

Written Statement by:  
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Good morning Chairwoman Murkowski, Ranking Member Cantwell and distinguished members of the Committee. Thank you for inviting me to participate in this timely hearing on the Department of the Interior's Final List of Critical Minerals. My name is Greg Gregory. I am President of Materion Natural Resources and work in Utah at the only domestic mine for beryllium. I am also currently a board member and past president of the Utah Mining Association and on the board of directors for the National Mining Association. My parent company, Materion Corporation, is a publicly traded company founded in 1931 and headquartered in Cleveland, Ohio, with 2600 employees and 33 locations worldwide. Materion mines beryllium ore in Juab County, Utah, and extracts the beryllium in the form of beryllium hydroxide in a mill in Millard County Utah. Materion manufactures advanced engineered products, some containing beryllium and almost all containing critical minerals. These are used in a wide variety of applications that contribute to our national defense and homeland security; diagnosis and treatment of diseases; vehicle safety and fuel efficiency; development of clean energy; space exploration and scientific discovery; and the ability to keep us connected, informed and entertained. For example, our metal alloys are used in landing gear in commercial airliners, oil and gas drilling machinery, and connectors and switches in mobile devices and appliances. Our optics, alloys and clad metals can be found in satellite technology, auto navigation systems, automatic braking systems, front and rear cameras and other sensors. Materion's inorganic chemical phosphors make LEDs more efficient and allow for better colors of light output, and also enable printing inks to change color, making it harder for money to be counterfeited worldwide. Our thin film deposition capabilities enable high accuracy and consistency — critical characteristics for medical testing devices and technology. Our unique combinations of different metals can be found in electric and hybrid cars, as well as medical implantable electronics, such as pacemakers.

The business that I run operates the only fully integrated mine to mill supplier of pure beryllium metal and beryllium-containing materials worldwide and is the only supplier of beryllium-containing materials that can say it is "Made in America." The other significant suppliers of beryllium are located in China and Kazakhstan.

Beryllium is a space-age metal with one-of-a-kind properties. Beryllium is lighter than aluminum, with a specific stiffness six times that of steel and is invisible to X-rays. Beryllium is essential in national defense and space exploration. In fact, beryllium is the only material deemed both strategic and critical to the United States by the Department of Defense. Beryllium was also designated by the USGS as critical on its Final List of Critical Minerals.

Beryllium, and alloys containing beryllium, are used in tactical optical systems, airborne and space surveillance systems, ballistic missile defense and strategic weapons. Due to many attributes, beryllium provides unsurpassed performance for critical applications. Beyond national defense, beryllium enables prominent life-saving end-uses including airplane electric connectors, automobile airbags and electronic braking systems, weather forecasting satellites, chemical

detection, fire suppression sprinkler systems, emergency rescue equipment, and high resolution X-ray mammography windows. In 2012 the winners of the Nobel Prize in Physics used beryllium to create the first sub-atomic computer chip with the computing power of every computer on earth. The versatility of this irreplaceable mineral showcases the linkage between the defense and commercial markets when it comes to critical minerals.

For beryllium metal or high beryllium-content materials, the market is driven primarily by government-funded applications. These include aerospace, military, nuclear test reactors, and high-energy particle physics research undertaken by particle colliders and synchrotrons. It has long been Materion's goal to diversify our high beryllium-content business with more commercially driven applications, such as the international fusion reactor ITER Project, but high-beryllium sales are still dominated by government needs.

For low beryllium-content materials, such as copper-beryllium alloys, the markets are driven primarily by commercial applications, such as electronics and telecommunications and undersea communications cables, which are complementary to that of the high beryllium-content materials.

Materion is therefore conscious of the government's roles as both customer and regulator. The government has an important interest in maintaining continuity of supply, something that Materion has assisted with whenever requested. This supports both the commercial market for low-beryllium content products and the government market for high-beryllium content systems.

There are currently multiple threats to continuing beryllium supply. In Europe, where regulatory initiatives have significant effects on U.S. beryllium production, there are two very real current examples: first, the Registration, Evaluation, Authorization and Restriction of Chemicals – Community Rolling Action Plan (REACH-CoRAP) regulatory initiative that leads to substitution of beryllium and second, technically infeasible worker exposure limits for beryllium. In the US, the Occupational Safety and Health Administration's recent final beryllium standard, which, until legally challenged, included technically and economically infeasible ancillary provisions. The rewrite of this standard remains a concern until the new related rulemaking is completed. The Air Force has tried to acquire beryllium from non-allied foreign sources with unreliable supply chains. These regulations and procurement decisions do little or nothing to improve safety, but they will have significant effects on security for the U.S. military and the wider U.S. industrial base.

The government has previously taken positive steps to ensure the availability of beryllium for defense needs. Between 2005 and 2011, Materion partnered with the government, through the Defense Production Act Title III office, to build the first beryllium metal production facility in the United States in more than 50 years. Materion continues to work with the government, especially within the Department of Defense and Department of Energy, to ensure that beryllium remains available for government needs. This successful mine-to-market strategy shows how a U.S. government program can successfully identify and address a materials vulnerability and turn it into a source of strength for the American military and American industry.

However, Materion strongly urges a whole-of-government approach to the issue of minerals and materials security. The lack of such a strategy has threatened to undo much of the good work that the government has done in the beryllium industry. For instance, individual programs within the Department of Defense have sourced material from Kazakhstan, even as the Department of Defense works with Materion to ensure a secure and robust domestic industry. Within the National Nuclear Security Administration, parochial interests have at times disrupted the development and execution of a beryllium strategy. As previously mentioned, rules lacking scientific or sound policy grounds were implemented by OSHA that, but for a legal challenge, would have threatened the ability of U.S. defense industrial base companies to continue supplying needed beryllium parts to the U.S. military.

These individual missteps should not obscure the overall success of the government's beryllium policy. Senior government officials, when they have gotten involved, have consistently understood the need for a secure, affordable supply chain for this strategic and critical mineral. But the lack of a clear, government-wide policy concerning critical minerals has, at times, led to mistakes at the operational levels that have threatened the success of the broader strategy.

The federal government's critical minerals policy must therefore be integrated across departmental and agency lines so that misguided legislative, regulatory and procurement standards do not adversely affect the supply of critical minerals. Beryllium, and other critical minerals, are needed not only for the commercial market and key industrial applications, but also for national defense requirements. A whole-of-government approach to security of supply is necessary to ensure access to these important resources. This whole-of-government approach should include a review of regulatory policies, domestic sourcing legislation, investment in critical end-item uses, and investment in industrial technologies. Materion is glad to see that both Congress and the Administration are engaging with these concerns in a realistic and forthright manner, and we look forward to supplying U.S. government and economic needs for years to come.

Thank you.