;
- Prevention of overtopping;
- Dike design, construction, and maintenance;
- Cover and closure at end of operations including radon attenuation, gamma attenuation, and cover radioactivity content;
- Effectiveness of final radon barrier including verification and reporting;
- Radium in cover materials;

- Radionuclides other than radium in soils;
- Non-radiological hazards;
- Completion of final radon barrier;
- Preoperational and operational monitoring programs;
- Effluent control during operations including gaseous and airborne particulates, liquids and solids, contaminated equipment, sources and controls of Mill wastes and effluents, sanitary and other Mill waste systems, effluents in the environment, effluent control techniques, external radiation monitoring program, airborne radiation monitoring, exposure calculations, bioassay program, contamination control program, airborne effluent and environmental monitoring program, groundwater and surface water monitoring program, control of windblown tailings and ore;
- Daily tailings inspections;
- Financial surety;
- Costs of long-term surveillance;
- Application for a groundwater discharge permit;
- Groundwater permit compliance monitoring;
- Background groundwater quality determination;
- Submission of data;
- Reporting of mechanical problems or discharge system failures;
- Correction of adverse effects; and
- Out of compliance status and procedures.

Because all of these matters have already been extensively analyzed, this letter will focus only on any potential incremental impacts over and above what has already been analyzed for the site, resulting from receiving an unlimited amount of EFRI Byproduct Material or other Byproduct Material.

The findings below will demonstrate that, because:

- Receipt and disposal of EFRI Byproduct Material or other Byproduct Material involves no new construction, no additional use of land, no modification of the Mill (including its main circuit, alternate feed circuit, or TMS) of any significance;
- EFRI Byproduct Material and other Byproduct Material contains no new chemical or radiological constituents beyond those already known or expected to be present in the TMS;
- All EFRI Byproduct Material (and all other Byproduct Material from ISR facilities) is received and disposed of in the same manner, under the same standard operating procedures (“SOP’s”) that are designed to ensure protection of health, safety and the environment, regardless of the quantity of material received; and
- Protections are in place to ensure that the quantity of EFRI Byproduct Material (and all other Byproduct Material) received cannot cause the licensed capacity of the Mill’s TMS to be exceeded,

there can be no incremental impacts from permanent disposal of EFRI Byproduct Material and other Byproduct Material regardless of the amount received. As a result, there are no anticipated

impacts to the environment over and above those already anticipated in the existing environmental statements and environmental assessments associated with the Mill's approved License.

2.2. Pathways

In order to evaluate any potential incremental impacts over and above what has already been analyzed for the Mill, the following pathways are analyzed in this letter, which EFRI believes is a full list of potential pathways of any significance:

- potential impacts from transportation to the Mill;
- potential reactions or inconsistencies with the existing tailings or tailings facilities;
- potential impacts to groundwater;
- potential impacts to surface water;
- potential radiological impacts to public health, including:
 - potential impacts from radiation released from Byproduct Material while in storage at the Mill;
 - potential airborne radiologic impacts; and
 - potential radon and gamma impacts;
- potential non-radiological impacts to public health; and
- potential worker health and safety issues.

2.2.1. Potential Impacts from Transportation to the Mill

(a) Manner and Volume of Transportation

The EFRI Byproduct Material will be transported to the Mill by the same types of truck trailers in the same types of transport containers (end-dump trailers, intermodal containers, side dump containers, etc.) as all other Byproduct Material waste from ISR facilities, so there will be no new mechanisms for accidents or spills. As mentioned above, the EFRI Byproduct Material will be virtually identical to Byproduct Material from other ISR facilities previously and currently shipped to the Mill. There will be no new constituents that could be released in a spill.

The EFRI Byproduct Material will be shipped from the same locations, and along the same roads to the Mill as previously received Byproduct Material from ISR facilities. The source locations for EFRI Byproduct Material (Nichols Ranch and Alta Mesa) are in fact the same facilities from which the Mill has historically received Byproduct Material, prior to their acquisition by EFRI.

Consistent with License Condition 10.5, the overall volume of the EFRI Byproduct Material (and any other Byproduct Material) received will be limited to the available volumetric capacity of the TMS, and impoundment 3. The proposed change to the condition will not increase the overall volume of tailings.

