HOUSE COMMITTEE ON
NATURAL RESOURCES
CHAIRMAN BRUCE WESTERMAN

To: Subcommittee on Energy and Mineral Resources Republican Members
From: Subcommittee on Energy and Mineral Resources staff: Ashley Nichols (Ashley.Nichols@mail.house.gov), Rebecca Konolige (Rebecca.Konolige@mail.house.gov) x59297
Date: Wednesday, September 13, 2023
Subject: Oversight hearing titled *"Examining the Methodology and Structure of the U.S. Geological Survey's Critical Minerals List"*

The Subcommittee on Energy and Mineral Resources will hold an oversight hearing titled *"Examining the Methodology and Structure of the U.S. Geological Survey's Critical Minerals List"* **on Wednesday, September 13, 2023, at 10:15 a.m. EDT in room 1324 Longworth House Office Building.**

Member offices are requested to notify Lonnie Smith (Lonnie.Smith@mail.house.gov) by 4:30 p.m. on Tuesday, September 12, if their Member intends to participate in the hearing.

I. KEY MESSAGES

- The United States is heavily reliant on other nations for certain mineral commodities that are needed for our national security and economic prosperity. Demand for non-fuel minerals like nickel, cobalt, lithium, and dozens of others is expected to rise rapidly in the coming years, largely driven by projected growth in renewable energy technologies.
- Overreliance on other nations for these resources presents major strategic and economic concerns, particularly as many of the biggest foreign suppliers have interests contrary to those of the United States.
- To address these concerns, the Trump administration issued Executive Order 13817 in 2017, which proposed steps to form a national strategy to strengthen our domestic supply chains.[1] The first step in this process was the formulation of a list of "critical minerals."
- As demand for minerals continues to increase, more private investment, federal funding, and political interest is turning towards supporting domestic supply chains of critical minerals. Consequently, the way the United States determines what is considered a "critical" mineral – and what production advantages, if any, listed critical minerals receive over un-listed mineral commodities – is of national importance.

II. WITNESSES

- Dr. Nedal Nassar, Chief of Minerals Intelligence Research, U.S. Geological Survey, Reston, VA

[1] 82 FR 60835.

- Dr. Roderick Eggert, Research Professor of Economics & Business and Coulter Foundation Chair in Mineral Economics, Colorado Schools of Mines, Golden, CO
- Mr. Reed Blakemore, Director of Research and Programs, Global Energy Center, Atlantic Council, Washington, DC
- Mr. Brian Somers, President, Utah Mining Association, Salt Lake City, UT
- Mr. Dustin Mulvaney, Professor, Environmental Studies Department, San José State University, CA *[Minority witness]*

III. BACKGROUND

On December 20, 2017, President Trump issued Executive Order 13817, calling for a national strategy to support a domestic supply of minerals vital to the economic and national security of the United States.[2] While this could arguably include hundreds of commodities, the Trump Administration began to focus on a group of so-named "critical minerals" with vulnerable supply chains that are of high value to the United States.

The Department of the Interior, through the United States Geological Survey (USGS), published an initial list of 35 critical minerals in 2018.[3] To be categorized as "critical," a mineral commodity must be: (1) a nonfuel mineral or mineral material essential to the economic and national security of the United States, (2) produced from a supply chain that is vulnerable to disruption, and (3) serving an essential function in the manufacturing of a product, the absence of which would have substantial consequences for the U.S. economy or national security. These three defining criteria originated in Executive Order 13817 and were later codified in section 7002 of the Energy Act of 2020, made law in the Consolidated Appropriations Act of 2021.[4]

Building on the Executive Order and the Energy Act of 2020, USGS outlined the following evaluations to determine if a mineral meets the definition for a critical mineral: (1) a quantitative evaluation of supply risk (wherever sufficient data are available), (2) a semi-quantitative evaluation of whether the supply chain has a single point of failure, and (3) a qualitative evaluation when other evaluations are not possible.[5] Analysis of supply chain risk relies on America's net import reliance on other nations for a given mineral, the amount produced outside of the United States, and foreign suppliers' willingness to continue to supply the United States.

As part of drafting the critical minerals list USGS also consults with the Departments of Defense, Commerce, Agriculture, and Energy and the United States Trade Representative.[6]

Notable Changes to the Critical Minerals List under the Biden Administration

As previously stated, the 2018 Final List of Critical Minerals listed 35 commodities. This included uranium, which is notable for having both fuel and nonfuel uses. At the time of the 2018 list's publication, USGS stated:

[2] 82 FR 60835.
[3] 83 FR 23295.
[4] P.L. No. 116-260.
[5] U.S. Geological Survey, Nedal T. Nassar and Steven M. Fortier, Methodology and Technical Input for the 2021 Review and Revision of the U.S. Critical Minerals List, 2021, https://pubs.usgs.gov/of/2021/1045/ofr20211045.pdf.
[6] P.L. No. 116-260.

