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Ms. Jessica Curyto
Deputy Assistant Secretary for Technology Security
Bureau of Industry and Security
U.S. Department of Commerce
1401 Constitution Avenue NW
Washington, DC 20230

RE: Comments of the National Association of Manufacturers on BIS's DPAS Directive Allocation Order and Additional Requirements for Recoverable Critical Minerals and Materials (Docket No. 260804-0143; BIS 2026-0364; RIN 0694-AK51)

Dear Deputy Assistant Secretary Curyto,

The National Association of Manufacturers respectfully submits these comments in response to the Bureau of Industry and Security's (BIS) call for public comments on the temporary final rule to restrict exportation of black mass and tungsten waste and scrap. The NAM appreciates the opportunity to submit feedback.

The NAM is the voice of the manufacturing community and the leading advocate for a policy agenda that supports and empowers the 13 million people who make things in America. As the largest manufacturing association in the U.S., the NAM's membership includes businesses of all sizes, across all industrial sectors, and in all 50 states. Manufacturers collectively contribute $3.2 trillion to the U.S. economy. Right-sized, commonsense regulations are crucial to sustaining the manufacturing strength that underpins our nation's prosperity and the critical technologies that secure America.

The NAM's comments focus on the impact of the temporary final rule on black mass as it applies to the July 30 Presidential Determination on Recoverable Critical Minerals and Materials. **Each critical mineral covered by the Presidential Determination should be evaluated based on the material's distinct market conditions and infrastructure needs.**

The 100% domestic sales requirements imposed by BIS under the temporary final rule for black mass restricts access to critical overseas sales markets for this material without addressing the underlying capacity, infrastructure, and economic barriers limiting black mass recycling in the United States. In addition, the domestic sales requirements for black mass risk existing and future sales for American companies with reliable U.S. trading partners and longstanding allies. **BIS should withdraw the temporary final rule for black mass**, and the administration should instead advance targeted policies to make domestic recovery and recycling of black mass commercially viable while preserving access to trusted international markets as U.S. capacity for this material develops.

Manufacturers Lack Sufficient Domestic Capacity for Black Mass Recycling

Lithium-ion battery recycling involves several stages. Following collection, sorting, and preparation, batteries and manufacturing scrap undergo shredding and mechanical separation to produce “black mass” and separate out other materials including copper, aluminum, and plastics. Black mass is an industry term for a mixture containing cathode and anode materials; its composition varies with battery chemistry and processing methods. Once black mass is produced, thermal or chemical processing can recover critical minerals that can then be further purified and refined to meet specifications for use in battery material manufacturing. These stages may occur at an integrated facility or across multiple specialized facilities.

Gaps in Domestic Infrastructure: Although there are existing facilities and companies are investing in new U.S. recycling, processing, and refining capacity, significant gaps remain in domestic infrastructure needed to convert black mass into materials suitable for battery manufacturing. The existence of a facility or its announced capacity does not establish usable capacity for a particular manufacturer. Usable capacity depends on whether an operating facility can accept the specific material stream, has available throughput, and can produce outputs meeting required specifications at commercially viable costs and volumes.

Current U.S. capacity to produce black mass outpaces the capacity to further recover and refine critical minerals into useable forms for battery material manufacturing. Producing black mass is only an intermediate step, as full utilization of the valuable critical minerals contained in black mass requires downstream refining capacity to produce materials that meet the technical quality requirements for incorporation into new products. Materials recovered by domestic black mass processers currently require additional refining and conversion into precursor cathode active materials (pCAM) or cathode active material (CAM). The U.S. currently has acute gaps for cost-competitive, environmentally friendly nickel, cobalt and manganese salt refining and pCAM production capacity. Assessment of domestic capacity should distinguish operating capacity from announced projects and evaluate feedstock compatibility, whether facilities accept externally generated black mass and available processing capacity, and whether recovered products meet the quality and form of requirements of downstream manufacturers.