A worst-case volume of EFRI Byproduct Material can be estimated for the "unlimited" case based on the following assumptions. The largest ISR operations (such as Cameco Smith Ranch in 2012 and UEC in 2010) have shipped a maximum of 3000 to 3500 CY per year of Byproduct Material

to the Mill in those years (the typical years for each of those facilities being much less). Assuming that ISR facilities owned by EFRI or its affiliates perform similarly, and assuming EFRI ISR facilities in 2 states, Wyoming and Texas, ship those amounts of EFRI Byproduct Material to the Mill in any one year, an additional 373 truck round trips for that year or 8 truck round trips per week during that year would use roads to the Mill, if all EFRI ISR Byproduct Material were shipped in 20 or 30 CY trucks three-quarters filled. Of course, the volume of shipments in typical years from those EFRI ISR facilities would be expected to be much lower.

Since startup, the Mill has received an average of approximately 45 truckloads per year or 1 truckload or less per week of Byproduct Material from all ISR facilities collectively, exclusive of Nichols Ranch (Wyoming) and Alta Mesa (South Texas), which are currently owned by EFRI or its affiliates.

A plausible worst case future scenario would include 8 trucks per week of EFRI Byproduct Material and 1 per week from all other facilities or a total of 9 trucks per week or 1 to 2 trucks per day during those worst-case years. Typical years would be much less.

Section 4.8.5 of the 1979 FES for the Mill noted that during the operations period, when area mining was at expected peak levels, approximately 68 round trips on local highways would be made by 30-ton ore trucks to the Mill per day (see the 1978 Dames and Moore Environmental Report for the Mill, p. 5-34). In contrast, the reasonable worst-case year for EFRI ISR facilities would add 1 to 2 truck round trips per day, which would be well within the assumptions for the previously approved Mill License. Again, expected actual deliveries for typical years are expected to be much lower than this worst-case scenario.

(b) Receipt and Unloading

Receipt of the EFRI Byproduct Material will be subject to the same requirements and under the same SOP as Byproduct Material from any other ISR facility, which addresses:

- Advance notification from the shipper;
- Advance documentation of shipment content, weight, volume, container type;
- Opening and inspection of the container and waste contents;
- Worker protection, radiation safety, and airborne contaminant control (which are discussed in more detail in the sections entitled Occupational Safety and Radiation Safety, below);
- Rejection of material that does not conform to the acceptance requirements of the SOP; and
- Advance notification to DWMRC.

EFRI will be required to notify DWMRC within 7 days prior to the scheduled disposal of any Byproduct Material (including any EFRI Byproduct Material), to allow DWMRC to observe the disposal (which DWMRC has done on many occasions).

Since there will be no change to any procedure associated with EFRI Byproduct Material receipt or unloading prior to disposal compared to Byproduct Material from any other ISR facilities, there will be no additional environmental effects related to receipt and unloading.

(c) Transportation Accidents

As discussed above, the EFRI Byproduct Material has the same composition and radionuclide content and contains no additional constituents beyond those in all other Byproduct Material from ISR facilities historically disposed of at the Mill and transported to the Mill. Therefore, the EFRI Byproduct Material will produce no different or additional risk during transport above previously licensed activities. Existing accident response and spill response procedures are therefore sufficient for management of potential transportation accidents or spills.

(d) Vehicle Scan

Radiation surveys and radiation levels consistent with applicable U.S. Department of Transportation (“DOT”) regulations and Mill SOPs will be applied to the exclusive use vehicles used for the transportation of all Byproduct Material (including EFRI Byproduct Material). For unrestricted use, radiation levels will be in accordance with applicable values contained in the NRC Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material, U.S. NRC, April 1993. If radiation levels indicate values in excess of the above limits, appropriate decontamination procedures will be implemented. These same procedures will apply regardless of the quantity of Byproduct Material shipped.

2.2.2. Potential Reactions or Inconsistencies with the Existing Tailings or Tailings Facilities

(a) Potential Reactions or Inconsistencies

As stated above, EFRI Byproduct Material is virtually identical to Byproduct Material from other ISR facilities and to certain types of Byproduct Material generated from the Mill’s operations and currently disposed of in the Mill’s TMS. As a result, there will be no potential reactions or inconsistencies with the existing tailings or tailings facilities, or any incremental effects to the Mill’s TMS due to composition of the EFRI Byproduct Material (or any other Byproduct Material) that have not been previously analyzed for Byproduct Material generated from Mill operations, Byproduct Material from ISR facilities or other Byproduct Material.

