Titanium Sponge Working Group: Ensuring Access to Titanium Sponge in the United States

Executive Summary

On February 27, 2020, then President Trump directed the establishment of the interagency Titanium Sponge Working Group (TSWG) in order to address the United States' severe reliance on imported sources of titanium sponge.[1] Titanium sponge is a critical input needed to produce titanium metal, which is necessary for many defense and industrial applications, including aerospace applications. Preserving the health and competitiveness of the U.S. titanium metal and related aerospace industries is imperative to protect the national security. Ensuring access to the critical input of titanium sponge, therefore, is an essential step in protecting the national security.

Since the establishment of the TSWG, the U.S.'s reliance on imported titanium sponge has increased from 68 percent to 100 percent. This complete reliance on foreign sources of titanium sponge has emphasized the need for the TSWG to recommend measures to ensure access to titanium sponge in the U.S. for defense and critical industries in the event of an emergency.

The TSWG analyzed the markets of titanium sponge, titanium metal, and titanium-embedded aerospace products in order to propose recommendations that can ensure access to titanium sponge in the U.S., as well as promote the long-term health, competitiveness, and sustainability of the U.S. titanium and aerospace industries. The TSWG also considered the multiple ongoing actions across the U.S. government related to secure supply chains and critical and strategic materials in the formulation of its recommendations.

[1] Trump, Donald, J., "Memorandum on the Effect of Titanium Sponge on the National Security," February 2020, https://trumpwhitehouse.archives.gov/presidential-actions/memorandum-effect-titanium-sponge-imports-national-security/

See Appendix A.

The recommendations outlined in this report will help protect U.S. titanium and aerospace supply chains in the short-term, and ensure these industries remain healthy and competitive in the long-term. The TSWG's recommendations include proposals for:

1. Adding titanium materials to the National Defense Stockpile;
2. Exploring the feasibility, benefits, and consequences of restructuring titanium-related product tariffs;
3. Promoting and funding recycling programs, innovation, and technological advancements in the titanium metal and aerospace industries;
4. Monitoring the availability of idle domestic titanium sponge capacity for use in the event of a sustained disruption to imports; and
5. Maintaining strong relationships with Japan and other allies with titanium sponge capacity.

Implementing these recommendations will promote economic competitiveness, protect the national security, and will ensure access to titanium sponge in the United States in the event of an emergency.

Russia's further invasion of Ukraine in 2022 has caused even further upheaval in the titanium and aerospace industries. Though this report and recommendations were drafted primarily in 2021, the TSWG incorporated some additional analysis on the impacts of this invasion given Russia's major role in supplying titanium products to commercial U.S. companies. This additional analysis is not intended to change the analysis or recommendations outlined in the TSWG's report but should provide additional necessary context for policy makers to make informed decisions about how to ensure access to titanium sponge in the United States.

Introduction and Establishment of the Titanium Sponge Working Group

On March 4, 2019, in response to an application from a company in the domestic titanium industry, the Secretary of Commerce (the Secretary) initiated an investigation under Section 232 of the Trade Expansion Act of 1962, as amended (19 U.S.C. 1862), to determine the effects on the national security from imports of titanium sponge. The Secretary submitted the completed report and recommendations to the President on November 29, 2019. On February 27, 2020, the President issued a memorandum concurring with the findings within the Secretary's report on the investigation, including that titanium sponge imports threaten to impair U.S. national security and that actions to adjust imports under Section 232 are not advisable.[2] The President set forth the following measures to address the threatened impairment of the national security:

1. The Secretaries of Defense and Commerce will form a working group, along with the heads of other executive departments and agencies as the Secretaries deem appropriate, and invite their counterpart agencies in Japan to participate in discussions with the working group in order to agree upon measures to ensure access to titanium sponge in the United States for use for national defense and critical industries in an emergency.
2. The Secretary of Defense is directed to take all appropriate action, including using his delegated authorities under the Defense Production Act (50 U.S.C. 4501 et seq.) and seeking new appropriations as necessary, to increase access to titanium sponge for use for national defense and critical industries and to support domestic production capacity for the production of titanium sponge to meet national defense requirements.

[2] Trump, Donald, J., "Memorandum on the Effect of Titanium Sponge on the National Security," February 2020, https://trumpwhitehouse.archives.gov/presidential-actions/memorandum-effect-titanium-sponge-imports-national-security/

See Appendix A

The TSWG, co-led by the Secretaries of Commerce and Defense as designated by the President's memorandum, began meeting in July 2020. The TSWG consisted of the following permanent members: the Departments of Commerce, Defense, Interior, and State. The TSWG was joined by rotating members from other U.S. Government agencies as needed and hosted a meeting with Japanese counterpart agencies in May 2021, including Japan's Ministry of Economy, Trade, and Industry.

This report details the TSWG's agreed-upon recommendations to ensure U.S. access to titanium sponge for national defense and critical infrastructure purposes, in addition to current and projected U.S. industrial requirements.

U.S. Titanium Sponge and Titanium Industry Background

Titanium metal is utilized in many aerospace and industrial applications due to its resistance to corrosion and high strength-to-weight ratio. Approximately 80 percent of titanium metal produced in 2019 was utilized in aerospace applications, with the remaining 20 percent used in the chemical and medical industries, among others.[3] Titanium metal is produced by first converting titanium ore into titanium sponge. Titanium sponge, in addition to titanium scrap, can then be melted to produce titanium melt products, including titanium ingot, slab, and other semi-finished downstream titanium products.

Premium quality titanium sponge is required for high-performance aerospace applications, including rotating parts of turbine engines and some structural parts, while standard grade sponge can be used for static aerospace structural parts. Titanium scrap is utilized as a

[3] U.S. Department of the Interior, U.S. Geological Survey, "Titanium and Titanium Dioxide Mineral Commodity Summary (2020)," 2020, https://pubs.usgs.gov/periodicals/mcs2020/mcs2020-titanium.pdf

feedstock source for titanium melt products in addition to or in lieu of titanium sponge, though some demanding applications (for example, engines) preclude the use of titanium scrap.

Titanium, and consequently titanium sponge, is essential to U.S. defense and critical infrastructure needs. Titanium is utilized in the manufacturing and maintenance of U.S. defense systems, including aircraft frames, jet and helicopter engines, satellites, ships, submarines, and ground vehicles. Titanium sponge also supports 15 of the 16 critical infrastructure sectors identified by the Department of Homeland Security, including sectors such as petrochemicals, energy systems, medical applications, transportation systems, water systems, and commercial airframe and aircraft engines.[4] Therefore, maintaining secure sources of titanium and titanium sponge, in addition to supporting the domestic titanium industry, is essential to the U.S. national security.

The U.S. currently maintains approximately 25 percent of the world's titanium melt capacity, the second highest capacity in the world behind China (33 percent), and ahead of Russia (15 percent).[5] Though China's melt capacity is larger than U.S. capacity, China currently reserves the majority of its melt products to meet domestic consumption needs. The U.S. titanium melt industry is healthy and competitive, in general, and U.S. companies are industry leaders in melt and semi-finished titanium products, serving both domestic and non-U.S.

[4] U.S. Department of Homeland Security, Cybersecurity, and Infrastructure Security Agency. Presidential Policy Directive 21 (PPD-21): Critical Infrastructure Security and Resilience. https://www.cisa.gov/critical-infrastructure-sectors

[5] U.S. Department of Defense, Office of Industrial Policy, October 30, 2020 Presentation to Titanium Sponge Working Group

industries. Though the U.S. is a net exporter of titanium ingot, it is highly reliant on imports of titanium sponge to satisfy feedstock needs.[6]

Four U.S. companies rely on titanium sponge and scrap feedstock for production of titanium melt products at domestic facilities: Titanium Metals Corporation (TIMET), Allegheny Technologies Incorporated (ATI), Howmet Aerospace Inc., and Perryman Company.[7] Despite the historic health of the downstream U.S. titanium industry, the increasing reliance on imported sponge feedstock over the years highlights the industry's growing supply chain vulnerabilities.

The Section 232 report submitted by Secretary Ross found that in 2018, the U.S. imported approximately 23,400 metric tons of titanium sponge, which accounted for 68 percent of domestic demand for sponge. Domestic titanium sponge production and industry inventories accounted for the remaining 32 percent of U.S. titanium sponge consumption. All domestic production was from TIMET's single facility in Henderson, Nevada. The Section 232 Investigation into titanium sponge imports was initiated after the Department of Commerce accepted an application from TIMET.

TIMET closed its Henderson, Nevada sponge plant in July 2020, two years ahead of the aging facility's end of useful life, increasing the U.S.'s reliance on imported titanium sponge

[6] U.S. melt producers are also highly reliant on imports of titanium ore to satisfy operations, and domestic production of titanium mineral concentrates is limited across two companies' facilities in Florida, Georgia, and South Carolina. However, domestic reserves of titanium minerals are significant (though not well quantified), and approximately 90% of titanium ore consumption is attributable to domestic titanium dioxide pigment producers.