> "Federal interagency feedback to Interior on the initial draft list highlighted one mineral, uranium, with both fuel and non-fuel uses, and for which Energy Information Administration data indicated high production concentration and significant import reliance…[I]nput from other agencies represented on the [National Science and Technology Council] Subcommittee on Critical and Strategic Mineral Supply Chains emphasized that uranium, while primarily known as a fuel mineral, also has important non-fuel uses, and otherwise meets the criteria for inclusion."[7]

Almost immediately after the publication of the 2018 list, then Chairman of the Committee on Natural Resources, Rep. Grijalva of Arizona, introduced legislation, H.R. 3405, the "Uranium Classification Act of 2019," in an attempt to override the scientific process at USGS and unilaterally remove uranium from the critical minerals list. The then Democrat controlled Committee on Natural Resources held a hearing on H.R. 3405 on June 25, 2019, and reported it out of the Committee on July 17, 2019, despite strong opposition from Republican members of the Committee.[8] While the Uranium Classification Act of 2019 was not enacted in the 117th Congress, pressure continued throughout the legislative process for the Energy Act of 2020 to be explicitly and permanently amended to disqualify uranium from future consideration as a critical mineral.

The Energy Act of 2020 did not disqualify uranium from consideration as a critical mineral. However, in an attempt to clarify which types of minerals should be considered for the list and which should not, the Act created three categories of exclusions: 1) fuel minerals, 2) water, ice, or snow, and 3) common varieties of sand, stone, and gravel. These exclusions were intended to focus the list on mined materials often referred to as "hardrock" minerals, such as lithium, zinc, and cobalt, as opposed to aggregates like sand and gravel or hydrocarbons like oil and gas. Unfortunately, the Biden administration has used these exclusions – especially the exclusion of "fuel minerals" – as a means of stymying future domestic uranium production.

An updated Draft List of Critical Minerals was published by the Biden administration on November 9, 2021,[9] as required by the Energy Act of 2020. This time, the USGS wholly reversed its position on uranium from the 2018 list, and did not even consider uranium for inclusion on the list due to its fuel uses.[10] This decision came in the midst of rapidly rising military tensions in Eastern Europe in late 2021 and early 2022, and despite the fact that Kazakhstan, Russia, and Uzbekistan are some of the world's largest uranium suppliers.[11] In February 2022, then Ranking Member Westerman and Republican Members of the Committee on Natural Resources wrote a letter to the Department of the Interior, asking the Secretary to reconsider the draft list designations given the deteriorating situation in Europe and its likely impacts on the global supply of uranium.[12] However, this request was not heeded, and USGS

[7] 83 FR 23295.
[8] Report 116–225 to Accompany H.R. 3405, October 4, 2019, https://www.congress.gov/116/crpt/hrpt225/CRPT-116hrpt225.pdf.
[9] 86 FR 62199.
[10] 86 FR 62199.
[11] U.S. Energy Information Administration, Uranium Marketing Annual Report, Uranium purchased by owners and operators of U.S. civilian nuclear power reactors by origin country and delivery year, 2018–2022, https://www.eia.gov/uranium/marketing/table3.php.
[12] Letter from Ranking Member Bruce Westerman, et. al. to the hon. Debra Haaland, Secretary, Department of the Interior, re: political unrest in Eastern Europe and request to reconsider the 2021 Draft List of Critical Minerals, February 3, 2022.

published its Final List of Critical Minerals in February 2022 without evaluating uranium for inclusion.[13]

The significant attention given to uranium's treatment on the critical minerals list by Congressional Democrats and outside groups seems to indicate that political pressure, rather than pure scientific analysis, contributed to the decision not to consider uranium as a critical mineral for the 2022 list. President Biden's recent designation of the Baaj Nwaavjo I'tah Kukveni – Ancestral Footprints of the Grand Canyon National Monument,[14] locking up access to natural resources in an area known to have some of the richest uranium deposits in the United States, further underscores the Biden administration's intent to disincentivize domestic uranium development despite the mineral's importance to many U.S. sectors.