(b) Placement in the Impoundment

The provisions of RML condition 10.5 B through F require that EFRI Byproduct Material liquids, solids, and drums or other containers be prepared, placed in the impoundment, and covered according to the same methods and SOPs used for disposal of all other Byproduct Material from ISR facilities, to protect the Mill’s TMS structures and liners. As is the case for similar Mill-related Byproduct Material, all ISR Byproduct Material (including the EFRI Byproduct Material)

will be disposed of according to the existing Mill SOP for Byproduct Material, which requires that:

- Equipment will be dismantled, crushed or sectioned to minimize voids;
- Barrels containing debris other than soil or sludges will be emptied;
- Barrels of soil or sludge are verified to be filled or will be filled with soils; and
- Material will be disposed of within and covered by tailings sands with minimum thicknesses of tailings sands below and around the material specified.

As a result, there will be no incremental effects on the Mill's TMS due to the method of disposal of the EFRI Byproduct Material (or any Byproduct Material from other ISR facilities).

(c) Controls in Place to Ensure that EFRI Byproduct Material (or any other Byproduct Material) is not Received at any Time in Excess of the Capacity Available at the Mill

Removal of the volume limit for EFRI Byproduct Material will not affect the total volume of Mill tailings. As stated in condition 10.5.A(4), receipt of all Byproduct Material (including EFRI Byproduct Material) will continue to be restricted to the current available tailings volume capacity accounted for in the Annual Tailings Capacity Estimate and the estimates and assumptions in the Mill's approved Reclamation Plan and Surety Estimate.

Therefore, there will be no effect on the Mill's overall tailings volume due to the removal of the EFRI Byproduct Material (or any other Byproduct Material) volume limit.

(d) Mill Tailings Closure and Reclamation

Removal of the EFRI Byproduct Material (or any other Byproduct Material) disposal limit will have no effects beyond those identified in the approved Environmental Reports ("ERs"), FESs, and Reclamation Plans for tailings operational management and closure. It will have no effect on existing approved plans for decommissioning of the Mill, buildings, land or structures, or reclamation of the site, because the available tailings capacity is required to always leave room for the expected volumes for decommissioning activities. It will have no effect on tailings design components addressing permanent isolation of tailings, slope stability, settlement or liquefaction of reclaimed tailings, or design features addressing disposal cell covers or erosion protection.

Because the EFRI Byproduct Material is virtually identical to or has lower radiological content than other Byproduct Material disposed of in the Mill's TMS, there will be no effect on radon attenuation, gamma attenuation or cover radionuclide content. Because the EFRI Byproduct Material (or any other Byproduct Material) will not affect cover design at closure and reclamation, there will be no effect on the final radon barrier design or its method of emplacement, radium concentration in cover materials, or other cover radionuclide content. The EFRI Byproduct Material (or any other Byproduct Material) will have no effect on completion of the final radon barrier or on the timetable for completion of reclamation.

Because removal of the EFRI Byproduct Material (or any other Byproduct Material) disposal volume limit will have no effect on reclamation and closure design, construction or timing, it will have no effect on existing and approved financial surety estimates or arrangements and will not require any changes to costs of long-term surveillance.

2.2.3. Potential Impacts to Groundwater

In the 1997 EA, NRC staff concluded that, for a number of reasons, groundwater beneath or in the vicinity of the Mill site will not be adversely impacted by continued operation of the Mill. The State of Utah has come to similar conclusions in its environmental reviews of the Mill since then as referenced in Utah's Public Participation Summaries ("PPSs") for the RML and Groundwater Discharge Permit ("GWDP" or "Permit") renewals in 2018 and the GWDP modification in 2020. Because the Mill's TMS is not impacting groundwater, increased receipt and disposal of EFRI Byproduct Material (or any other Byproduct Material) will not have any incremental impacts on groundwater over and above existing licensed operations.

ISR Byproduct Material (including EFRI Byproduct Material) is currently required to be placed in Impoundment 3. Impoundment 3 has a fully functional leak detection system ("LDS") installed during construction, consisting of:

- A 12-inch thick compacted layer on the upstream face of the Impoundment 3 dike;
- A 3-inch diameter polyvinyl chloride ("PVC") slotted pipe installed at the toe of the sand layer and capped at both ends; and
- A 12-inch diameter Drisco pipe access riser.

Pursuant to the approved RML, Part 11.3.A, the LDS is inspected annually by video camera to ensure the system is open, fully functioning, and free of soil, debris and detritus.

