UNITED STATES
NUCLEAR REGULATORY COMMISSION
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MEMORANDUM TO: R. William Von Till, Chief
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Signed by Cohen, Sam
on 07/22/25

SUBJECT: SUMMARY OF JUNE 25, 2025, PUBLIC OBSERVATION MEETING WITH GRANTS ENERGY, A POTENTIAL APPLICANT FOR A URANIUM IN-SITU RECOVERY FACILITY LICENSE

On June 25, 2025, the U.S. Nuclear Regulatory Commission (NRC) staff held a public observation meeting (in-person at NRC Headquarters in Rockville, MD, with options to attend remotely via Microsoft Teams) with representatives of Grants Energy, a potential applicant for a license to construct and operate a uranium in-situ recovery (ISR) facility. Grants Energy is a subsidiary of Rio Grande Resources (RGR). On June 4, 2025, the NRC issued notice of the meeting via its public website (Agencywide Document Access Management System (ADAMS) Accession No. ML25155A099). As outlined in NRC Management Directive 3.5, “Attendance at NRC Staff-Sponsored Meetings” (ML21180A271), the primary discussions of the public observation meeting occurred between the NRC staff and the potential applicant, Grants Energy. In addition to the representatives of Grants Energy, meeting attendees included staff from the New Mexico Environment Department (NMED), the Wyoming Department of Environmental Quality (WYDEQ), and members of Multicultural Alliance for a Safe Environment (MASE). A list of meeting attendees and participants is included in Enclosure 2.

Grants Energy initiated engagements with the NRC following their submission of a Letter of Intent (LOI) on May 1, 2025, indicating their intent to submit a license application for the project during the second quarter (Q2) of 2026 (ML25125A097). In the LOI, Grants Energy indicated their plans to employ horizontal wells in their proposed ISR project. While used commonly in the oil and gas sector, the Grants Precision ISR project would be the first use of horizontal wells for uranium ISR.

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The purpose of the June 25, 2025, meeting was to discuss various aspects of the licensing process for Grants Energy's proposed Precision ISR project, to be located in San Mateo, NM. The NRC staff began the meeting by outlining the expectations and responsibilities of meeting attendees. NRC staff then providing a short summary of the LOI submitted by Grants Energy, followed by introductions of participants attending in-person and remotely, via Microsoft Teams. Following introductions, the representatives of Grants Energy gave a presentation, providing a comprehensive overview of the Precision ISR project. The presentation slides are included in Enclosure 3. Significant topics described during the presentation included the following:

- **Grants Energy's status as a division of RGR**. If approved, RGR would be the licensed entity, and Grants Energy would develop and operate the project.

- **Previous uranium ISR and restoration experience**. Grants Energy affiliates Heathgate and Quasar operate uranium ISR facilities in Australia. RGR is involved in uranium mill tailings decommissioning at the Panna Maria, Texas site.

- **The project location, and proximity to the Mount Taylor Mine.** The project will be located near San Mateo, NM, at the northern base of Mount Taylor. Due to the cultural and religious significance of Mount Taylor among Tribes of the region, the State of New Mexico has designated much of Mount Taylor as a Traditional Cultural Property (TCP). Adjacent to the proposed license boundary is the Mount Taylor Mine, which is owned by RGR. The Mount Taylor Mine is a conventional uranium mine undergoing closure. Grants Energy notes that all of the land within the proposed licensing area is privately owned and will not include any of the Mount Taylor Mine property, nor will it contain any land within the Mount Taylor TCP.

- **Stakeholder engagement.** Grants Energy representatives described their intentions to engage with local Tribes beyond what is required of them by the National Environmental Policy Act (NEPA). Specifically, they expressed the desire to consult with potentially interested Tribes, such as the Pueblo of Acoma, the Pueblo of Laguna, the Navajo Nation, the Pueblo of Zuni, and The Hopi Tribe. Grants Energy specifically recognized the importance of the Mount Taylor TCP to Tribal stakeholders.

- **Site geology, exploration, and resource estimation.** Grants Energy targets uranium found within the Westwater Sandstone and Recapture Creek members of the Morrison Formation. The targeted formations are located over 3,000 ft below the surface (4,100 and 4,400 feet above mean sea level). Over 800 exploration holes have been drilled within the proposed license area. Within the proposed license area, it is estimated that ~130 million pounds of uranium is amenable to ISR production. The applicant plans on conducting pump tests and drilling delineation holes between Q4 of 2025 and Q2 of 2026.