U.S. Department of the Interior, U.S. Geological Survey, "Investigation of U.S. Foreign Reliance on Critical Minerals—U.S. Geological Survey Technical Input Document in Response to Executive Order No. 13953 Signed September 30, 2020," December 2020, https://pubs.usgs.gov/of/2020/1127/ofr20201127.pdf

[7] U.S. Department of Commerce, "The Effect of Imports of Titanium Sponge on the National Security," November 2019, https://bis.doc.gov/232

from 68 percent to 100 percent. This increased reliance has underscored the importance of enacting measures to ensure access to titanium sponge in the event of an emergency.

Current and Future Titanium Industry Landscape

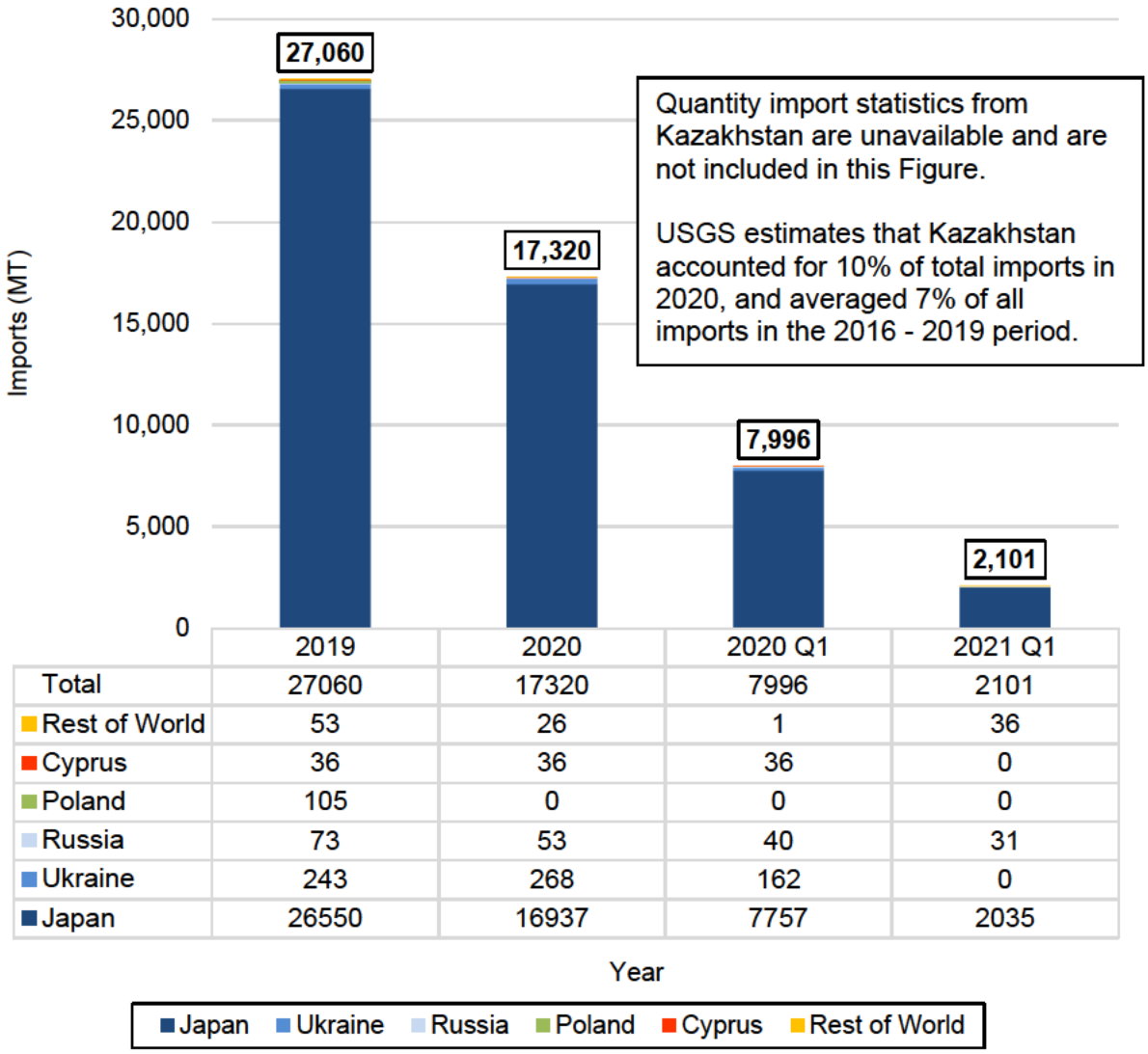
Due to the high capital expenditures and related investments required to build, operate, and maintain capabilities, titanium sponge production is concentrated in a limited number of countries. Even fewer countries have facilities qualified to make the premium quality titanium sponge needed for high performance aerospace applications. China, Japan, Russia, and Kazakhstan have been the top four producers since 2010, and all but China are qualified by commercial consumers of sponge to make premium quality sponge.

The Section 232 Investigation into titanium sponge imports, completed in November 2019, found that the availability of low-priced titanium sponge imports, as well as increasing usage of even lower-priced domestic and imported titanium scrap, discouraged the costly recapitalization and modernization of the two U.S. titanium sponge production facilities. These issues, coupled with recent impacts from COVID-19-related reductions in aerospace demand, continue to thwart investment in domestic titanium sponge production.

The global titanium industry has been significantly impacted by the COVID-19 pandemic since early 2020. The health of the global titanium metal industry strongly depends on aerospace demand, which accounts for approximately 80 percent of total titanium metal demand. The historic reductions in aerospace demand because of the COVID-19 pandemic have caused increases in sponge and melt product inventories, idle sponge and melt plant capacity, and workforce reductions. Most notably, these demand shocks caused the last remaining domestic producer of titanium sponge to shutter its sponge operations two years ahead of its scheduled end of useful life.

Since the establishment of the TSWG in February 2020, global trade and consumption of titanium sponge, scrap, and melt products have decreased considerably due to the ongoing impacts from COVID-19. U.S. consumption of titanium sponge and scrap imports from 2019-2021 (Q1) are seen in Figures 1 and 2.

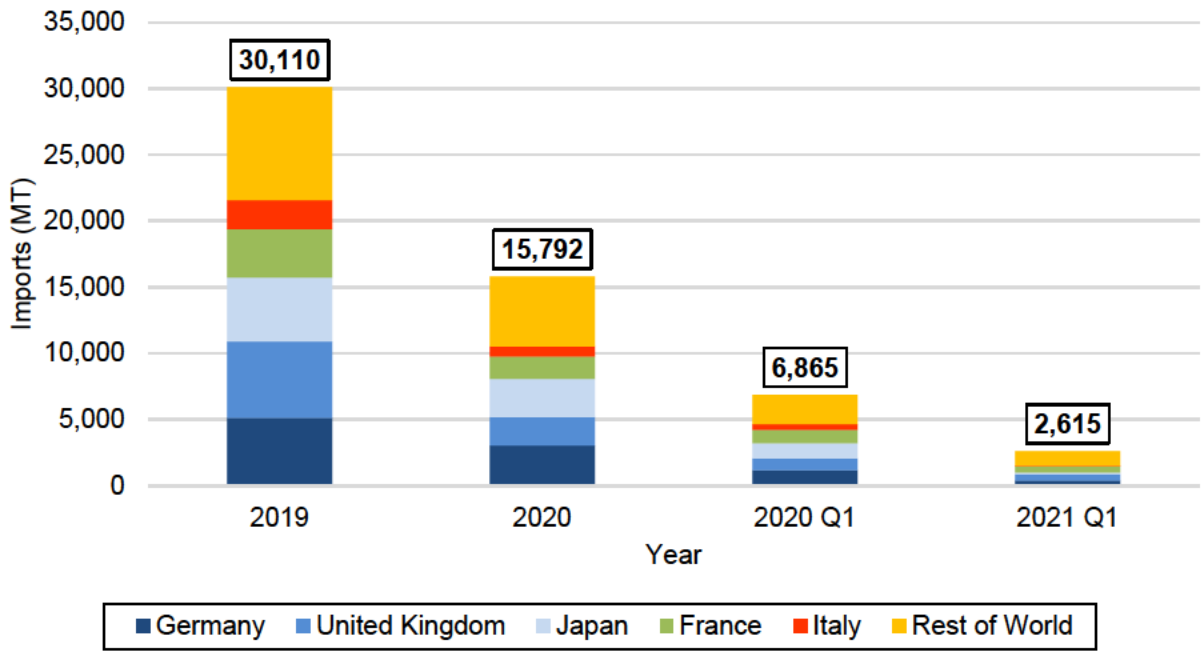
Figure 1. – U.S. Imports for Consumption of Titanium Sponge (Quantity, 2019-2021)



	2019	2020	2020 Q1	2021 Q1
Total	27060	17320	7996	2101
Rest of World	53	26	1	36
Cyprus	36	36	36	0
Poland	105	0	0	0
Russia	73	53	40	31
Ukraine	243	268	162	0
Japan	26550	16937	7757	2035

Source: U.S. Department of Commerce, Bureau of Industry and Security, U.S. International Trade Commission DataWeb (HTSUS 8108.20.0010) and U.S. Geological Survey - https://pubs.usgs.gov/periodicals/mcs2021/mcs2021-titanium.pdf

Figure 2. – U.S. Imports for Consumption of Titanium Scrap (Quantity, 2019-2021)



Source: U.S. Department of Commerce, Bureau of Industry and Security and U.S. International Trade Commission DataWeb HTSUS 8108.30.0000

*Quantity import statistics from Kazakhstan unavailable, though Kazkahstan is not considered a significant source of titanium scrap.