Regulatory Hurdles Hinder the Processing of Black Mass

The opportunity to expedite the scaling of domestic black mass processing capacity is currently hindered by both regulatory hurdles and high build out cost.

Resource Conservation and Recovery Act (RCRA) bottlenecks, inconsistent state requirements, and treatment of mixed metal oxide cathode active materials as new chemical substances under the Toxic Substances Control Act (TSCA) all constitute major regulatory hurdles that increase the cost and uncertainty of developing domestic black mass processing capacity in the U.S. Together, RCRA, TSCA, and differing state requirements create a complex set of classification, documentation, and material tracking obligations across manufacturers, suppliers, processors, and recyclers. As materials move through the recycling chain, companies must determine their regulatory status, maintain and transfer relevant information, and verify that downstream recipients can accept and process them under applicable restrictions. This adds cost and uncertainty that impedes domestic recycling.

Storage and Handling Constraints: RCRA requirements complicate the storage and handling of batteries destined for domestic recycling. Lithium-ion batteries that are managed as universal hazardous waste benefit from streamlined collection, storage, and transportation requirements, but those requirements cease to apply when the batteries reach a recycling destination. While recycling is generally exempt from federal RCRA permitting requirements, storage of end-of-life batteries before recycling generally requires a hazardous waste storage permit. Black mass processors report that separate storage arrangements are used to avoid hazardous waste storage permitting which adds to handling and transportation costs. To address this issue, U.S. Representative Mariannette Miller-Meeks (R-IA) has introduced H.R. 9615, the Battery Recycling for America's Completeness Act (BRACE Act), which would allow recycling destination facilities to store lithium-ion batteries before recycling under specified universal-waste requirements. The BRACE Act would reduce permitting burdens while retaining requirements for safe management. Waste classification for end-of-life batteries also undermines the value of these critical materials.

Inconsistent Regulations Across the Processing Value Chain: Regulatory requirements change as batteries are processed into black mass. Intact batteries are managed as universal hazardous waste, but once those batteries are shredded or pre-treated, the resulting black mass is no longer eligible for the streamlined universal waste framework. Classification of black mass as hazardous waste depends on whether it exhibits hazardous waste characteristics. This requires producers of black mass to evaluate the material stream. Even when black mass does not exhibit hazardous waste characteristics, it may remain subject to state and local solid waste requirements until recycling is complete. Some states actually restrict end-of-life batteries from landfilling, while others require recycling. State requirements also affect upstream collection and processing of battery containing e-waste. For example, Colorado imposes critical mineral recovery rate requirements on battery recycling facilities. Downstream processing outlets are limited, complicating the economics of collecting and processing materials for recycling and effectively encouraging exports of black mass.

TSCA creates additional barriers to recycling end-of-life batteries through restrictions on downstream distribution. EPA treats certain modified CAMs containing trace dopant metals as distinct chemical substances subject to premanufacturing notification (PMN) review before commercial manufacture or import. This review can result in consent orders requiring written agreements that extend restrictions to downstream recyclers. Some orders restrict recipients' ability to transfer material containing the covered CAM to another domestic processor, impeding the movement of spent batteries and black mass through the recycling supply chain. These restrictions can leave recyclers with few commercially viable outlets beyond export or disposal. When export is unavailable, because of BIS' directive allocation order restricting exports, landfilling may become the only practical option. This outcome undermines efforts to retain and recover critical minerals domestically. Certain consent order distribution restrictions remain in place until EPA finalizes a significant new use rule (SNUR), or modifies an existing SNUR, and the order's termination conditions are satisfied. Delays in SNUR rulemakings, which are all too common, prolong restrictions on domestic distribution of spent batteries and black mass that contain the specific CAM, in many instances making exporting the only economic option.