EFRI meets the State of Utah Groundwater Protection Standards by complying with the Mill's current GWDP). The Mill initially applied for a GWDP in 2005. The current version was approved in March 2021. As stated in the State of Utah Technical Evaluations and EAs for the Moffat Tunnel Alternate Feed Request and Silmet Alternate Feed Request, "The groundwater monitoring network at the Mill includes 104 monitoring wells and piezometers. These are actively monitored for multiple purposes ... The Permit includes a distinct groundwater monitoring well network to gather compliance-based groundwater samples for detection of potential pollutants from the White Mesa Mill operations including nonconventional impoundments (evaporation impoundments) and conventional impoundments (tailings impoundments)."

The GWDP established points of groundwater monitoring compliance, a compliance monitoring program, and groundwater compliance limits based on intra-well background for all constituents in each well. The GWDP further established requirements for submission of field and laboratory monitoring data, reporting of mechanical problems or discharge system failures, correction of adverse effects, assessment of corrective actions, and notification, reporting and procedures during any out-of-compliance status.

As the chemical and radiological make-up of EFRI Byproduct Material is virtually identical to Byproduct Material from other ISR facilities and generally much lower than the radiological content of Byproduct Material produced by the Mill's processing operations, it will have the chemical and radiological composition well within the previously analyzed envelope of typical uranium process tailings, for which the Mill's tailings system was designed. The EFRI Byproduct Material (and any Byproduct Material), regardless of quantity, will not change the potential groundwater contaminant source, type or quantity. As a result, no new monitoring locations or monitoring constituents will be needed, and the existing groundwater monitoring program at the Mill will be adequate to detect any potential future impacts to groundwater.

As a result, there will be no incremental impacts to groundwater over and above previously licensed activities.

2.2.4. Potential Impacts to Surface Water

The Mill is a zero-discharge facility with respect to water effluents. That is, no water leaves the Mill site because the Mill has:

- no outfalls to public stormwater systems,
- no surface runoff to public stormwater systems,
- no discharges to publicly owned treatment works ("**POTWs**"), and no discharges to surface water bodies.

The EFRI Byproduct Material will be directly disposed of in the Mill's TMS and will not undergo any processing or handling other than potential crushing of equipment or drums, or filling of drums with soil. The EFRI Byproduct Material is virtually identical to the Byproduct Material from other ISR facilities that has been disposed of historically and currently in the TMS in material type, chemical composition and radiological composition with no new constituents. The EFRI Byproduct Material will be shipped and received at the Mill in the same types of shipping containers, and transferred to the TMS, by the same methods as previously received Byproduct Material from other ISR facilities. The historic handling of Byproduct Material from ISR facilities has had no measurable impact on surface waters throughout the Mill's operating history. There is no discharge of Mill effluents to local surface waters.

Since there is no plausible pathway for EFRI Byproduct Material (or any other Byproduct Material) to impact surface water, and, as indicated in Semi-Annual Effluent Reports filed by the Mill to date, there is no indication that the Mill is impacting surface waters, then there will be no incremental impact to surface waters from any airborne particulates associated with the receipt and disposal of EFRI Byproduct Material (or any other Byproduct Material).

Finally, as the chemical and radiological make-up of ISR Byproduct Material is virtually identical to Byproduct Material from other ISR facilities, and is generally of much lower radiological content than, Byproduct Material from Mill operations, the existing surface water monitoring program at the Mill will be adequate to detect any potential impacts to surface water from the receipt and disposal of EFRI Byproduct Material (and any other Byproduct Material).

As a result, there will be no incremental impacts to surface waters over and above previously licensed activities.

2.2.5. Potential Radiological Impacts to Public Health

(a) General

As previously stated by DWMRC in the March 2020 Statement of Basis (“**SOB**”) for RML No. UT1900479

“As a matter of law, ISR waste material is classified as 11e.(2) byproduct material and is radiologically similar to the tailings produced at the Mill.”

Since 1993, the Mill has received and disposed of Byproduct Material from a number of ISR facilities, some of which are currently owned by EFRI or its affiliates. The EFRI Byproduct Material is virtually identical to other Byproduct Material from other ISR facilities that has been disposed of in the tailing impoundments, and is generally substantially lower in radioactivity than typical Byproduct Material produced from Mill operations (e.g., Mill tailings).