Japan has accounted for a significant portion of U.S. titanium sponge imports over recent years, averaging 90 percent of all imports from 2016-2019, and accounting for 88 percent of imports in 2020.[8] Japan's two titanium sponge producers, Toho Titanium Company, Ltd. and OSAKA Titanium technologies Co., Ltd., maintain 68,800 metric tons of titanium sponge capacity at three facilities in Japan.[9] Approximately half of the companies' titanium sponge production is consumed in Japan, and the remainder is primarily exported to U.S.-based consumers.

[8] U.S. Department of the Interior, U.S. Geological Survey, "Titanium and Titanium Dioxide Mineral Commodity Summary (2021)," 2021, https://pubs.usgs.gov/periodicals/mcs2021/mcs2021-titanium.pdf

[9] In October 2019, a joint venture between Saudi Arabia and Japan began to produce minimal amounts of titanium sponge at a plant in Yanbu, Saudi Arabia. In 2020, the 15,600 metric ton capacity plant produced approximately 500 metric tons of titanium sponge. The plant is a joint venture between Saudi firm Advanced Metal Industries Cluster and Japanese firm Toho Titanium.

Japan's two titanium sponge producers have been important trading partners with U.S. titanium melt companies for decades, providing high-quality and reliable titanium sponge to U.S. consumers, including the premium quality sponge needed for demanding aerospace applications. Preserving U.S. access to Japanese premium and standard quality titanium sponge is imperative to U.S. national security.

Prior to the COVID-19 pandemic, domestic titanium sponge production became increasingly difficult to sustain since low-priced, high-quality titanium sponge imports were available from long-term, reliable suppliers. Additionally, recent advancements in titanium melt technology have enabled the use of additional amounts of lower-priced titanium scrap as a feedstock source in lieu of titanium sponge, thereby decreasing demand for sponge and placing further downward pressure on sponge prices. COVID-19-related reductions in aerospace and titanium demand have caused an even further reduction in titanium sponge prices between 2019 and 2020 for most sponge producers (*see* Figures 3 and 4). Increases in sponge prices are seen in 2021 Q1, indicating that aerospace demand has begun a slow recovery.[10]

Figure 3. – U.S. Imports for Consumption of Titanium Sponge (Price $/Kg, 2019-2021)

Country	2019	2020	2020 Q1	2021 Q1
Cyprus	$14.55	$9.33	$9.33	-
Japan	$9.04	$8.90	$8.61	$10.31
Poland	$7.83	-	-	-
Russia	$8.25	$8.94	$10.00	$8.47
Ukraine	$9.47	$9.23	$9.30	-
Rest of World (ROW)	$11.53	$8.07	$12.81	$7.87
Weighted Average	**$9.05**	**$8.91**	**$8.64**	**$10.24**

Source: U.S. Department of Commerce, Bureau of Industry and Security and U.S. International Trade Commission DataWeb HTSUS 8108.20.0010
*Quantity import statistics from Kazakhstan unavailable

[10] Embleton, Ross, "Titanium: Prices continue strong performance in 2021," Roskill, 20 May 2021, https://roskill.com/news/titanium-prices-continue-strong-performance-in-2021/

Figure 4. – U.S. Imports for Consumption of Titanium Scrap (Price $/Kg, 2019-2021)				
Country	**2019**	**2020**	**2020 Q1**	**2021 Q1**
France	$4.18	$4.09	$3.82	$3.76
Germany	$5.71	$5.76	$5.93	$3.94
Italy	$3.70	$3.90	$3.74	$3.76
Japan	$4.57	$4.06	$3.98	$4.41
United Kingdom	$4.48	$4.32	$4.49	$3.36
ROW	$3.90	$4.35	$4.41	$3.59
Weighted Average	**$4.45**	**$4.51**	**$4.48**	**$3.68**

Source: U.S. Department of Commerce, Bureau of Industry and Security and U.S. International Trade Commission DataWeb HTSUS 8108.30.0000

*Quantity import statistics from Kazakhstan unavailable

Prior to COVID-19 disruptions, domestic titanium industry market conditions did not support the costly investment in domestic titanium sponge production. Domestic market conditions have only deteriorated since the pandemic's onset, and investment in domestic sponge capacity remains unlikely. This disincentive also exists abroad. Reductions in aerospace demand, low prices, and excess inventory for both titanium sponge and titanium melt products globally will only decrease U.S. and non-U.S. interest in investment in increasing titanium sponge capacity absent a significant rebound in aerospace demand.

The TSWG considered many factors influencing the domestic and global titanium sponge, scrap, and titanium melt markets, including the availabilities and sources of titanium sponge for use in domestic critical infrastructure and defense needs. These factors were closely monitored and considered over the course of the Working Group's meetings and deliberations on recommendations for ensuring access to titanium sponge in the event of an emergency.

Titanium Sponge Working Group Strategy

The President designated the Secretaries of Commerce and Defense as co-leads for TSWG implementation. The TSWG's purpose is to agree on measures needed to ensure access

to titanium sponge in the United States for use for national defense and critical industries in an emergency.

Beginning in July 2020, the TSWG held bi-weekly meetings and briefings with TSWG members, other U.S. Government stakeholders, titanium industry representatives, and representatives from Japan's Ministry of Economy, Trade, and Industry. The meeting topics covered a variety of aspects related to the U.S. and global titanium industry and helped to inform the TSWG's goal of determining recommendations for ensuring and/or increasing access to titanium sponge in the United States.

The establishment of the TSWG and the required report, along with the impact of the ongoing COVID-19 pandemic on domestic access to titanium sponge, justified a *Federal Register* comment period to address relevant TSWG questions, the answers to which assisted the interagency TSWG in deliberations regarding potential measures to ensure access to titanium sponge in the United States for use for national defense and critical industries in an emergency. Although members of the TSWG had significant expertise in titanium sponge, public input advanced a more informed body of recommendations to address U.S. reliance on titanium sponge imports.

On December 10, 2020, the Department published a *Federal Register* Notice soliciting comments from interested parties to include data, analyses, and information pertinent to the task of the TSWG (*See* Appendix B).[11] The Department specifically requested comments and information directed to the following criteria:

[11] Notice of Request for Public Comments by the Titanium Sponge Working Group. Federal Register, 85 FR 79464. 10 December 2020, https://www.federalregister.gov/documents/2020/12/10/2020-27119/notice-of-request-for-public-comments-by-the-titanium-sponge-working-group.

See Appendix B

(i) Potential measures to ensure access to titanium sponge in the United States for use for national defense and critical industries in an emergency, including, but not limited to, U.S. Government or industry investment in any portion of the U.S. titanium supply chain (including ore, sponge, semi-finished, and finished titanium products), stockpiling, multilateral negotiations, trade actions, and industrial bases analyses.

(ii) Potential measures to increase access to titanium sponge for use for national defense and critical industries and to support domestic production capacity for the production of titanium sponge to meet national defense requirements, including, but not limited to, U.S. Government or industry investment in any portion of the U.S. titanium supply chain (including ore, sponge, semi-finished, and finished titanium products), stockpiling, multilateral negotiations, trade actions, and industrial base analyses.

(iii) The structure of the global titanium sponge supply chain, including upstream (ore and other feedstock) and downstream (semi-finished and finished titanium products, increased usage of scrap) production steps, especially as the structure may impact recommendations targeting alternative parts of the titanium sponge supply chain in order to ensure and/or increase access to titanium sponge in the United States;

(iv) Pandemic-related impacts on the supply and demand of titanium sponge and other titanium products in the United States and abroad, (such as the decline in aerospace demand, prospects for recovery, maintaining essential workforce, or the recent idling of U.S. sponge operations);

(v) The role of non-U.S. titanium sponge production and distribution in ensuring and/or increasing access to titanium sponge and domestic titanium sponge capacity in the United States, including prospects for partnerships or joint ventures between U.S. and non-U.S. sponge producers, trade actions (e.g., modification of current global tariff/quota structures on titanium products), or non-U.S. investment in U.S. production capacity. Additionally, the impact of U.S.-reliance on single or sole source supplies of titanium sponge from non-U.S. sources; and

(vi) Prospects and risks of brownfield or greenfield investments in any step of the titanium supply chain, including upstream ore extraction and processing, intermediate titanium sponge production, or other downstream titanium production steps.

