

August 14, 2013

Ken Kalman, Project Manager  
Materials Decommissioning Branch  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Dear Mr. Kalman,

Rare Element Resources, Inc. (RER) intends to submit a license application to possess source material in connection with the Bear Lodge Project in Wyoming. We have been in contact with the NRC Staff regarding this project and currently have scheduled a meeting on September 19, 2013 with staff to discuss our planned application. To ensure that the meeting is productive and efficient for all parties, we are providing the NRC with an overview of our planned licensing approach in advance of that meeting. The licensing approach described below incorporates the conclusions of the letter from the NRC to RER, dated September 19, 2012 (ADAMS Accession No. ML12205A243), in which the NRC confirmed that RER will be required to submit a source material license application to the NRC in order to conduct processing of rare earth minerals if any of the processing steps result in materials with concentrations of uranium and thorium that equal or exceed 0.05% by weight.

#### Project Overview

The Bear Lodge project involves a number of distinct unit operations. The first activity is the mining of the natural ore containing rare earth minerals at the Bull Hill mine using conventional truck and excavator open pit mining. Subsequent activities involve operations at two distinct and geographically-separate facilities, the Physical Upgrade (PUG) plant and the Hydrometallurgical (Hydromet) plant. The PUG plant will be located on U.S. Forest Service land at the Bull Hill mine site located approximately 12 miles from Sundance, Wyoming. While the Hydromet facility will be located approximately 40 miles away on private land near Upton, Wyoming. The PUG plant employs a series of crushing, washing, screening, and magnetic separation methods to concentrate the rare earth-bearing fine fractions and reduce the physical mass. The rare earth mineral concentrates will then be transported by enclosed trailer to the Hydromet plant. The Hydromet plant will process the mineral concentrate through acid leaching, oxalate precipitation, and calcination to produce a rare earth oxide. Acid is regenerated and recycled using a distillation process.

#### Scope of NRC Licensed Activities

##### *Bull Hill Mine*

Under 10 CFR 40.13(b), a license is not required to receive, possess, use, or transfer unrefined and unprocessed ore containing source material. An NRC source material license is therefore not necessary for mining activities at the Bull Hill mine or for the initial receipt of the mined ore at the PUG plant.

### *PUG Plant*

Based on our most recent feasibility study documents, there will likely be intermediate process streams at the PUG plant with concentrations of uranium and thorium that equal or exceed 0.05% by weight. As a result, RER intends to seek a source material possession license for the PUG plant. The license application for the PUG plant would be prepared in accordance with NRC guidance. The license would cover material at the PUG plant beginning with the process that has the potential to contain concentrations of uranium and thorium equal to or in excess of 0.05% by weight. The NRC license would also address the source material in subsequent “downstream” processes at the PUG plant.

### *PUG Plant Product*

The end product at the PUG plant is a bulk rare earth-bearing mineral concentrate. Based on current feasibility study testwork data, the concentrations of uranium and thorium in the concentrate product at the PUG plant will not exceed 0.25% by weight. RER will verify these concentrations by sampling and analysis.

Under 10 CFR 40.13(c)(1)(vi), persons are exempt from NRC licensing requirements to the extent that a person receives, possesses, uses, or transfers of rare earth metals and compounds, mixtures, and products containing not more than 0.25% by weight thorium, uranium, or any combination of uranium and thorium. According to a letter from Paul Lohaus, Director, Office of State and Tribal Programs, NRC, to Edgar Bailey, Chief, Radiologic Health Branch, California Department of Health Services, dated September 12, 2002 (ADAMS Accession No. ML022660607), this exemption applies to bulk quantities of rare earth-bearing materials, such as the mineral concentrates produced at the PUG plant. Accordingly, no NRC license should be required for RER to transfer bulk mineral concentrates of rare earth-bearing material to the Hydromet plant or any other facility.

However, a recent NRC rulemaking on the distribution of source material to exempt persons, 78 Fed. Reg. 32310 (May 29, 2013), imposes a new licensing requirement under 10 CFR 40.52 for the initial transfer of a product containing source material to persons exempt under 10 CFR 40.13(c). This new provision applies to the initial transfer of the PUG product to any other exempt person, including the Hydromet plant. RER therefore will include sufficient information in its application to address the new distribution licensing requirements of 10 CFR 40.52.

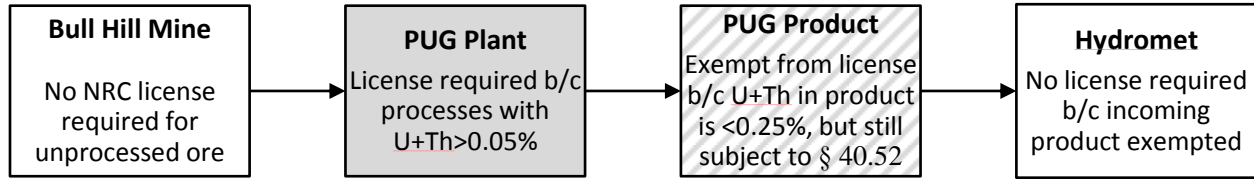
### *Hydromet Plant*

Under the exemption in 10 CFR 40.13(c)(1)(vi), no NRC license is required for RER to receive, possess, use, or transfer material that contains not more than 0.25% by weight thorium, uranium, or any combination of uranium or thorium at the Hydromet facility. Because the incoming product from the PUG contains less than 0.25% uranium and thorium by weight and is therefore exempt from NRC licensing, no Part 40 possession license is necessary for the Hydromet facility. Also, because transfers of exempt source material from the Hydromet plant to another exempt person do not require a specific license authorizing such transfers (*see* 78 Fed. Reg. at 32313), no NRC distribution license is required for the Hydromet facility.

Although an NRC license is not required, the Hydromet facility and waste materials will be subject to the requirements of other State and Federal agencies, including the Wyoming Department of Environmental Quality. In addition, one waste stream at the Hydromet facility will contain relatively high

concentrations of thorium dioxide. This waste stream will be sent to an offsite disposal facility licensed to accept such materials in accordance with 10 CFR 20.2001.

*Summary of NRC Licensing Approach for Bear Lodge Project*



Activity	NRC Licensing Requirement
<i>Initial mining activity</i>	None
<i>PUG Plant</i>	Source Material License <ul style="list-style-type: none"> <li>▪ NRC jurisdiction begins with first process involving concentrations of uranium and thorium in excess of 0.05% by weight</li> <li>▪ NRC license covers “downstream” processes at PUG plant</li> </ul>
<i>Transfer of mineral concentrate product</i>	Initial Exempt Distribution License <ul style="list-style-type: none"> <li>▪ PUG Plant bulk mineral concentrate product is exempt from NRC licensing because U+Th &lt; 0.25% by weight</li> <li>▪ NRC license required for initial transfer to exempt person under 10 CFR 40.52</li> </ul>
<i>Hydromet Facility</i>	None <ul style="list-style-type: none"> <li>▪ Incoming source material from PUG plant (in bulk mineral concentrates) is exempt from NRC licensing</li> </ul>

To facilitate an effective discussion, we would appreciate any comments you may have on our proposed licensing approach prior to the September 19, 2013 meeting. Prior to or during the meeting, we would also expect confirmation that the approach presented in this letter is acceptable to you and your staff. In the meantime, if you have any questions regarding RER’s licensing approach or would like to find out more information, please contact me at (720) 278-2470 or Paul Bergstrom at (720) 278-2469.

Sincerely,

Jaye T. Pickarts, P.E.  
Chief Operating Officer