Consistent with applicable Mill SOPs, all trailers and trucks will be decontaminated after unloading prior to leaving the Mill. Therefore, Regardless of the number of truckloads, there will be no increase in radiological risk to drivers, or to the public from the release of transport vehicles.

As identified by Utah DEQ in the SOB for the proposed license changes, much of the ISR Byproduct Material (including the EFRI Byproduct Material) has a radiological signature at or near background. That is, its radiological content is frequently lower than other material currently disposed of in the Mill’s TMS. Hence, regardless of the quantity of EFRI Byproduct Material (or Byproduct Material from any other ISR facility) to be disposed of in the TMS, there will be no increase in radiological content of Impoundment 3 or any other tailings impoundment in which it might be disposed of in the future.

Disposal of the EFRI Byproduct Material (and any other Byproduct Material) is limited to the estimated volumetric capacity of the TMS, and the availability of tailings sands in Impoundment 3 to meet the placement requirements of License Condition 10.5. There will be no increase in the total volume of tailings disposed of and no increase in the surface area of the TMS or Impoundment 3. Therefore, there will be no increased surface area for radiological dust or radionuclide release from the TMS.

There will be no change to the Mill process equipment and no increase in any licensed or permitted release from the Mill operations.

Therefore, there will be no change in radiological impacts from the Mill generally, as a result of the proposed License condition.

(b) Potential Impacts from Radiation Released from Byproduct Material While in Storage at the Mill

During inspection and unloading of the EFRI Byproduct Material (and any Byproduct Material from other ISR facilities), while the Byproduct Material is stored (if it is stored) prior to placement, and during placement, the Mill will follow existing Mill SOPs. There will be no opportunity for worker exposure other than during inspection, management of drums, and unloading to the impoundment. Workers will be fully protected by the Mill's existing procedures as described below.

(c) Airborne Radiological Impacts

The chemical and radiological make-up of the EFRI Byproduct Material (and any Byproduct Material from other ISR facilities) will be virtually identical to or of lower radionuclide content than other Byproduct Material that has been licensed for processing at the Mill in the past. The existing air particulate monitoring program is equipped to handle dust and particulates from disposal operations, and there will be no additional airborne radiological impacts.

(d) Radon and Gamma Impacts

As discussed above, the radioactivity levels of the EFRI Byproduct Material is virtually identical to Byproduct Material from other ISR facilities and generally much lower than Byproduct Material from Mill operations, all of which has been previously disposed of at the Mill. Therefore Rn-220 and gamma emanations from the EFRI Byproduct Material will be virtually identical to emanations from the previously received Byproduct Material. Overall, the EFRI Byproduct Material (and any Byproduct Material from other ISR facilities) will pose the same or lower gamma and radon hazard as other Byproduct Material previously approved for disposal at the Mill, and there will be no additional radon or gamma impacts.

2.2.6. Potential Non-Radiological Impacts to Public Health

As further stated in the SOB, the EFRI Byproduct Material (or any other Byproduct Material) contains no Resource Conservation Recovery Act ("RCRA") material that would disqualify it from acceptance at the Mill for disposal. Any waste stream containing RCRA listed waste components does not qualify as Byproduct Material, but would be considered a mixed waste, requiring disposal elsewhere.

2.2.7. Potential Worker Health and Safety Issues

(a) Existing Radiation Protection Program at the Mill

The radiation safety program which exists at the Mill, pursuant to the conditions and provisions of the Mill's RML, and applicable State Regulations, is adequate to ensure the protection of workers and the environment and is consistent with the principle of maintaining exposures of radiation to individual workers and to the general public to levels As Low As Reasonably Achievable

(“**ALARA**”). Employees will be provided with personal protective equipment including full-face respirators, if required. In addition, all workers at the Mill are required to wear personal Optically Stimulated Luminescence (“**OSL**”) badges or the equivalent to detect their exposure to gamma radiation.

For EFRI Byproduct Material (and all other Byproduct Material) disposal, a breathing zone sample is taken periodically during unloading and cover activities. If the gross alpha exceeds 25% of the applicable Derived Air Concentrations (“**DAC**”), then the Radiation Safety Officer (“**RSO**”) is notified and all other unloading activities of Byproduct Material from that site will require the use of respiratory protection, until further notice by the RSO.

The radiation safety program at the Mill will apply to EFRI Byproduct Material the same as it does to Byproduct Material from other ISR facilities, regardless of the quantity of EFRI Byproduct Materials or other Byproduct Materials.