(vii) How great of a threat is cybercrime or malicious cyber activity to organizations in the titanium sponge supply chain? In addressing this question, commenters are encouraged to provide specific examples of how malicious cyber activity such as ransomware, distributed denial of service (DDoS) attacks, or malware have undermined or threatened production in the U.S. and/or the reliability of U.S. supply chain for titanium sponge. Additionally, what actions or policies are recommended to strengthen the titanium sponge and related sectors' ability to prevent, detect, and recover from malicious cyber activity? In addressing this question, to what extent, if any, does dependence on foreign suppliers increase organizations' exposure to cybercrime/impacts or create any additional burdens

because of the complexities involved with dealing with different countries' laws on cyber issues.

The TSWG received 14 initial public comments from U.S. businesses, non-U.S. businesses, foreign governments, industry associations, individuals, and other stakeholders. A full list of commenters and summaries of the comments are provided in Appendix C. Three commenters submitted versions of their initial comments that included business proprietary information. At the close of the initial 30-day public comment period, the Department opened a rebuttal comment period for 15 days. Eight total rebuttal comments in response to the initial public comments were filed (from five unique commenters). The rebuttal commenters and summaries of their comments can also be found in Appendix C.

The TSWG analyzed all comments and rebuttals for information related to the above criteria and how they could help inform the report and recommendations of the TSWG. The salient points raised by the various commenters are outlined below.

Ten respondents asserted that Japanese producers are long-term and reliable suppliers; Japan is an ally of the United States; and that the Japanese industry has demonstrated the ability and willingness to supply the U.S. industry with sponge in times of varying demand for titanium products. Six respondents noted that Kazakhstan is also a reliable source of high-quality sponge and can serve as a viable backup to Japanese sources.

Many of the commenters also referenced adverse impacts to the titanium sponge, titanium metal, and aerospace markets driven by the COVID-19 pandemic. These commenters noted that the aerospace industry, which is a significant driver of titanium metal demand, experienced historic reductions in demand in 2020 due to the pandemic. These reductions in aerospace demand have harmed both the domestic and global titanium industries, causing excess

inventories, idle capacity, workforce layoffs, and the closure of the last titanium sponge production plant in the U.S., two years ahead of schedule. Commenters noted that aerospace demand is not likely to rebound for several more years, and according to one commenter, may never return to previous levels.

The impacts of COVID-19 to the titanium and aerospace industries underscored many of the commenters' recommendations and discussions related to the TSWG's purpose. First, many commenters did not recommend public or private investment in a domestic greenfield or brownfield titanium sponge (or other titanium-related) facility due to pricing and timing concerns. A greenfield or brownfield sponge facility would require a $100-$200 million investment and could take many years to complete. The process of qualifying a producer to supply premium quality sponge would also add to the lead time for establishing domestic production.

Additionally, commenters noted that pre-COVID-19, there was no market incentive to support an investment in domestic titanium sponge operations and the COVID-19 pandemic further dampened any market incentive for domestic sponge operations. Additionally, because the pandemic resulted in increased inventories in concert with idle capacity, adding further capacity would only serve to further harm domestic titanium industry participants.[12]

[redacted]

[12] Some commenters did recommend investments in U.S.-based titanium production capabilities. One rebuttal commenter, American Titanium Works, noted that the U.S. should invest in low-cost flat rolled titanium products.

[redacted]

As for the four U.S. companies that utilize titanium sponge to produce titanium melt products, all of which submitted comments, the general consensus is that the industry will invest in titanium production capabilities if and when the market supports it, and the USG should not be involved. U.S. producers of titanium melt products have invested heavily in melting technology and other technologies further downstream of melting, but any investments in sponge capabilities would only serve to further disrupt the titanium industry at this time due to the oversupply of titanium sponge, excess inventories, and already idle capacity resulting from COVID-19-related reductions in aerospace demand.

Because most commenters do not support investments in greenfield or brownfield facilities, they noted that the best way to ensure and/or increase access to titanium sponge in the event of an emergency would be adding titanium products to the National Defense Stockpile. Ten of the 14 commenters recommended stockpiling as the best way for the TSWG to meet its goals. The commenters recommended sponge only, sponge and ingot, and ingot only Stockpile additions. Some commenters further recommended that the USG should make Stockpile acquisitions quickly, as there is significant idle capacity and prices are low due to COVID-19 impacts. Additionally, USG purchases of sponge and/or ingot would help bolster an industry that is struggling to cope with financial impacts from COVID-related reductions in demand.

Lastly, ten commenters recommended eliminating the current 15 percent tariff on titanium sponge.[13] Since TIMET closed its sponge operations in July 2020, the tariff only serves

[13] All imports of titanium sponge (including both standard and premium quality titanium sponge) are subject to a 15% tariff (HTSUS: 8108.20.0010). However, under the drawback provisions outlined in 19 C.F.R. Part 191, industry can reclaim sizeable portions of the titanium sponge tariff fees paid.

to increase costs for all the four U.S. companies who rely on imported titanium sponge to produce titanium metal. These cost increases make the U.S. less competitive relative to foreign titanium melt producers, including state-owned enterprises (SOEs) in Russia and China. Two commenters, TIMET and OSAKA, recommended keeping the sponge tariff on Russian and Chinese sponge to ensure against a cheap flood of sponge imports from SOE competitors.[14]

All information received via the public comments was analyzed by the TSWG. The broad points outlined above provide the industry's general consensus and preferences for the TSWG's recommendations.

Executive Orders and Other USG Actions on Critical Materials

The TSWG is aware that many USG agencies have studied, and recommended actions related to critical minerals in recent years, and the TSWG considered this ongoing work during the formulation of this report and its recommendations. Various Executive Orders and the resulting reports related to titanium and other critical materials have included analyses and recommendations for protecting and bolstering the U.S. and global critical mineral supply chains, including reports pursuant to Executive Orders 13817 and 14017.

Executive Order 13817, issued in December 2017, resulted in the publication of a list of 35 critical minerals essential to the national security and the absence of which would have significant consequences for the U.S. economy and national security.[15] Titanium was considered a critical mineral pursuant to this list published by the Department of the Interior's U.S.

[14] VSMPO-Tirus submitted a rebuttal comment, claiming that this action would violate international obligations.

[15] U.S. Department of the Interior, "Final List of Critical Minerals 2018," 83 Fed. Reg. 23295, 2018, https://www.federalregister.gov/documents/2018/05/18/2018-10667/final-list-of-critical-minerals-2018

U.S. Department of the Interior, "2022 Final List of Critical Minerals," 87 Fed. Reg. 10381, 2022, https://www.federalregister.gov/documents/2022/02/24/2022-04027/2022-final-list-of-critical-minerals

Geological Survey in May 2018. The USGS updated the list of critical minerals in February 2022 and again included titanium as a critical mineral.

Executive Order 13817 resulted in the publication of a report by the Department of Commerce: *A Federal Strategy to Ensure Secure and Reliable Supplies of Critical Minerals*.[16] That report included six Calls to Action, 24 goals, and 61 recommendations in order to: (1) reduce reliance on critical minerals; (2) assess progress toward developing critical mineral recycling technologies; (3) provide options for accessing and developing critical minerals through investment and trade with allies and partners; (4) improve topographic, geologic, and geophysical mapping data to support private sector mineral exploration; and (5) streamline the permitting process and enhancing access to critical mineral resources.

That report included the following six Calls to Action:

1. Advance transformational research, development, and deployment across critical mineral supply chains
2. Strengthen America's critical mineral supply chains and Defense Industrial Base
3. Enhance international trade and cooperation related to critical minerals
4. Improve understanding of domestic critical mineral resources
5. Improve access to domestic critical mineral resources on Federal lands and reduce Federal permitting timeframes
6. Grow the American critical minerals workforce

These Calls to Action, and the related goals and recommendations outlined in the report, were designed to help ensure the availability of critical minerals and reduce vulnerability to

[16] U.S. Department of Commerce, "A Federal Strategy to Ensure Secure and Reliable Supplies of Critical Minerals," June 2019, https://www.commerce.gov/data-and-reports/reports/2019/06/federal-strategy-ensure-secure-and-reliable-supplies-critical-minerals

supply chain disruptions. This report and its recommendations were considered during TSWG meetings and deliberations.

Executive Order 14017 was published in February 2021 and directed a "whole-of-government approach to assessing vulnerabilities in, and strengthening the resilience of, critical supply chains."[17] In June 2021, as a result of the Executive Order, the Department of Defense published a report following a 100-day supply chain review of critical mineral and materials.[18] The report included the following seven recommendations:

1. Develop and foster new sustainability standards for strategic and critical material-intensive industries
2. Expand sustainable domestic production and processing capacity, including recovery from secondary and unconventional sources and recycling
3. Deploy the Defense Production Act (DPA) and other programs (DPA Title III, Small Business Innovation Research, and Small Business Technology Transfer programs)
4. Convene industry stakeholders to expand production (through utilization of the Defense Production Act, Title VII)
5. Promote interagency R&D to support sustainable production and a technically skilled workforce
6. Strengthen U.S. Stockpiles
7. Work with allies and partners and strengthen global supply chain transparency

[17] Biden, Joseph, R. Jr., "Executive Order on America's Supply Chains," 24 February 2021, https://www.whitehouse.gov/briefing-room/presidential-actions/2021/02/24/executive-order-on-americas-supply-chains/

[18] The White House, "Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth, 100-Day Reviews under Executive Order 14017," June 2021, https://www.whitehouse.gov/wp-content/uploads/2021/06/100-day-supply-chain-review-report.pdf

The research, analysis, and resulting recommendations from these Executive Orders, in addition to ongoing work on critical minerals and materials across the USG, were reviewed and considered by the TSWG. The TSWG considered the above outlined actions and strategies in relation to titanium sponge, titanium metal, and other downstream titanium-related products, and all recommendations outlined below were formulated to complement and support other ongoing USG actions.