These regulatory hurdles together compound the financial and operational challenges of expanding domestic black mass recycling and refining capacity. Uncertainty about permitting timelines, storage requirements, and permissible domestics outlets for black mass make it more difficult to secure financing for new projects. These challenges are particularly pronounced where collection and shredding operations depend on downstream black mass processers and refiners to complete material recovery. Building a complete domestic lithium-ion battery supply

chain will require predictable permitting, harmonized regulatory treatment, and workable pathways for recovered materials to reach manufacturers, in addition to significant new investments in processing capacity.

Other Impediments to U.S. Capacity for Black Mass Recycling

Time to Build Capacity: Even as manufacturers seek to expand domestic black mass recycling, new capacity cannot be developed overnight. Industry experience indicates that constructing individual recycling facilities takes approximately 18 to 24 months minimum, while developing sufficient domestic capacity across the broader black mass recycling supply chain would require three to five years. More broadly, permitting processes in the U.S. have severely lagged behind our international partners and competitors. Currently, it takes 80% longer to get a permit authorized for a manufacturing project or facility in the U.S. than it does in any other free market economy. If the administration is committed to boosting domestic recycling and processing of these materials, policymakers must first institute durable and workable permitting reforms that will make it more cost effective and streamlined to invest in the construction and expansion of operations.

Building viable recycling operations also requires significant capital investments in specialized processing equipment, as well as transportation infrastructure, certifications, permitting, collection networks, and distribution mechanisms. These economics can be particularly challenging where battery recycling constitutes only a limited portion of a recycler's overall business. More complex recovery processes can require substantial additional investment, further raising the threshold for companies considering new capacity.

These constraints reinforce the need for a transitional timeframe that reflects the realities of building a domestic recycling ecosystem. Policies intended to strengthen U.S. mineral recovery should prioritize improving the conditions for investment and expanding commercially viable processing capacity, rather than restricting existing markets before that capacity is available.

Manufactures Depend on Access to Trusted Export Markets for Black Mass

While U.S. capacity to recover and process scrap containing critical minerals should be increased, **restricting manufacturers' access to trusted export markets for black mass is not an effective substitute for the investments needed to achieve that goal.**

Complementary Markets: Manufacturers in the U.S. rely on facilities in trusted markets abroad to undertake subsequent processing and refining steps that are not available domestically at the necessary scale and quality. Domestic recyclers collect and separate black mass materials in the U.S. before exporting to Japan, South Korea, and several European allies for further processing and refining where the U.S. has significant capability gaps, including in metal salt refining and pCAM.

U.S. trade data further illustrates the significance of trusted partners for black mass processing and refining. In 2025, the U.S. exported approximately $156 million worth of material classified under the three HTS codes identified by BIS as covering black mass.[1] Shipments to Canada,

[1] U.S. Census Bureau, USA Trade Online, accessed October 16, 2026.

Mexico, Japan, and South Korea account for nearly 100% (99.96%) of these exports, underscoring the outsized significance of trusted, cross-border partners for black mass exports.

The Risk of Stranding Inputs: Rather than a leakage of valuable U.S. critical minerals, U.S. exports are an integral component for functioning global value chains that enable U.S.-generated material to achieve higher value recovery and reintegration into battery material manufacturing. The domestic sales requirements on black mass would impede these critical flows and strand high-value material where reliable and at-scale processing capacity does not yet exist. BIS should distinguish between dependence on countries of concern and commercially desirable trade with trusted partners that share U.S. economic and national security objectives.

Trade with Trusted Partners: In lieu of a blanket domestic sales requirement**, the U.S. should work with allies and trusted partners to establish a preferential framework for trade in black mass.** This collaboration should preserve access to advanced recycling and refining capacity for black mass in markets such as Europe, Japan, and South Korea while applying tighter controls to countries of concern. It would also enable manufacturers in the U.S. to leverage international expertise, technology, and investment as they build additional domestic recovery and recycling capabilities for black mass.

A trusted partner approach would also strengthen the resilience of U.S. supply chains by preserving reciprocal access to international markets for black mass at a time when **proliferation of export restrictions risks further fragmenting markets for recyclable materials**. U.S. policy should seek to create a larger and more resilient trusted market in which black mass, processing technologies, and investment can move between reliable partners while creating stronger incentives to expand processing and refining capacity in the U.S. over time.

