

POLYMET ALLOYS, INC.
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October 04th, 2023

To:

Department of Commerce

Bureau of Industry and Security

Subject: BIS-2023-0018 - Request for Public Comments on the Proposed Fiscal Year 2025 Annual Material Plan from the National Defense Stockpile Market Impact Committee.

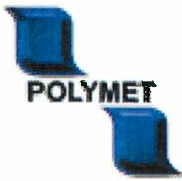
Polymet Alloys, Inc. is a U.S. company based in Birmingham, Alabama, who shares common ownership with Rima Industrial S/A, a Brazilian company. RIMA has been producing Magnesium and Magnesium alloys since 1980 and it is the only primary magnesium producer in the southern hemisphere. For more information on Rima please visit their website at www.rima.com.br. Polymet is Rima's sales division in North America.

It's publicly known that the American magnesium market has been facing challenges as a result of US Magnesium, the only US magnesium producer, declaring force majeure and stopping magnesium production in 2021.

One of the materials listed in the proposed fiscal year 2025 annual materials plan is magnesium. Polymet and RIMA support the Proposed Fiscal Year 2025 Annual Material Plan for magnesium, and remain at your disposal for further discussion as a potential supplier.

For your reference, RIMA is recognized by the Brazilian Defense Authority as an industry of defense.

Sincerely yours,



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Erica.ODell@sglcarbon.com

Charlotte, October 5th, 2023

To: U.S. Department of Commerce

Submitted Via: Regulations.gov

Re: Bureau of Industry and Security request for public comments regarding potential market impact of the proposed FY 2025 Annual Materials Plan for the National Defense Stockpile, per docket 230817-0198

Bureau of Industry and Security

Office of Strategic Industries and Economic Security

Attn: Marina Youssef and Katherine Reid

T: +1 202 482-3504

MIC@bis.doc.gov

Respondent

SGL Carbon, LLC ("SGL")

10715 David Taylor Drive, Suite 460

Charlotte, NC 28262

Dear Katherine Reid,

As members of the National Defense Stockpile; carbon, graphite and composite fibers are important goods for the security, prosperity and the development of novel technology in The United States of America ("US"). Below you will find information about our company, graphite manufacturing capabilities, and market impact concerns for the administration to consider.

Information Regarding the Proposed Strategic Stockpile Buy

SGL has reviewed the proposed strategic stockpile buy and has found that Iso-Molded graphite ("ISO") is on the buy plan at a quantity of 1,700 Metric Tons ("MT").

PROPOSED FISCAL YEAR 2025 ANNUAL MATERIALS PLAN

Material	Unit	Quantity	Footnote
Iso-Molded Graphite	MT	1,700

SGL Information

SGL Carbon, LLC ("SGL") is a Nevada limited liability company, headquartered in Charlotte, North Carolina and is the successor in interest to Great Lakes Carbon Corporation, incorporated in Delaware in 1939. SGL and its U.S. subsidiaries have manufacturing facilities in St. Mary's, PA; Sinking Spring, PA; Morganton, NC; Strongsville, OH; Valencia, CA; Arkadelphia, AR; and Moses Lake, WA. SGL Carbon ("SGL Carbon") is headquartered in Wiesbaden, Germany and is one of the world's leading manufacturers of products made of carbon, graphite, and composite materials for industrial, semiconductor, automotive, energy and aerospace applications. Information regarding SGL Carbon and its products can be accessed at www.sglcarbon.com.



SGL's business lines are organized under four different **Business Units**:

(CF) Carbon Fibers – precursor, fiber, textile, pre-impregnated and thermoplastic material

(CS) Composite Solutions – carbon and glass fiber components

(GS) Graphite Solutions – carbon and graphite materials, machined and SiC coated components

(PT) Process Technology – tailor-made capital equipment for corrosive chemical applications

SGL Production Information

Via our vast network of global sites, equipment capabilities and product know-how SGL is a manufacturer of various grades of graphite materials, including ISO. SGL distributes these materials in various ways including to other manufacturers utilizing our products as raw material, as well as providing finished and semi-finished components to a diversified portfolio of applications including the electronics, chemical, industrial, and defense industries.

Production lead times are significant and inhibitive of manufactures ability to be agile in responding to customer requirements and evolving demands. For example, the process to make a one graphite block has a production lead-time of approximately six months from raw materials to finished good. This cycle stretches even longer when the graphite material is transported to a finishing facility for further processing into a specialty good. Raw material and graphite block demand planning begins over one year before a final finished good would be available for shipment to a customer.

SGL's Comments Regarding Market Impact from this Strategic Purchase

Graphite demand has historically been driven by investment projects and the subsidization of emerging technologies. The current market demand specifically for ISO is very tight. End user demand for this product type far exceeds global production capacity. The proposed buy of 1,700 MT of material is a large portion of the global market capacity and if taken out of the market to quickly can create a large gap in the supply to critical priorities of the current administration and impact the national security objectives of the United States ("US").

The administration priorities that we see being impacted include the electrification of the US transportation network and the need to domestically manufacture advanced semiconductor chips in the US, efforts of the Bipartisan Infrastructure Law and the CHIPS Act. Both of these initiatives require graphite in various manufacturing processes necessary to create an electric vehicle and semiconductor chips.