Recommendations

The TSWG has considered and formulated recommendations that will ensure access to titanium sponge in the event of an emergency. These recommendations are not mutually exclusive and implementing a mix of these actions will ensure U.S. defense and critical infrastructure needs are met in both the short-term and long term.

Recommendation 1 – National Defense Stockpile (NDS) Acquisitions

One of the quickest ways to ensure access to titanium sponge in the short-term and long-term is to add additional amounts of titanium products (including sponge, ingot, or other product forms) to the NDS.[19] Maintaining these products in the NDS will ensure continued access to essential materials for defense and critical civilian needs in the event of an emergency.

The TSWG recommends that the Department of Defense, Defense Logistics Agency (DLA) seek authorization from Congress to purchase titanium products for the NDS. DLA's request for authorization to add titanium products to the NDS was not adopted in the Fiscal Year

[19] The Department of Defense, Defense Logistics Agency, manages the National Defense Stockpile, authorized pursuant to the Strategic and Critical Materials Stockpiling Act of 1979 (50 U.S.C. 98 et seq.) The NDS is a stockpile of strategic and critical materials, intended to mitigate risks to defense and essential civilian industry in the event of a national emergency. The NDS is not an economic stockpile. As of September 2020, the only titanium-related products maintained in NDS inventories were titanium alloys.

(FY) 2022 National Defense Authorization Act (NDAA), but DLA resubmitted the request for the FY23 NDAA.

The TSWG also recommends that DLA work closely with domestic sources and U.S. allies and their producers, such as Japan, should Congress authorize the acquisition of downstream titanium products. The Specialty Metals Clause (10 U.S.C. § 2533b) requires that certain strategic and critical materials, such as titanium, be melted or produced in the United States or a qualifying country. Titanium sponge is not covered by the Specialty Metals Clause, but this rule does cover downstream titanium products, such as ingot or slab. Japan is a qualifying country.[20]

[redacted]

As of June 2021, DLA is in the planning phase to determine the details related to type, and contract/vendor specifications to purchase titanium, if Congress authorizes the acquisition of titanium for the NDS. As a member of the TSWG, DLA is aware of the TSWG's review, findings, and recommendations pursuant to NDS additions.

Limitations to NDS Acquisitions

[20]The Specialty Metals Restriction does not apply to items containing specialty metals or specialty metals themselves when the acquisition furthers an agreement with a qualifying country. (DFARS 225.003(9)).

[redacted]

The NDS Transaction fund, which DLA uses to fund NDS operations, will require additional direct appropriations to fully execute the NDS mission and address identified strategic and critical material vulnerabilities. Congress has diverted significant NDS program revenue to other defense and non-defense programs. DLA's ability to add materials to the NDS is limited by the available resources to acquire materials. As such, DLA's stockpiling efforts are only able to partially mitigate projected shortfalls of titanium materials. The FY23 Budget requested $253.5 million for NDS acquisitions.

[redacted]

Industry has urged DLA to capitalize on the current market for sponge and titanium ingot for NDS purchases, as COVID-19 has caused excess inventories of sponge and other titanium products, lower prices, and idle capacity. DLA's titanium purchases during this time would benefit both the USG and industry; however, authorizing legislation prevents the NDS from making stockpile purchases for this reason. The NDS is a strategic stockpile, not an economic stockpile, and as such, any NDS purchases can only be executed to satisfy postulated shortfalls to national emergency requirements.

As noted in the report submitted in response to Executive Order 14017, the onerous statutory requirements on NDS acquisitions in the *Strategic and Critical Materials Stock Piling Act of 1979* (50 U.S.C. 98 *et seq.*) and a lack of funding adversely impact DLA's ability to efficiently maintain the necessary quantity and mix of materials to mitigate risks to defense and essential civilian industry. Modernizing and fully funding the NDS is necessary to ensure access to titanium and many other strategic and critical materials.

Pursuant to Executive Order 14017, the Department of Defense completed a 100-day supply chain review and report on strategic and critical materials.[21] The report, published in June 2021, recommended several ways in which the U.S. can strengthen the NDS through updates to NDS authorities and availabilities of funding.

In addition to recommending that DLA prioritize titanium-related NDS acquisitions to the extent possible, the TSWG encourages further review and consideration of the recommendations outlined in the Defense Department's 100-day supply chain report on strategic and critical materials. Of note, Congress has already implemented several of these proposed changes, such as reinstating the biennial stockpile reporting requirement and appropriating $125M to the NDS Transaction Fund in FY22. Others are under consideration for the FY23 NDAA.

Though the TSWG acknowledges that the preferred method for ensuring access to critical materials, including titanium sponge, is to support strong, resilient, and sustainable supply chains in the United States, engaging with allies and stockpiling are essential tools to ensure that the

[21] The White House, "Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth, 100-Day Reviews under Executive Order 14017," June 2021, https://www.whitehouse.gov/wp-content/uploads/2021/06/100-day-supply-chain-review-report.pdf

industrial base is prepared for a national emergency. The DoD's 100-day report recommended updates to the regulations and authorities governing NDS purchases that will ensure the U.S. can quickly and efficiently respond to changes in national security requirements when domestic industry is not able.

Recommendation 2 – Strategic Changes to Titanium-Related Tariffs

The TSWG has analyzed the effects of tariffs on titanium-related goods on the U.S. titanium and aerospace industries' competitiveness and sourcing decisions and determined that updates to these tariff schedules could help ensure robust domestic titanium and aerospace industries in the short-term and long-term. The tariff rates and Harmonized System (HS) codes of titanium-related inputs, intermediate goods, and high value titanium products are listed in Figure 5.

Figure 5. – Titanium-Related Products Tariff Rates

Product		Tariff Code	Base Tariff Rate	Additional Sec. 301 Tariff (China)[22]	Other Notes
Sponge Feedstock	Rutile	2614.00.6040 2614.00.30	0%	+25%	China, List 3
	Ilmenite	2614.00.6020	0%	+25%	
Melt Feedstock	Sponge	8108.20.0010	15%	+25%	China List 3
	Scrap	8108.30.0000	0%	+25%	
Melt Products	Ingot	8108.20.0030	15%	+25%	China, List 3
	Slab	8108.90.6020	15%	+25%	
Downstream Titanium Products	Castings	8108.90.3030	5.5%	+25%	China, List 3
	Plate, Sheet, Strip, Foil	8108.90.6045	15%	+25%	
	Tubes & Pipes	8108.90.6060	15%	+25%	
	Bar, Rod, Wire	8108.90.6031	15%	+25%	
	Other Wrought	8108.90.6075	15%	+25%	
High Value Products	Aircraft Engines	8411.12.4000 8411.11.4000	0%	+25%	China, List 1

[22] Office of the U.S. Trade Representative, *Findings of the Investigation into China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation under Section 301 of the Trade Act of 1974*, March 22, 2018.

	Aircraft Engine Parts	8411.91.9040	0%	+25%	
	Undercarriages & Parts	8803.20.0030	0%	+25%	

Titanium Sponge Tariff

The TSWG believes that market dynamics have made it extremely difficult to justify private or USG investment in domestic production of titanium sponge, and any such investment would not be an efficient use of money, nor would it be sustainable. These circumstances led the TSWG to consider solutions apart from investment in domestic sponge capacity that will ensure continued strength in U.S. participation in downstream titanium-related industries, in addition the TSWG's goal of ensuring access to titanium sponge in the United States.

The U.S. currently maintains a 15 percent tariff on all titanium sponge imports, though drawback provisions enable industry to reclaim a sizeable portion of the tariffs paid. [23] However, the tariffs and administrative costs associated with applying the drawback provision increase import costs for domestic titanium melt companies. When it was implemented, the sponge tariff's purpose was to protect U.S. titanium sponge producers from low-priced sponge imports. However, with the closure of the U.S.'s last remaining titanium sponge production plant in July 2020 and no likelihood of reconstituting an idled plant or building a new plant, the sponge tariff increases costs to domestic titanium melters who are solely reliant on imported sponge.

[23] Under the drawback provisions outlined in 19 C.F.R. Part 191, industry can reclaim portions of the titanium sponge tariffs paid. It is unclear what percent industry is able to reclaim, though according to information provided to the Department of Commerce during the Section 232 investigation in 2018, the percent is sizeable. Exhibit 16 of TIMET's Section 232 Application noted that the Drawback Provision for the titanium sponge tariff lowers the effective rate of the tariff from 15 percent to an estimated rate of approximately 0.15 percent to 5 percent.

