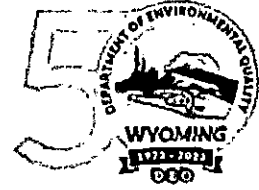




Department of Environmental Quality
*To protect, conserve and enhance the quality of Wyoming's
environment for the benefit of current and future generations.*



Mark Gordon, Governor

Todd Parfitt, Director

June 26, 2023

James Park, Project Manager
U.S. Nuclear Regulatory Commission

RE: NRC Draft Environmental Assessment for the Rare Element Resources' Proposed Demonstration Plant
Docket No. 040-38415

Dear Mr. Park

The Wyoming Department of Environmental Quality (WDEQ) appreciates the opportunity to comment on the U.S. Nuclear Regulatory Commission (NRC) draft Environmental Assessment (EA) for the Rare Element Resources' (RER) proposed Demonstration Plant near Upton, Wyoming.

Our agency strives to protect, conserve and enhance the quality of Wyoming's environment for the benefit of current and future generations. We envision a future where vibrant economic development and prosperity are achieved while providing sound and sensible environmental protection for the benefit of Wyoming and its citizens.

During operation, the plant would extract and concentrate neodymium-praseodymium and other rare earth elements (REE) from a 1,000-ton exploration sample previously collected from RER's Bear Lodge site in the Black Hills National Forest. During processing, thorium in the exploration sample would be concentrated to a level that requires a source material license from the NRC. The project is located on an approximately 8-acre parcel of privately-owned land previously used for an ethanol plant. The project proposes a number of modifications to the existing site and facilities, including construction of additional buildings. Construction would begin in 2023, operations would occur for one year, and decommissioning would occur in 2025. The EA includes an evaluation of the potential impacts resulting from RER's proposed action to construct and operate the plant.

WDEQ has reviewed the NRC's Draft EA and offers the following comments:

Air Quality Division

The Rare Earth Element Resources Demonstration Plant has already been through the Air Quality New Source Review Permitting processes. The Division verified the EA includes the substance to address air quality, which includes the August 11, 2022 Authorization Letter P0035643. Therefore, the division has not additional comments.

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Land Quality Division

WDEQ and the Uranium Recovery Program (URP) do not have regulatory authority over the Source Material Licensing, this is the exclusive authority of the NRC at this time. Therefore, the URP does not have comments regarding the NRC EA licensing action. The state of Wyoming has applied to the NRC to amend its Agreement State Program to include Source Material Licensing. Once the program is amended, URP anticipates transfer of the RER license to the state.

Solid and Hazardous Waste Division

The draft EA notes in Section 3.11.1 that in August 2022 the Department issued a public notice regarding the proposed Weston County Solid Waste District Regional Landfill. The public notice offered an opportunity for the public to comment on the Weston County Solid Waste Disposal District's permit application. Since August 2022 the Department issued a second public notice and comment period. On December 8, 2022, the Department issued an operating permit for the Weston County Solid Waste District Regional Landfill.

The draft EA also notes in Section 3.11.1 that non-hydrocarbon chemical drums containing sulfuric acid, sulfamic acid, hydrogen peroxide, and sodium hydroxide, several drums of hydrocarbon material, and several five-gallon buckets of various chemicals are onsite. The Department recommends that the draft EA clarify the estimated amounts of the various chemicals and how they will be used, recycled, or properly managed and disposed.

Water Quality Division

In accordance with Title 35, Section 11 of the Wyoming Statutes and Wyoming's Water Quality Rules and Regulations, the WDEQ-Water Quality Division (WQD) is responsible for the protection and restoration of the quality of waters of the state. The WDEQ-WQD also implements portions of the federal Clean Water Act, including development of surface water quality standards, identification of impaired waters and development of total maximum daily loads for impaired waters under Section 303; inventorying water quality under Section 305; discharge permitting under Section 402; water quality certifications under Section 401; and addressing nonpoint sources of pollution under Section 319. The following comments are intended to help facilitate the review of potential impacts to water quality and assist the project sponsors with ensuring the project analysis reflects and adheres to Wyoming's Water Quality Rules. The WDEQ-WQD recommends the project proponents coordinate as needed with WDEQ-WQD to ensure all applicable requirements are met. WDEQ-WQD staff are available to answer questions and provide assistance as needed.