(b) Gamma Radiation Exposure to Workers

Beta-gamma measurements are taken at several locations around the unloaded EFRI Byproduct Material (and any other Byproduct Material) and the measurements are recorded on the shipment documentation. Beta-gamma levels are expected to be the same or lower than those of other Byproduct Material previously disposed of at the Mill. There will be no additional effects from gamma radiation from the receipt and disposal of EFRI Byproduct Material or any other Byproduct Material, regardless of the quantity received and disposed of.

(c) Radon Exposure to Workers

Radon levels associated with the EFRI Byproduct Material are expected to be virtually identical to Byproduct Material from other ISR facilities, and generally lower than levels of radon associated with other Byproduct Material from Mill operations, previously disposed of at the Mill. Radon exposures to workers will be managed in accordance with existing Mill SOPs. There will be no additional effects from radon from the receipt and disposal of EFRI Byproduct Material or any other Byproduct Material, regardless of the quantity received and disposed of.

(d) Control of Airborne Contamination

EFRI Byproduct Material (and Byproduct Material from any other ISR facility), which is generally cut or crushed solid equipment (e.g., pipes valves, construction debris), drums, or sludges/slurries, typically produces little or no dust. However, dust suppression techniques will be implemented, if required, following the Mill’s appropriate SOPs. As a result, there will be no additional effects from air particulate from the receipt and disposal of EFRI Byproduct Material or any other Byproduct Material, regardless of the quantity received and disposed of.

(e) Occupational Safety

The primary focus of safety and environmental control measures will be to manage potential exposures from radionuclide particulates. However, measurements using a photoionization detector (“PID”) are taken at multiple locations around all unloaded Byproduct Material (including EFRI Byproduct Material) to ensure there are no organics present. If organics are detected, compaction or disposal activities will cease until the Mill’s RSO determines whether any additional precautions are required for worker safety and will implement those precautions. As a result, there will be no additional effects from organics from the receipt and disposal of EFRI Byproduct Material or any other Byproduct Material, regardless of the quantity received and disposed of.

As mentioned above, during inspection and unloading of the EFRI Byproduct Material (and any Byproduct Material from other ISR facilities), while the Byproduct Material is stored (if it is stored) prior to placement, and during placement, the Mill will follow existing Mill SOPs. There will be no opportunity for worker exposure other than during inspection, management of drums, and unloading to the impoundment. Workers will be protected by the Mill’s existing procedures.

3. Long-Term Impacts

The EFRI Byproduct Material (and any other Byproduct Material) is comprised of similar chemical and radiological components as already exist in the Mill’s TMS from Byproduct Material generated from Mill operations. Existing monitoring programs are therefore adequate, and no new monitoring procedures are required. The volume of EFRI Byproduct Materials (and any other Byproduct Material) received will be limited to the available volumetric capacity of the TMS consistent with the provisions of RML condition 10.5. As a result, there will be no additional decommissioning, decontamination or reclamation impacts associated with receipt of any volume of Byproduct Material regardless of volume, over and above previously approved reclamation assumptions and surety estimates.

4. Other Operational Considerations

Increasing the quantity of EFRI Byproduct Material (and any other Byproduct Material) disposed of will not require changes to EFRI’s corporate organization or administrative procedures, management control programs, management audit and inspection programs, staffing levels or staff qualifications. Disposal will not require modifications to the Mill’s existing security procedures. Transportation, acceptance, handling and disposal will be subject to the existing Mill SOPs for these activities with no changes required.

5. Consideration of Alternatives, Including Alternative Sites and Engineering Methods

As previously stated in Utah regulations, disposal of Byproduct Material from ISR facilities at the Mill is an integral part of the U.S. uranium recovery program, NRC regulations, and Utah Department of Environmental Quality (“DEQ”) regulations and policy. 10 CFR 40 Appendix A Criterion 2 (as incorporated by reference in UAC R313-24-4) states:

“To avoid proliferation of small waste disposal sites and thereby reduce perpetual surveillance obligation, byproduct material from in situ extraction operations, such as residues from solution evaporation or contaminated control processes, and wastes from small remote above ground extraction operations must be disposed of at existing large mill tailings disposal sites; unless, considering the nature of the wastes, such as their volume and specific activity, and the costs and environmental impacts of transporting the wastes to a large disposal site, such offsite disposal is demonstrated to be impracticable or the advantages of onsite burial clearly outweigh the benefits of reducing the perpetual surveillance obligations.”