U.S. Code of Federal Regulations Title 19, Part 191.21 and Titanium Metals Corporation Section 232 Application, Exhibit 16

As such, many industry stakeholders, including all four domestic companies with titanium melt capacity, requested the elimination of the current 15 percent tariff on titanium sponge in public comments received pursuant to the TSWG's *Federal Register* Notice. The increased cost borne by domestic titanium melters resulting from the 15 percent tariff positions the U.S. titanium melt industry at a disadvantage relative to non-U.S. producers of titanium melt products, including those producers in China and Russia, who are not subject to such a tariff. In a market severely impacted by COVID-19-induced reductions in aerospace demand, these cost increases are especially challenging.

Though eliminating the sponge tariff would not encourage domestic production of titanium sponge, it would help maintain the competitiveness of the higher value-add industry of titanium melting and manufacturing. The TSWG considered these factors, the market impacts of eliminating the sponge tariff, and the process steps needed to eliminate or reduce the sponge tariff. Though the TSWG considers that eliminating the 15 percent tariff on titanium sponge could benefit the domestic titanium industry as a whole, the absence of statutory authority to do so precludes the TSWG from recommending this action outright.

Limitations to Titanium Sponge Tariff Reductions

The key barrier to the recommendation of reducing the 15 percent sponge tariff is the scope of legal authority with respect to tariff modifications. The Executive Branch may only modify tariffs pursuant to delegation from Congress, and any modification must meet the applicable conditions set forth in the legislation. Reducing or eliminating the current 15 percent tariff on sponge would require legislation from Congress.

The TSWG recommends that the USG continue to explore the necessary regulatory and statutory steps required to initiate a change to the titanium sponge tariff rate in the long-term.

Downstream Titanium-Embedded Products

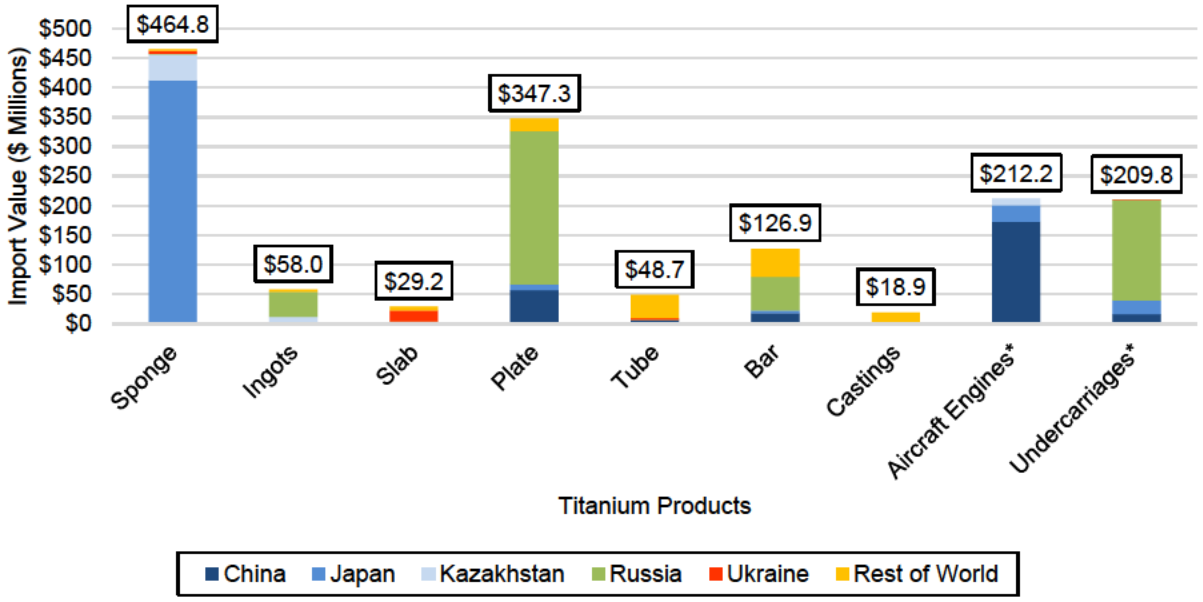
Though significant barriers exist to implementing a tariff reduction on sponge to protect domestic melt capacity, tariff adjustments on downstream titanium-embedded products are more feasible. Implementing tariffs on these high value-add, titanium-embedded aerospace products may help further protect additional portions of the titanium supply chain.

The U.S. currently imposes 15 percent tariffs on imports from all countries of titanium sponge, titanium ingot, and all downstream semi-finished titanium products (castings (5.5 percent base rate tariff); plate, sheet, strip, foil; tubes and pipes; bar, rod, wire; other wrought), while high value-add products with embedded titanium are tariff-free (aircraft engines; aircraft engine parts; undercarriages and parts).[24] Imports of titanium scrap are not subject to any tariffs.

This tariff structure disincentivizes imports of sponge, melt products, and other downstream semi-finished titanium products, while incentivizing imports of high value-add aerospace products. This structure has led to domestic aerospace companies sourcing these critical products from peer competitors in Russia and China (*see* Figure 6). As previously mentioned, China maintains the world's largest titanium melt capacity (33%), and Russia maintains the third largest melt capacity (15%). The U.S. maintains the world's second largest melt capacity (25%).

[24] Chinese imports are subject to an additional 25 percent Section 301 tariff for all titanium products, regardless of base tariff-rate levels.

Figure 6. – U.S. Imports for Consumption of Titanium Products – Value, 2019-2021 Q1



Source: U.S. Department of Commerce, Bureau of Industry and Security and U.S. International Trade Commission DataWeb
HTSUS codes: 8108.20.0010, 8108.20.0030, 8108.90.6020, 8108.90.6045, 8108.90.6060, 8108.90.6031, 8108.90.3030, 8411.12.4000, 8411.11.4000, 8803.20.0030

***Total value of imports for consumption for aircraft engines and undercarriages is greater than $19 billion (Rest of World excluded from graph)**

Though China is not a major supplier of titanium sponge or melt products, the United States has imported significant amounts of high value-add Chinese titanium products in recent years. Between 2019-2021 Q1, most Chinese titanium imports were titanium embedded in turbine engines, valued at $172.5 million. China has prioritized the development of high-quality aerospace manufacturing in its *Made in China 2025*[25] plan, signaling an intent to become

[25] According to the Congressional Research Service, the Made in China 2025 plan is a "broad umbrella industrial plan China introduced in 2015" that "seeks to boost China's economic competitiveness by advancing China's position in the global manufacturing value chain, leapfrogging into emerging technologies, and reducing reliance on foreign firms. Further, "China's policies feature a heavy government role in directing and funding Chinese firms to obtain foreign expertise and intellectual property in areas where the United States has a strong comparative advantage (e.g., aerospace, semiconductors, microelectronics and pharmaceuticals)."

Congressional Research Service, ""Made in China 2025" Industrial Policies: Issues for Congress," August, 2020, https://crsreports.congress.gov/product/pdf/IF/IF10964

globally competitive in the aerospace market and produce premium-quality titanium sponge for use in demanding aerospace applications.

China's significant unused melt capacity, coupled with its ability to supply low-cost, high value-add titanium-embedded aerospace products regardless of market conditions, has the potential to be globally disruptive and damaging to U.S. titanium and aerospace industries. The USGS estimated that in 2019 China's titanium sponge capacity was 117 tons per year with utilization of 72 percent; capacity increased to 158 tons per year in 2020 with utilization of 70%. This trend highlights China's ability to increase output using excess capacity regardless of weak demand for aerospace products.[26] The ability to import high value-add Chinese products duty-free into the United States poses a significant risk to the U.S. aerospace industry, and ultimately, U.S. national security. Implementing higher tariffs on high value-add Chinese titanium embedded aerospace products, therefore, could preempt future disruption to the U.S. aerospace and defense industrial base, and prevent reliance on Chinese aerospace products.

Between 2019-2021 Q1, most Russian imports were titanium plate ($259.8 million) and titanium imbedded in landing gear ($170.3 million). Through state-owned enterprise VSMPO-Avisma, Russia has remained a long-standing producer of high-quality aerospace components and is expected to continue as a significant player in the global titanium market. Indeed, a significant portion of Russian titanium melt capacity is directed at foreign export markets, including the U.S., with only a limited amount of production utilized to satisfy Russia's domestic demand.

[26] U.S. Department of the Interior, U.S. Geological Survey, "Titanium and Titanium Dioxide Mineral Commodity Summary (2020)," 2020, https://pubs.usgs.gov/periodicals/mcs2020/mcs2020-titanium.pdf

Major U.S. aerospace consumers' titanium and titanium-embedded product supply chains are significantly reliant on these Russian-produced products. Boeing has a joint venture with VSMPO-Avisma for commercial aircraft parts, including structural parts and landing gear, and Allegheny Technologies Inc. (ATI) recently ended a nearly 20-year partnership with VSMPO-Avisma for semi-finished titanium melt products utilized in industrial markets in March 2022.[27]

Implementing tariffs on finished goods from adversarial producers could help mitigate U.S. reliance on these high value-add titanium products. These tariffs may encourage U.S. titanium and aerospace companies to re-orient supply chains from Russia and towards domestic sources, U.S. allies, or trading partners.