Wyoming Pollution Discharge Elimination System (WYPDES) Permits

Projects that will result in the point source discharge of pollution into surface waters of the state, including those associated with stormwater discharges, temporary discharges associated with construction activities, or long-term discharges, require a Wyoming Pollutant Discharge Elimination

System (WYPDES) permit consistent with Wyoming's Water Quality Rules, Chapter 2, Permit Regulations for Discharges to Wyoming Surface Waters. WYPDES permits contain limitations and conditions to ensure that Wyoming Water Quality Rules, Chapter 1, Wyoming Surface Water Quality Standards, are met. WDEQ-WQD recommends the EA identify any applicable discharge permits, even if the project sponsors have already obtained the permits.

The WDEQ-WQD understands the RER does not expect process-related wastewater to be discharged from the facility such that an individual WYPDES permit for discharge of pollutants to surface waters would be required. If changes to the project occur and discharges to surface waters of the state are proposed, the project sponsors

should contact the WYPDES Program for more information about individual WYPDES permits:

<https://deq.wyoming.gov/water-quality/wypdes/discharge-permitting/>.

Additional WYPDES permits that will apply to the project include:

- During construction and grubbing: Stormwater Large Construction General Permit (the proposed disturbance described in Section 2.1.2 of the EA exceeds 5 acres)
- During operation: Industrial General Permit
- During decommissioning: Stormwater Large Construction General Permit

Anita Rehner, 307-777-5622, or Katy Sprouse, 307-777-7570, with the WYPDES Section are available for further questions regarding stormwater permitting. Additional information can be found at

<https://deq.wyoming.gov/water-quality/wypdes/discharge-permitting/storm-water-permitting/>.

Surface Water Protection

The WQD is responsible for protecting the quality of all surface waters of the state, defined in Water Quality Rules, Chapter 1, Wyoming Surface Water Quality Standards as “all perennial, intermittent and ephemeral defined drainages, lakes, reservoirs and wetlands which are not man-made retention ponds used for the treatment of municipal, agricultural or industrial waste; and all other bodies of surface water, either public or private which are wholly or partially within the boundaries of the state.” Appropriate permits and best management practices should be identified to protect all surface waters of the state.

Section 3.3.1.1 – Paragraph 2. For clarity and consistency with Water Quality Rules, Chapter 1, WDEQ- WQD recommends the 3B description be modified to “Class 3B waters are ephemeral and intermittent waters, including adjacent wetlands. Designated uses of 3B waters include aquatic life other than fish, recreation, wildlife, agriculture, industry, and scenic value uses.” The EA currently states that “Class 3B streams are small ephemeral streams that are not capable of supporting fish populations or being used for drinking water.”

Section 3.3.1.1 – Paragraph 4. WDEQ-WQD recommends that surface water quality data be provided and that these data be compared to Wyoming Surface Water Quality Standards, Water Quality Rules, Chapter 1. The EA currently states that “surface waters in the area were generally high in arsenic, lead, gross alpha, radium, sulfates, iron, manganese, and aluminum.” However, neither the data nor basis for these conclusions was provided. WDEQ-WQD staff are available to help explain applicable water quality standards.

Groundwater Protection

Section 3.3.2.1 – Paragraph 2. WDEQ-WQD recommends that groundwater data be provided and compared with Water Quality Rules, Chapter 8, Groundwater Quality Standards Table 1. As currently drafted, the EA states “Water in the five shallow groundwater well has high concentrations of sulfates, calcium, magnesium, and sodium, and generally high levels of total dissolved solids.” However, neither the data nor basis for these conclusions was provided. WDEQ-WQD staff are available to help explain applicable water quality standards.