- **Preparing the license application.** In the second or third quarter of 2026, Grants Energy will submit a technical report (TR) following regulations stipulated in 10 CFR 40 and informed by guidance from NUREG-1569 and NRC RG 4.14. They will also submit an environmental report (ER), following regulations established in 10 CFR 51.60, guided by NUREG-1748, to supplement NUREG-1910: Generic Environmental Impact

Statement (GEIS) for In-Situ Leach Uranium Mining Facilities. Grants Energy wishes to align NHPA Section 106 procedures with the NRC's NEPA review, and act as a Non-Federal Representative (NFR) for Endangered Species Act (ESA) consultation needs. Grants Energy asked if the NRC's environmental review would require an environmental assessment (EA) or an environmental impact statement (EIS).

- **Environmental Protection Agency (EPA) and New Mexico permitting needs.** Grants Energy seeks National Pollutant Discharge Elimination System (NPDES), and Small Quantity Generator permits from EPA. Additionally, they require multiple permits from New Mexico agencies, including NMED, the NM Office of the State Engineer (OSE), the NM Mining and Minerals Division (NMMMD), the NM Department of Transportation (NMDOT), and the NM Air Quality Bureau (AQB).

- **Operations and restoration.** The applicant plans to begin construction of the wellfields in Q2 of 2028 and begin operations in Q2 of 2029. When constructed, the project will target two production areas. Each production area will be subdivided into wellfields. Each wellfield is expected to yield uranium for 2-10 years, allowing phased uranium production and groundwater restoration to occur simultaneously across multiple wellfields.

- **Horizontal wells.** Grants Energy is considering utilizing two different types of wells to recover uranium: (1) a series of vertical wells that is similar to what is typically used for uranium ISR; and (2) the use of horizontal wells, which have been utilized in the oil and gas industry. Importantly, unlike oil and gas, these horizontal ISR wells would not hydraulically fracture "frack" the formation. Grants Energy states that the use of horizontal wells would offer benefits by minimizing the number of wells that must be constructed and reduce surface disturbances.

- **On-site uranium oxide (U_3O_8) production and waste management.** Following extraction of impregnated lixiviant, Grants Energy intends to produce up to six million pounds of U_3O_8 (yellowcake uranium) per year. Chemicals used on-site will include oxygen, $NaHCO_3$, HCl, and NaOH. Grants Energy plans to dispose of liquid waste in Class I UIC wells. Potential formations targeted for waste disposal are located from 5,370 to over 6,720 ft below the surface. Solid waste will be disposed of offsite, at licensed low-level waste (LLW) facilities.

- **Future engagement.** Grants Energy expressed their desire to continue to engage with the NRC staff throughout the licensing process.

Following the presentation, the NRC staff engaged in dialogue with the representatives of Grants Energy. Additionally, NMED staff and Grants Energy discussed aspects of State permitting. Questions and topics of discussion are described below:

- **Drinking water in San Mateo, NM.** The NRC staff inquired about the source of San Mateo's domestic drinking water, and potential impacts to the resource stemming from ISR operations. Grants Energy identified the Point Lookout Sandstone as the source of San Mateo's drinking water. Geologic information provided by Grants Energy indicates

that the Point Lookout Sandstone is roughly 800 feet below ground surface and is separated from the targeted ore units by several thousand feet of other geologic formations, including the Mancos Shale, which is of very low permeability.

- **Geologic factors.** The NRC staff inquired about the continuity of confining layers across the proposed site boundary, as well as the implications of the depth of production on operations. Grants Energy affirmed that the confining layers were continuous throughout the site and indicated their plans to conduct further studies regarding the issue. Grants Energy expressed confidence that uranium recovery will remain viable at deeper production depths.

- **Horizontal wells for ISR.** The NRC staff inquired on the differences between horizontal and vertical wells in ISR, including the nature of perimeter monitoring wells. Grants Energy contracted with a subsidiary of Schlumberger to confirm the feasibility of horizontal well installation and are in the process of confirming the efficiency of recovery. Grants Energy stated that perimeter monitoring wells would remain vertical.

- **Plans for community and Tribal engagement.** NRC staff asked about Grants Energy's plans to engage the local community and potentially impacted Tribes. Grants Energy indicated their desire to engage with the community and described steps they have taken to do so. Actions included hosting community meetings in the towns of Grants and San Mateo, as well as plans to engage with Tribal stakeholders. A NMED staff member indicated that upon application for certain permits by Grants Energy, the application will be notified to the public, and to impacted Tribes.

- **Mount Taylor TCP.** NRC staff inquired about the proximity of the proposed license site to the Mount Taylor TCP, as well as the potential re-use of Mount Taylor Mine buildings and infrastructure. Grants Energy identified areas of the project that are adjacent to the TCP. Grants Energy noted that while they retain mineral interests within the TCP, they have opted to not include these areas in the potentially licensed area. Grants Energy does not plan to use Mount Taylor Mine infrastructure. While the Grants Precision ISR project will be located entirely outside of the TCP and former mine area, the NMED staff in attendance noted that the adjacent operations and lands will still factor into their permitting review.