In furtherance of this Criterion, unlike uranium mills, ISR facilities do not have on-site permanent Byproduct Material disposal facilities. Instead, Section 4.2.3 (6) of NRC NUREG-1569 provides that an applicant for an ISR license must have an approved waste disposal agreement for offsite Byproduct Material disposal at an NRC or Agreement State licensed Byproduct Material disposal facility. This agreement must be maintained on site. The applicant must commit to notify NRC in writing within 7 days if this agreement expires or is terminated and must submit a new agreement for NRC approval within 90 days of the expiration of termination (failure to comply with this license condition will result in a prohibition from future lixiviant injection at the ISR facility).

The proposed alternative is in accordance with NRC regulations and NUREG-1569, because it avoids the proliferation of new disposal sites and provides an option to ISR facilities for permanent offsite disposal of their Byproduct Material at an existing licensed Byproduct Material disposal facility (and as the responsibility for this waste will be transferred to the federal government upon decommissioning, it will reduce the number of Byproduct Material sites that need to be transferred to the U.S. Department of Energy upon final reclamation). The only alternative to the proposed RML condition, denial of the request, would require either: (A) the development of new disposal facilities at alternate sites, inside or outside the borders of Utah; or (B) disposal at another existing licensed 11e.(2) disposal facility (such as at Energy Solutions’ facility at Clive Utah, or the 11e.(2) disposal facilities at Shirley Basin in Wyoming or at Andrews Texas).

With respect to alternative (A), such development would not be consistent with NRC or Utah DEQ regulations, because it would involve the proliferation of permanent Byproduct Material disposal facilities, and was therefore not considered further. With respect to alternative (B), each facility will have its own SOPs and license conditions similar to those at the Mill and will be subject to the same laws and regulations, including siting criteria, so there will be no reason to favor one licensed facility over the others from an environment, health and safety perspective. In the case of EFRI Byproduct Material, it makes no sense to restrict the ability of EFRI to receive and dispose of EFRI Byproduct Material generated at its own facilities, when they can be permanently disposed of at the Mill without any incremental environmental, health or safety impacts. In the case of Byproduct Material from other facilities, there is no reason to interfere with normal market forces. ISR facilities should be entitled to decide which 11e.(2) disposal facility they want to send their Byproduct Material to, based on the relative distances to each facility and the resulting costs of transportation, fees charged by each facility for disposal and any other factors deemed relevant by

the ISR facility. The proposed amendments to the License do not preclude any facility (including EFRI facilities) from choosing to dispose of their Byproduct Material at any of the existing licensed facilities. Those alternatives remain unchanged. The effect of the proposed License amendments, by increasing the permitted volumes of Byproduct Material that may be accepted at the Mill, would have the effect of increasing the alternatives available to ISR facilities, where each alternative is an existing licensed facility, with comparable protections to the environment, health and safety. As a result, there are no alternatives preferred to the proposed license amendments.

6. Environmental Analysis Conclusion

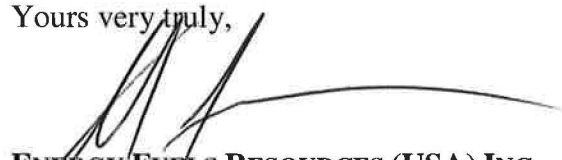
The environmental analysis documented above demonstrates compliance with UAC R313-24-3 as follows:

Radiological and non-radiological impacts to the public health will not be increased (R313-24-3(1)(a));

- Truck traffic will increase minimally, and the increase will be within the traffic levels approved in previous environmental evaluations for licensed activities;
- Impacts on waterways and groundwater will not increase;
- Long-term impacts, including those associated with decommissioning, decontamination and reclamation will not increase; and
- The environmental impacts will be less than the impacts of developing new alternative locations, which additionally are not consistent with NRC and Utah DEQ regulations, and will be comparable to the impacts from disposal at any existing licensed 11e.(2) disposal facility. As a result, there are no alternatives preferred to the proposed license amendments.

If you should have any questions, please contact me.

Yours very truly,



ENERGY FUELS RESOURCES (USA) INC.

David C. Frydenlund

Chief Financial Officer, General Counsel and Corporate Secretary

cc: Scott Bakken
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Terry Slade
Jo Ann Tischler (TCS)
Kathy Weinel

References

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