Classifications for Black Mass Lack Necessary Specificity

Effective policy to enhance domestic capacity for mineral recovery and recycling requires clear and accurate scoping of any rulemaking. In this case, the temporary final rule lacks the specificity needed to clarify the types of black mass impacted by the requirements.

Conflicting Definitions: Manufacturers navigate differing definitions and regulatory treatment of recycled battery materials across federal and state regimes due to the lack of a single, harmonized federal definition of black mass. These challenges are compounded by the continued evolution of battery chemistries and recycling technologies, resulting in dynamic characteristics and compositions of black mass. Clear, consistent definitions across the federal regulatory landscape is essential to give manufacturers and recyclers certainty regarding how recovered and recycled products will be treated as they are reintegrated into the supply chain.

Federal agencies have previously used the term “black mass” in guidance and program materials but lack a single federal definition. For example, the EPA’s guidance under RCRA describes black mass as “the filter cake-like mixture of anode and cathode materials produced when lithium batteries are shredded.”[2] BIS’s new definition is broader in formulation, extending to any shredded lithium-ion battery scrap containing specified electrode materials or other residual battery cell materials. The NAM encourages BIS to coordinate with EPA and other relevant agencies to develop a clear, process-based definition that can be administered consistently across trade, environmental, and recycling regimes.

[2] U.S. Environmental Protection Agency, Lithium-Ion Battery Recycling Frequently Asked Questions, July 30, 2026.

Overly Broad HTS Classifications: The three HTS classifications for black mass subject to domestic sales requirements (8549.13.00.00, 8549.14.00.00, and 8549.19.00.00) are also significantly broader than what BIS seeks to regulate. Per the ruling, materials classified under these codes that do not meet the rule's definition of black mass are outside the scope of the order. These tariff classifications cover broader categories of waste and scrap from batteries and electric accumulators, creating uncertainty for manufacturers and recyclers seeking to determine which shipments would be subject to the restrictions.

As BIS evaluates the temporary final rule, in addition to withdrawing the requirements for black mass, the agency should provide greater clarity regarding the materials covered by the requirements for as long as they remain in effect, and work with relevant federal agencies to promote consistent treatment of recycled battery materials across regulatory bodies. In crafting harmonized definitions, recoverable critical minerals and materials should also be treated as valuable inputs into manufacturing supply chains, not simply as waste. Greater regulatory precision and harmonization would help mitigate disruptions in the recovery and movement of these materials through domestic and trusted international recycling supply chains.

Empowering Domestic Capacity for Recycling Mineral Scrap

The NAM urges BIS to withdraw the temporary domestic sales requirement for black mass and undertake differentiated assessments of market conditions for other recoverable critical minerals and materials. Simultaneously, we encourage the administration to consider policies that increase the domestic capacity for recycling scrap containing critical minerals, a necessary precondition for success.

Investment is Key: Manufacturers share the administration's objective of strengthening U.S. mineral security and expanding domestic recovery and recycling capabilities. The federal government should pursue policies that create the conditions for commercially viable investment in recovery, sorting, processing, and refining, recognizing that recoverable mineral materials are valuable manufacturing inputs.

Differentiate Among Scrap Markets: The market dynamics for black mass recycling do not uniformly apply across other critical mineral-related scrap markets. In considering policies to address other material streams, the federal government should evaluate the unique market conditions and infrastructure needs associated with each type of critical mineral scrap, including the availability and geographic distribution of domestic collection, recovery, sorting, and processing capacity; transportation and energy costs; the technical and economic feasibility of recovering individual minerals; availability of skilled labor; current and anticipated domestic demand; and the size and characteristics of market participants.