The TSWG recommends further analysis of the U.S.'s reliance on titanium and aerospace products from Russia and China, and the potential for establishing various tariff levels on Russian and Chinese aerospace products containing titanium. Though adding these tariffs would not ensure domestic production or access to sponge, it could protect the higher value-add downstream titanium industries in the U.S. and incentivize the diversification of downstream titanium processing to other U.S. allies and trading partners.

Impact of Russia's Invasion of Ukraine

Aerospace companies have been working to re-orient supply chains away from Russia given Russia's invasion of Ukraine and the resulting sanctions imposed on the country. One such impact has been an increase in tariffs on Russian titanium imports up to 45 percent as a result of the U.S.'s withdrawal of Normal Trade Relations for Russia in April 2022; we note that the

[27] Allegheny Technologies, "ATI Announces Termination of Joint Venture with Russian-based VSMPO," Allegheny Technologies, 9 March 2022, https://ir.atimaterials.com/news-events/news-details/2022/ATI-Announces-Termination-of-Joint-Venture-with-Russian-Based-VSMPO/default.aspx

increase in duties on titanium sponge from Russia under HTS subheading 8108.20 is 25 percent.[28] Russia's VSMPO-Avisma produces nearly a quarter of global titanium and has major supply agreements and a Joint Venture with U.S. aerospace firm Boeing. In November 2021, Boeing pledged to keep the Russian company as its top supplier of titanium products. However, as a result of Russia's invasion of Ukraine, Boeing suspended Moscow-based operations and halted titanium purchases from all Russian sources in early March 2022.[29] Boeing indicated aircraft output would not be disrupted in the short term, due in part to its efforts to diversify its metals sources since Russia's 2014 invasion of Crimea, as well as steps it took to increase the company's titanium stockpiles.[30]

In late March 2022, Boeing rival Airbus SE also suspended its Moscow-based operations but continued to source titanium products from Russia. While Airbus currently sources approximately half of its titanium from Russia, the company announced that it was searching for alternative sources.[31] Other aerospace firms, including Safran SA and Dassault Aviation SA, are also looking for alternatives to Russian supplies of titanium.[32]

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[28] Congressional Research Service, "Russia's Trade Status, Tariffs, and WTO Issues," Congressional Research Service, 11 April 2022, https://crsreports.congress.gov/product/pdf/IF/IF12071

[29] Tangel, Andrew, "Boeing's Big Bet on Russian Titanium Includes Ties to Sanctioned Oligarch," Wall Street Journal, 7 March 2022, https://www.wsj.com/articles/boeings-future-with-a-titanium-venture-in-russia-remains-cloudy-11646649002

[30] Chokshi, Niraj and Boudettee, Neal E., "Boeing and Ford suspend operations in Russia," The New York Times, 1 March 2022, https://www.nytimes.com/2022/03/01/business/boeing-ford-russia.html

[31] Ryan, Charlotte, "Airbus Seeks Titanium Beyond Russia to Safeguard Production Ramp-Up," Bloomberg, 31 March 2022, https://www.bloomberg.com/news/articles/2022-03-31/airbus-seeks-titanium-sources-beyond-russia-to-safeguard-ramp-up

[32] Ryan, Charlotte, "Boeing (BA) Halts Russian Titanium Purchases as Airbus (AIR) Keeps Buying," Bloomberg, 7 March 2022, https://www.bloomberg.com/news/articles/2022-03-07/boeing-halts-russian-titanium-purchases-as-airbus-keeps-buying

A long-term disruption in titanium supply could impact U.S. defense firms that utilize the metal in manufacturing operations. Near-term impacts of a supply disruption would be minimal due to the existence of alternative sources and stockpiles, but companies may face bigger hurdles in the longer-term as they work to re-orient supply chains away from Russian sources.

Notably, Ukraine is a major source of titanium mineral concentrates, accounting for most of Russia's 2021 imports. Ukraine does not directly export mineral concentrates to the U.S., and it has historically supplied minimal amounts of titanium sponge to U.S. industries. The ongoing conflict, however, has disrupted titanium supply chains and increased global price volatility for titanium.[33] Titanium price increases will put further pressure on global supply chains in the aerospace and other major titanium-consuming sectors.

U.S. firms' inability to source Russian titanium and titanium-embedded aerospace parts, in addition to competing with non-U.S. firms for alternative sources, must be monitored closely. COVID-related impacts have caused idle capacity and excess inventory for U.S. titanium producers, which could provide a backfill to Russian supply. Some news reports indicate discussions between Boeing and U.S.-based titanium producers to fill the gap left by Russian supply are ongoing.[34] However, a sustained disruption of Russian titanium could sap alternative global capacity and deplete strategic inventories. Ongoing analysis is needed to determine any risk to U.S. national security and the capacity of the U.S. industrial base to fill the supply gap.

[33] Desia, Pratima, "Explainer: Importance of Russian titanium to global industry," Reuters, 1 March 2022, https://www.reuters.com/business/importance-russian-titanium-global-industry-2022-03-01/

[34] Sutherland, Brooke, " Russia Is No Pandemic for the Aerospace Sector," Bloomberg Opinion, 18 March 2022, https://www.bloomberg.com/opinion/articles/2022-03-18/industrial-strength-russia-is-no-pandemic-for-the-aerospace-sector-l0wrjo93

Limitations to Implementing Tariffs

Increases in tariff rates (like reductions, discussed above) may only be implemented by the Executive Branch under specific statutory authorities. Further discussions with relevant stakeholder agencies would be needed to determine the appropriate authority, method, and feasibility to implement the tariff changes.

For example, an investigation conducted under Section 232 of the Trade Expansion Act of 1962 (19 U.S.C. §1862) could result in trade actions depending on the investigation's findings and recommendations and whether the President concurs. A new Section 232 investigation could be initiated and completed on an expedited basis using previous research and findings that remain relevant. The focus of a new Section 232 investigation could be on high value-add titanium products.

In summary, strategic changes to the U.S. tariff schedule for titanium and titanium embedded products could help protect the U.S. national security by protecting the industry-leading U.S. titanium melt market, as well as the U.S. commercial and defense aerospace market. Though a reduction in the titanium sponge tariff would not encourage domestic titanium sponge production, this change could help protect the U.S. titanium melt industry. Similarly, adding tariffs to finished goods containing titanium would not encourage domestic sponge production, but it could help mitigate undue reliance on titanium embedded in adversarial, high value-add aerospace products. However, the Executive Branch has limited authority to undertake such changes without action from Congress.

Recommendation 3 – USG and/or Industry Investment in Innovative Technologies, and Expansion of Sustainable Titanium Scrap Reclamation

The TSWG acknowledges that there is extremely low market incentive for domestic titanium sponge production due to a variety of factors discussed previously, and an estimated $200 million USG investment in a greenfield domestic sponge plant is not supported by industry in a market currently characterized by idle capacity, low prices, and excess inventories. As such, encouraging investment in new technologies, innovative manufacturing techniques, and substitutes for titanium sponge that could reduce the U.S.'s reliance on foreign sources for titanium inputs is essential to ensuring a robust domestic titanium industry and addressing U.S. national security concerns in the long-term.

The TSWG encourages the USG to utilize all funding sources possible, including the Defense Production Act (DPA) as directed by the President's memorandum establishing the TSWG, to incentivize investment in new technologies and innovative manufacturing capabilities for titanium production. Under Title III of the DPA, the President can "issue grants, loans, loan guarantees, and other economic incentives to establish industrial capacity, subsidize markets, and acquire materials."[35] The Department of Defense is the Fund Manager and executes investments under the DPA Title III authority.

The growing importance of scrap in titanium production is an essential aspect of this recommendation. To realize potential cost savings associated with scrap usage, U.S. titanium melt product manufacturers have increased scrap usage to between 59 and 66 percent of total feedstock. The increased usage of scrap decreases the amount of sponge needed to satisfy domestic operations, thereby decreasing reliance on imported sponge.

[35] The White House, "Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth, 100-Day Reviews under Executive Order 14017," June 2021, https://www.whitehouse.gov/wp-content/uploads/2021/06/100-day-supply-chain-review-report.pdf

The TSWG encourages the Department of Defense and industry to continue utilizing all scrap possible to meet titanium needs. DLA's Strategic Material Recovery and Reuse Program (SMRRP) operates under the *Strategic and Critical Material Stock Piling Act of 1979* (50 U.S.C. 98 *et seq.*). Through this program, DLA recovers strategic and critical materials from excess materials made available by other Federal agencies. DLA has added some titanium alloys (e.g., Ti-6Al-4V) and other super-alloys to the NDS through the SMRRP. The NDS program continues to recycle end-of-life weapons systems to increase titanium stocks.