- **Environmental Assessment (EA) vs. Environmental Impact Statement (EIS).** NRC staff explained that NRC requirements mandate the preparation of an EIS for ISR facilities. However, an exemption to this requirement may be granted by the Commission. For this specific project, the NRC staff note significant risks to the applicant's timeline if this approach is taken, as the EA may not come to a finding of no significant impact (FONSI), requiring the subsequent completion of an EIS.

- **Waste Disposal.** The NMED staff in attendance noted the feasibility implications of the presence of the San Mateo fault system, located to the northwest of the proposed site boundary, on underground waste injection wells. Induced seismicity concerns were also raised. A representative of Grants Energy recognized these concerns and emphasized their technical understanding of the San Mateo fault system.

At the conclusion of the NRC and Grants Energy discussion period, NRC staff provided attendees from the public with the opportunity to ask questions and provided Grants Energy with the option to answer. Members of Multicultural Alliance for a Safe Environment (MASE) asked several questions, and the representatives of Grants Energy elected to answer. The questions concerned the following:

- **Volume of liquid waste.** A representative of MASE inquired about the quantities and levels of contamination of liquid waste disposed of in underground injection wells. Grants Energy described various factors that impact the quantity and qualities of liquid waste and intended to minimize the volume of liquid waste produced from ISR operations. Estimates made by Grants Energy of produced liquid waste volumes range from tens of gallons per minute, to hundreds of gallons per minute.

- **Aquifer exemptions.** A representative of MASE asked if Grants Energy would be seeking an aquifer exemption. A representative of Grants Energy stated that the targeted formations would receive a temporary aquifer designation, which requires restoration of groundwater to meet background concentrations, or levels compliant with NM minimum concentration levels (MCLs), whichever is higher, at the conclusion of operations. Grants Energy also explained that the traditional EPA aquifer exemption process may not apply, due to New Mexico's unique implementation of the Safe Drinking Water Act. NMED intends to collaborate with the EPA to determine if an EPA aquifer exemption authorization will ultimately be required.

- **Restoration at other ISR sites.** A representative of MASE inquired about groundwater restoration at other ISR sites, operated by Grants Energy affiliates. The representative asked for specific examples of successful restoration and noted that she was not aware of any successful groundwater restorations at ISR sites. Grants Energy responded by discussing the costs and benefits of complete aquifer restoration. They contended that the high rates of water consumption needed to achieve total restoration of groundwater to background in ISR-targeted formations may not be an effective use of limited water resources. The representative of MASE stated that ISR operations across the United States do not restore aquifers to background levels.

- **Future operations beyond the proposed license boundary.** A representative of MASE noted that the ore body extends beyond the boundary of the current proposed license area. She asked if, following cessation of operations within the license area, Grants Energy would apply to amend their license to expand ISR operations to areas within the Mount Taylor TCP. Grants Energy stated that they currently do not plan to expand operations within the TCP boundary.

- **Land ownership and mineral royalties.** A representative of MASE inquired as to the owners of the land within the proposed license area, and if landowners would receive mineral royalties. Grants Energy stated that RGR owns a large portion of the land and leases the rest via rental payments. RGR also owns the majority of the minerals in the proposed license area. Minerals not owned by RGR are held by private landowners in the San Mateo area, who would receive mineral royalties.

- **Agricultural aquifer use and impacts to flora and fauna.** A representative of MASE asked if the targeted aquifer was used for agriculture. She also asked if aquifer restoration to levels above background would impact local flora and fauna. Grants Energy stated that due to the depth of the aquifer, as well as the high concentration of naturally occurring minerals and radioactive elements within the aquifer, agricultural use of the groundwater is not economical or practicable. Additionally, Grants Energy stated that the impacts of ISR to the targeted aquifer would remain localized to the proposed license area.

- **Water rights.** A representative of MASE asked about RGR's water rights, and how much water would be used in the ISR process. Grants Energy stated that water consumption would be "a fraction" of the water used during conventional uranium mining and would vary based on the volumes of water used for production, waste disposal, and aquifer restoration.

At the conclusion of the meeting, NRC staff summarized key discussion topics. The NRC staff, NMED staff, and Grants Energy representatives agreed to schedule future joint meetings. Additionally, Grants Energy thanked the representative of MASE and NMED staff for attending and expressed a desire to engage further.

Enclosures:
1. Attendance Sheet
2. Grants Energy Presentation Slides

Grants Energy Public Observation Meeting Summary for June 25, 2025 DATE July 22, 2025

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