These considerations are particularly important for the many small business recyclers that operate on tight margins and have less ability to absorb sudden changes in commodity prices, transportation costs, or market availability. The Department should also examine levels of investment across the scrap ecosystem, including capacity building by domestic manufacturers that rely on critical material inputs in their production processes. A material-by-material assessment process would enable government policy to address actual market dynamics and domestic manufacturing capacity rather than applying a single intervention across fundamentally different recycling markets.

Domestic Policies to Boost the Recycling Ecosystem: The U.S. should simultaneously pursue affirmative policies to improve the commercial viability of domestic mineral recovery and recycling, many of which would fall outside of the jurisdiction of BIS. This includes the policies to address the storage and handling constraints and regulatory inconsistencies for processing identified earlier, along with other regulatory hurdles specific to each mineral scrap market. In addition, the administration should consider methods to improve collection infrastructure and urban mining and prioritize investments in advanced sorting technologies and capacity. Policymakers should also explore expanding incentives, like the 45X tax credit and financing facilities through the Department of Energy's Office of Energy Dominance Financing, for new and innovative processing and refining technologies, including technologies that can economically recover valuable materials. Manufacturers could also benefit from increased support for recovered-material testing, qualification, and offtake pathways for recovered inputs to reach viable markets.

Expand Incentives: Building on the above, federal policy should also examine opportunities to strengthen existing manufacturing incentives for mineral recovery and processing. Section 45X, for example, currently provides the Advanced Manufacturing Production Credit for applicable critical minerals produced in the U.S. This strategic tax incentive is designed to act as a bulwark against China's manipulation of the market. The 45X credit could be expanded to include sorting technology for critical minerals. The administration should work with Congress to strengthen and expand this key manufacturing incentive to protect both national and economic security. Any new expansion of the 45X incentive should remain targeted toward demonstrable investments and commercially viable operations that expand durable domestic capabilities.

Focus on Recycling: Strengthening the front end of the recycling ecosystem is equally critical. Recoverable materials cannot support U.S. manufacturing if they are never collected, identified, and efficiently separated from the waste stream. Policymakers should advance measures that improve public participation in recycling, increase collection and recovery rates, and accelerate deployment of sorting technologies. EPA's April 2026 Battery Collection Best Practices Report to Congress, for example, specifically examines challenges to effective collection and best practices for governments and collection sites, illustrating the importance of public participation and collection infrastructure within the broader recycling ecosystem.[3] Policymakers have also proposed evaluating material lost through landfilling alongside improvements in collection and sorting technologies.[4] Other complementary measures proposed to strengthen domestic recycling markets include tax incentives for recycling infrastructure and grants to expand recycling access, alongside improved recycling data.[5]

Close Workforce Gaps: Innovation in critical mineral recycling and processing also requires highly skilled workers at a time when manufacturing is facing more than 500,000 open jobs across the sector. As such, the NAM encourages the U.S. government to partner with industry on workforce training and upskilling solutions to close the skills gap in these industries.

Consider the Role of International Markets: The Department should take into account the nature of international trade flows in each specific critical materials sector. Some manufacturers rely on integrated cross-border recycling markets to access processing and refining capabilities abroad, while others may benefit from foreign markets as sources of recoverable materials that can feed U.S. operations. For certain recoverable materials, facilitated preferential trade with

[3] U.S. Environmental Protection Agency, Battery Collection Best Practices: Report to Congress, April 2026.
[4] H.R. 7992, CANS Act of 2026.
[5] H.R. 4466, CIRCLE Act; S. 351, STEWARD Act of 2025.

trusted partners will increase the pool of materials available to U.S. manufacturers while reducing vulnerabilities associated with countries of concern.

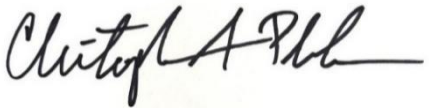
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The NAM appreciates BIS's consideration of the information in these comments. We look forward to continuing to work collaboratively with BIS to develop effective, sensible policies that secure our nation's domestic capacity for mineral recovery and recycling while promoting manufacturing growth in the United States.

Sincerely,



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