Furthermore, uranium was not the only mineral that was removed from the 2022 list by the Biden administration. Helium, largely produced as a component of natural gas, was also absent from the updated list despite the pending closure of the Federal Helium Reserve[15] and potential impacts to the global helium market. Other changes included the removal of potash and the expansion of the rare earth elements group from a single entry on the list to individual entries, resulting in a final total of 50 commodities on 2022 Final List of Critical Minerals.

Comparisons to Other National Lists and Considerations for the Future

The USGS critical minerals list is not the only attempt by the federal government to categorize mined resources of strategic importance. Different commodities will inherently be considered more necessary for some sectors than others, so different classification sets may be prudent. For instance, the minerals most needed for aeronautics may not be the same as those used for deep sea exploration. The differences between lists are difficult to parse, and the resulting benefits from being listed in one subset or another have continued to evolve.

Perhaps most notably, a Critical Materials List was published by the Department of Energy (DOE) in July 2023.[16] With respect to the DOE maintained Critical Materials List, critical materials are defined by the Energy Act of 2020 as: (1) any non-fuel mineral, element, substance, or material that the Secretary of Energy determines has a high risk of supply chain disruption and serves an essential function in one or more energy technologies, including technologies that produce, transmit, store, and conserve energy, or (2) a critical mineral, as defined by the Secretary of the Interior.[17]

While also including the USGS-designated critical minerals, the additional commodities on the Critical Materials List represent a sector-specific approach to categorizing high-demand resources. While the USGS list analyzes mined commodities across sectors, DOE focuses on

[13] 87 FR 10381.
[14] The White House, Press Release, "FACT SHEET: President Biden Designates Baaj Nwaavjo I'tah Kukveni – Ancestral Footprints of the Grand Canyon National Monument," August 8, 2023, https://www.whitehouse.gov/briefing-room/statements-releases/2023/08/08/fact-sheet-president-biden-designates-baaj-nwaavjo-itah-kukveni-ancestral-footprints-of-the-grand-canyon-national-monument/.
[15] General Services Administration, Press Release, "GSA Announces Sale of Federal Helium System Assets – Updated," June 22, 2023, https://www.gsa.gov/about-us/regions/region-7-greater-southwest/region-7-newsroom/greater-southwest-feature-stories-and-news-releases/gsa-announces-sale-of-federal-helium-system-assets-06222023.
[16] Department of Energy, Critical Minerals & Materials Program, "What Are Critical Materials and Critical Minerals?" https://www.energy.gov/cmm/what-are-critical-materials-and-critical-minerals
[17] P.L. No. 116-260.

minerals based on their end-use in energy technology. This has resulted in some variations between which commodities appear on which list. For example, copper is deemed a critical material by DOE, but not a critical mineral by USGS. In their notice accompanying the 2021 Draft List of Critical Minerals, USGS noted that several mineral commodities ultimately not included in the list,[18] "are essential mineral commodities, their supply chain vulnerability is mitigated by domestic production, lack of import dependence, and diverse, secure sources of supply."[19] Further, many of these un-listed mineral commodities' supply chains are projected to increase in vulnerability over time – copper, for instance, is expected to see high demand increases in the coming decades.[20]

Today, the USGS critical minerals list relies on current supply and consumption data, not projections of likely supply and consumption in the near future, to make its supply risk determinations. This appears to be a significant limitation of the USGS list compared to analysis used for the DOE Critical Materials List and other national evaluations, such as the National Defense Stockpile. However, the USGS critical minerals list is likely to incorporate forecasting into its considerations in the future. The Energy Act of 2020 required USGS to publish an Annual Critical Minerals Outlook to forecast likely production, consumption, and recycling of critical minerals in the next one, five, and ten years.[21] The Annual Critical Minerals Outlook has yet to be published, but Majority Committee staff conversations with USGS personnel indicated that its publication may be imminent.

Analyzing the needs of our nation now and in the future, and how the listing of certain mineral commodities but not others may affect our domestic supply chains, is a vital consideration for the structure and methodology of the USGS critical minerals list going forward.

[18] The eleven commodities not recommended for inclusion on the 2021 list of critical minerals were lead, copper, feldspar, phosphate, silver, mica, selenium, cadmium, molybdenum, gold, and iron ore.
[19] 86 FR 62199.
[20] U.S. Geological Survey, Nedal T. Nassar and Steven M. Fortier, Methodology and Technical Input for the 2021 Review and Revision of the U.S. Critical Minerals List, 2021, https://pubs.usgs.gov/of/2021/1045/ofr20211045.pdf.
[21] P.L. No. 116-260.