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Connecting Innovation to Opportunities

To: Department of Defense Leadership
From: Military Power Sources Consortium (MPSC)
Date: February 26th, 2024

Subject: Domestic Graphite Production for Lithium-ion Batteries

Graphite is a critical component in lithium-ion battery manufacture, the mining and processing of which is virtually 100% controlled by China today. The United States' dependence on foreign sources of graphite threatens lithium-ion battery supply chain security. Domestic processing of graphite, whether mined in North America or in Ally nations, is imperative to remove dependence on FEOCs but is challenging without alignment among US industry and government.

Problems to Overcome

- Overcoming the huge competitive advantage that China has in the processing of graphite due to low labor costs, lack of environmental restrictions and supply chain integration.
- Establishing mining of graphite domestically can take a decade or longer due to permitting.
- Tariff exceptions to US-companies for FEOC-sourced material destroys the business case for natural graphite mining and refining in the US.
- Ally nations with natural graphite resources want to capture maximum processing value prior to shipping materials to the US.
- Establishing/increasing domestic processing of graphite can take over two years due to manufacturing equipment lead-times.
- Lack of consistent government funding, tax credits, policies, and tariffs to create and maintain domestic graphite production.

Recommendations from leading US graphite producers to accelerate domestic production:
The MPSC recently hosted industry leaders to consolidate recommendations for accelerating and securing domestic production. These recommendations are as follows:

Recommendations that can implemented by DoD:

- Through the use of tools such as Title III and DPA, prioritize technologies that improve yields, enable recycling, reduce emissions, and support flexible raw material inputs. Avoid further investments in polluting processes, or business plans without attention to pollution.
- Provide support to business cases that encourage commercial investment in pilot line production capabilities to reduce scale up risk and fulfill DOD demand volumes.
- Mandate the use of domestic sources for all DoD procured lithium-ion batteries.
- Align efforts with those undertaken by DOE.

Recommendation on actions that should be supported by DoD:

- Ensure consistent trade policies and tariffs without any exceptions.
- Expand incentives, production credits, flexible R&D grants, and pilot line investments. Alignment is needed between DoD risk tolerance and industry requirements.
- Standardize performance specifications, not material specification, to enable supply chain flexibility. Avoid policy changes that undermine investment certainty.

The DoD's demand can be met near-term by a single pilot line. But with urgent, aligned action across trade, policy, technology, and investment, the DoD can accelerate the transition to domestic graphite production and strengthen national security.

For further information or any questions related to this effort, please reach out to one of the undersigned.

Sincerely,

Marc Gietter
President, MPSC
mgietter@milpwr.org

James Trevey,
Vice President, MPSC
jtrevey@milpwr.org