For example, the Czochralski (CZ) method of crystal growth is used to achieve single crystals of semiconductor materials. The method involves using an industrial furnace to melt silicon material in a crucible to extract a large single-crystal cylindrical ingot from the melt. In this method, a seed crystal is lowered into the melt to touch the top of the melted material, which causes the melt to go into equilibrium before the seed is slowly raised out of the melt. As it is raised out of the melt a crystal forms downward. In this process graphite components are used as the seed chuck, heat and corrosion resistant crucible, heater, heat shield and insulation. This silicon ingot is then sliced into individual wafers which are used as a base to make a semiconductor chip. During the chip manufacturing process, graphite is again used as the susceptor for the wafer to sit on in this manufacturing process as well as chamber components required to operate the machine.

Graphite is also used in various defense applications and increases to demand are very hard to plan for due to the demand being program based. If the program is not funded, then demand drops off and therefore graphite needs to be allocated elsewhere or only actually manufactured at time of order.

Although manufacturing capacity investments are on the horizon, they are capital intensive and the continued cost to maintain and repair equipment, is equally as high. These costs include routine maintenance of electrical and mechanical components by site maintenance departments and the cost to



seek expert support in machine breakdowns during the manufacturing process. This support is often performed at a premium because repairs are critical to resume manufacturing.

Conclusion

The FY2025 strategic stockpile buy plan requirements could breakdown the strategic alliances being created to full fill the objectives mentioned above and could leave a manufacturer out of business once the strategic buy is over. Although SGL is thrilled that the administration is creating a focus and priority on reshoring manufacturing in the US and especially, the critical need to secure the EV and semiconductor supply chain, we are urging you to stretch out this strategic buy over time in order to allow graphite manufacturers to honor their current commitments and create long term supply into these industries.

A handwritten signature in grey ink that reads 'Erica J. ODell'.

Thank You,

Erica ODell, MBA
Senior Manager Compliance



October 5, 2023

Ms. Marina Youssef
Office of Strategic Industries and Economic Security
Bureau of Industry and Security
U.S. Department of Commerce
1401 Constitution Ave NW
Washington, DC 20230

Re: Market Impact Committee Notice of Inquiry on FY2025 Annual Materials Plan

Dear Ms. Youssef,

Noveon Magnetics, a U.S.-based producer of neodymium-iron-boron (Nd-Fe-B) magnet materials, products, and assemblies, is pleased to respond to the Market Impact Committee's request for information on the effects of the proposed actions by the National Defense Stockpile pursuant to the Annual Materials Plan for Fiscal Year 2025. In particular, Noveon strongly supports the potential acquisition of up to 450 metric tons of NdFeB Magnet Block, which could have a positive effect on the U.S. rare earth market and industry.

As the committee is no doubt aware, until recently, the U.S. had no domestic NdFeB production capability. All NdFeB magnets and magnet blocks were imported, possibly from Japan but predominantly from China. Noveon changed this dynamic by establishing a full-scale production facility in San Marcos, TX, that is currently scaling to 2,000 metric tons per year. Noveon is in production and has established relationships within the commercial and defense industrial base to ensure that this capability and capacity is sustainable and in line with U.S. industrial requirements.

The government supported the establishment of Noveon's facility through a \$28.8 million Defense Production Act Title III investment in 2020 (under Noveon's previous name of Urban Mining). At that time, the Defense Production Act Investments office also considered a stockpiling agreement with Noveon to stabilize the market; that idea was ultimately abandoned as being out of scope and a better fit for the National Defense Stockpile. We are therefore pleased to see the National Defense Stockpile suggest a stockpile of NdFeB magnet block.

Noveon can demonstrate that NdFeB magnet block is the most viable step in the supply chain for the National Defense Stockpile to intervene, especially since there is no commercially operational metallization and alloying capabilities that operate on a China independent supply chain at the moment. Acquisition of a limited amount of magnet block material will create significant benefits for national security. In particular, Noveon's customer bases indicates that

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the acquisition of a limited number of types of magnet block will support an overwhelming majority of Department of Defense requirements. In the situation where we will need tap into a defense stockpile, magnet block only has to be cut, machined, and finished to go from block to finished magnet, a relatively short process compared to the overall time required to produce a magnet from ore, oxides, metals, etc. 450 tons of magnet block at the proper specifications would therefore be sufficient to supply the U.S. military in a timely manner in most surge scenarios for months or even years.

By contrast, acquiring finished magnets would lead to a stockpile that would be linked to specific systems. Unexpected requirements, or emerging requirements, would necessitate the recycling of these magnets into other forms, which would add requirements for time and labor in the magnet industry at a time where other surge requirements may conflict with those needs. On the other hand, acquisition of further upstream materials would require additional processing to reach the magnet block stage, processing that would take additional time and expense during a potential emergency scenario.

Also, acquisition of this material from domestic sources is the best way to send a market signal that the United States government stands behind its prior investments and wants to support operating businesses through continued use of secure supplies of critical rare earth components. We note that the National Defense Stockpile manager has been given offtake authorities with the explicit reasoning from Congress that such authorities should be used to maintain a defense industrial base within the United States and avoid the decimation of the manufacturing industry that happened in the 1990s and 2000s.

Noveon would be pleased to provide more information, including specifics about the types of magnets likely needed by the Department of Defense, in a business confidential setting. We encourage the Market Impact Committee to approve the acquisition of up to 450 tons of NdFeB magnet block as the most cost-effective way to support Department of Defense requirements for rare earth permanent magnets while also supporting an emerging domestic industry.

Sincerely,
Peter Afiuny
Chief Commercial Officer
Noveon Magnetics

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