Section 3.3.2.1 - Paragraph 4. WDEQ/WQD recommends that the project sponsor contact the Groundwater Section (Lily Barkau, Groundwater Section Manager, 307-777-7072) to request a Groundwater Classification for the sampled aquifers prior to the construction and that this classification be included in the EA. As drafted, the EA states, “Groundwater quality in the Newcastle Sandstone and Dakota Aquifer exceeds multiple standards for DEQ Class I, Class II, and Class III groundwaters of Wyoming (RER 2022a).”

Water and Wastewater Permits.

WDEQ-WQD recommends the project sponsors coordinate with Brad Ellis P.E. (Northeast District Engineer), 307-473-3469, or Dale Lee P.E. (Assistant Northeast Engineer), 307-675-5640, to identify the applicable water and wastewater permits.

- *Wastewater.* If the facility is not connected to Upton’s municipal sewer system and wastewater from industrial activities will be routed to a septic system, an Underground Injection Control Permit (UIC) from the WQD’s Groundwater Program is required. A UIC permit is necessary whenever wastewater from industrial activities will be routed to the wastewater system. Additional information is available at <https://deq.wyoming.gov/water-quality/water-wastewater/permitting/>.
- *Water Supply.* If the water distribution system is not connected to Upton’s public water supply and meets the definition of a public water supply (defined at W.S. 35-11-103(c)(viii) as “a system for the provision to the public of water for human consumption through pipes or constructed conveyances, if such system has at least fifteen (15) service connections or regularly serves at least twenty-five (25) individuals”), the water distribution system will need to be permitted under Chapter 3 and must meet the requirements of Water Quality Rules, Chapter 12 (Design and Construction Standards for Public Water Supplies). In addition, if the system qualifies as a public water supply, the project sponsors should contact EPA Region 8 for applicable Safe Drinking Water Act regulatory requirements (EPA Region 8 implements the Public Water System Supervision Program in Wyoming).
- *Water Recycling.* Section 3.3.2.2 describes that water will be “recycled,” but does not include additional details. If the plant intends to land apply non-domestic wastewater to irrigate landscaping, public recreation areas, or crops, it must be permitted through Water Quality Rules, Chapter 3 and Chapter 11, Part E. Additional information can be found at <http://deq.wyoming.gov/wqd/permitting-2/resources/other-permits/>. WDEQ-WQD also recommends the EA clarify the process by which water will be “recycled.”

Additional Recommendations

The following comments are provided as additional recommendations for the project sponsors’ consideration.

- *Spill Reporting.* Wyoming Water Quality Rules, Chapter 4, requires that WDEQ/WQD be notified of any oil or hazardous substances that have been released and enter, or threaten to enter, waters of the state. Spills can be reported to WDEQ by calling 307-777-7501 or at <http://wyospills.org>. WDEQ-WQD recommends adding information to this effect in the EA.
- *Best Management Practices (BMPs) and Spill Response Plan.* The WDEQ-WQD recommends identifying BMPs and including a spill response plan for the use and storage of chemicals during the construction and operation phases of the project.
- *Best Management Practices - Roads.* In addition to the use of best management practices associated with WYPDES stormwater permitting, the WDEQ-WQD recommends the project sponsors consider including additional best management practices, including those associated with road construction and maintenance, to help minimize the introduction of pollutants to surface waters of the state. Additional

information is available: <https://deq.wyoming.gov/water-quality/watershed-protection/nonpoint-source/>.

Thank you for the opportunity to provide input on this important Draft EA. If you have questions or need additional information, please feel free to contact me at 307-777-7192 or alan.edwards@wyo.gov.

Sincerely,

A handwritten signature in blue ink that reads "Alan Edwards". The signature is written in a cursive style with a large initial "A".

Alan Edwards
Deputy Director
Wyoming Department of Environmental Quality