[redacted]

The TSWG recommends that DLA emphasize the SMRRP program and other funding initiatives that will encourage DoD and industry to maximize recycling and reusing titanium products. Scrap utilization reduces the U.S.'s reliance on non-U.S. sponge and mitigates the associated national security risk; additionally, it decreases costs and provides a sustainable option consistent with many other recommendations pursuant to USG actions related to critical minerals.

Limitations to Increased Scrap Reclamation and Use

While increased scrap usage is an important and sustainable step in mitigating foreign reliance on titanium sponge, many demanding aerospace products, particularly those with national defense end-uses, require new titanium sponge as feedstock. The most demanding titanium aerospace applications require premium quality titanium sponge as a feedstock source, and some applications preclude the usage of any scrap whatsoever. Without domestic production

of titanium sponge suitable for these end-uses, the U.S. titanium and aerospace supply chain remains at significant risk regardless of access to titanium scrap.

In addition to recommending increased recycling programs, the TSWG recommends that relevant USG agencies invest in developing technologies that can utilize scrap feedstock in demanding aerospace applications or in other technologies that eliminate the need for new titanium sponge. Existing USG programs should be leveraged to encourage innovation and research, establish domestic capacity, acquire materials, and create strategic markets for such technologies.

Funding avenues include grants, loans, loan guarantees, and other economic incentives available under Title III of the DPA. As outlined in DoD's 100-day supply chain review of strategic and critical materials report, Title III actions are executed by the DoD as the DPA Fund Manager, though "any Federal Agency responsible for a critical infrastructure sector may request the use of Title III to mitigate current or estimated shortfalls to national defense." [36]

The TSWG recommends that the Departments of Defense, Commerce, and Interior utilize the DPA and other existing authorities to promote innovative and sustainable advancements in titanium production technologies.

[redacted]

[36] *Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth,* was developed pursuant to Executive Order 14017, *America's Supply Chains*. DoD led the task force that reviewed and authored the report review of strategic and critical minerals.

The White House, "Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth, 100-Day Reviews under Executive Order 14017," June 2021, https://www.whitehouse.gov/wp-content/uploads/2021/06/100-day-supply-chain-review-report.pdf

[redacted][37]

Under current market conditions, the U.S. is expected to remain entirely reliant on non-U.S. sponge to fulfill feedstock needs. Pursuing the recommendation herein and avoiding an inefficient and potentially disruptive investment in domestic titanium sponge production, will benefit the domestic titanium melt industry in the long-term. Importantly, this would reduce the national security threat resulting from complete reliance on imported titanium sponge products necessary for defense and commercial needs.

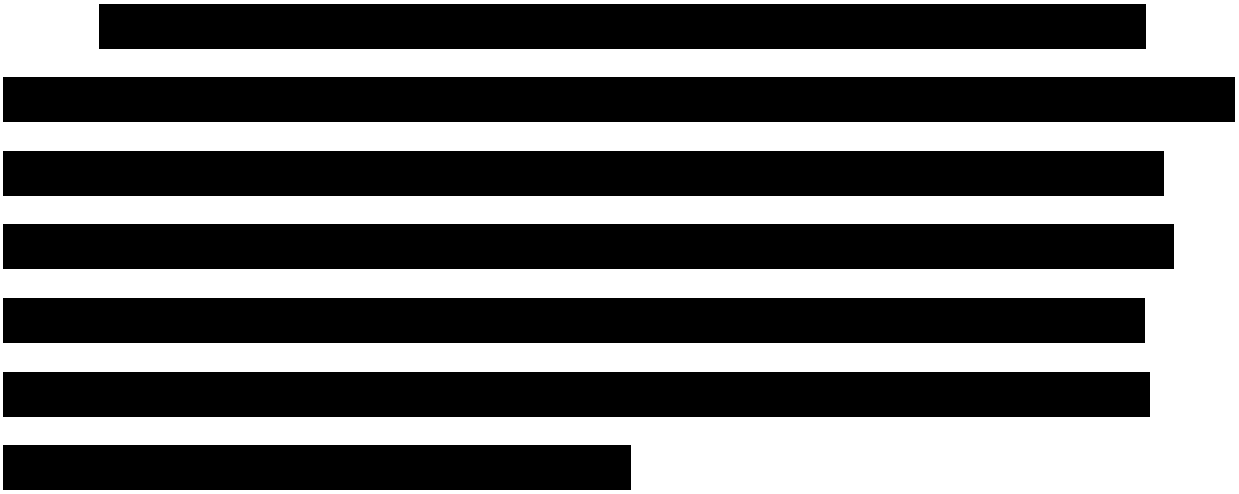
Recommendation 4 – Monitor the Maintenance of Idle Domestic Sponge Facility in Short-Term

While the market does not currently support investment in additional titanium sponge capacity, the TSWG understands the national security threat posed by complete reliance on imported titanium sponge. In the event of a sustained emergency scenario, the U.S. may need to produce titanium sponge domestically if industry stocks, NDS materials, and imports are no longer available. With no current active producers in the U.S., and little incentive for investment in new capacity, the U.S. would need to rely on new titanium sponge capacity or idle domestic titanium sponge capacity to meet these needs.

[37] [redacted]

The quickest way to standup domestic titanium sponge capacity is by restarting an idle facility. In the event of a sustained disruption to imports, establishing new sponge capacity would take years, while restarting an idle facility would take many months. Maintaining idle capacity in the U.S., therefore, could help mitigate the risks from sustained supply disruptions.

Allegheny Technologies Inc. (ATI) maintains an idle sponge facility in Rowley, Utah, with 10,900 metric tons of titanium sponge capacity when operational. The sponge plant was opened in 2009 but has been maintained in care-and-maintenance status since late 2016 due to high production costs and the availability of low-priced imports. The TSWG recommends monitoring ATI's commitment to maintaining the Rowley, Utah sponge facility in idle. Should market shocks cause ATI to reconsider maintaining this facility in idle, the USG should consider whether and how to encourage ATI to continue upkeep of this facility.



While maintaining the Rowley facility in idle can help provide a back-up in the event of a sustained disruption to imports, many other actions are necessary to ensure the U.S. has access to titanium sponge in the event of an emergency. The additional recommendations outlined in this report are necessary due to several factors.

First, restarting ATI's facility would take many months, during which time the U.S. would be wholly reliant on industry stocks or Stockpile materials if imports are unavailable. Secondly, the Rowley facility's capacity could only cover a portion of total U.S. demand for titanium products, and [redacted][38]

Additionally, the Rowley plant is no longer qualified to supply premium-quality titanium sponge. The qualification process could be expedited in the event of a national emergency, though the process historically has taken many years.

These factors underscore the importance of enacting multiple TSWG recommendations so that the U.S. can ensure access to titanium sponge in the short-term and the long-term and address the national security threat resulting from complete reliance on imported titanium sponge products necessary for defense and commercial needs.

Recommendation 5 – Maintain Strong Relationship with Japan and Other Allies Producing Titanium Sponge

As outlined in the President's memorandum establishing the TSWG, Japan is an essential partner and ally to the United States, and the TSWG carefully considered Japan's role in the titanium sponge market and consulted with Japanese counterparts in the course of formulating its recommendations. For over sixty years, the U.S.-Japan Alliance "has served as the cornerstone

[38] While operational between 2009 and 2016, ATI internally consumed most of all sponge it produced at Rowley for ATI melt operations. As the Rowley facility did not produce enough sponge to cover all of ATI's sponge needs, ATI supplemented its sponge production at Rowley with imported sponge.

The U.S. consumed 34,100 metric tons of titanium sponge in 2016, 37,400 metric tons in 2017, and 35,200 metric tons in 2018 (2019 and 2020 consumptions figures are withheld to avoid disclosing company proprietary data). The Rowley facility's 10,900 metric tons of capacity could satisfy approximately 29 – 32% of U.S. demand for titanium sponge. [redacted]

of peace, security, and prosperity in the Indo-Pacific and across the world."[39] This alliance promotes economic ties that benefit the American and Japanese people, as well as security cooperation that promotes peace and stability. Preserving and promoting this alliance, and U.S.-Japan participation in the titanium sponge, titanium metal, and aerospace industries, is essential.

Several other agreements between the U.S. and Japan highlight the ongoing cooperation and collaboration in both the economic and defense spheres. For example, the goal of the 2010 Projects for Cooperative Research Memorandum of Understanding (MOU) between the U.S. Department of Defense and the Ministry of Defense of Japan is the "collaboration in research of systems and technologies potentially leading to new or improved military capability."

The 2010 Projects for Cooperative Research MOU highlights that Japan and the U.S. have "a common interest in defense," seek "to make the best use of their respective research and technology development capacities, and to obtain the most efficient and cost-effective results through cooperation in research of systems and technologies," and desire "increasingly closer and beneficial cooperation in research of systems and technologies." This MOU, in addition to other relevant agreements and MOUs between the U.S. and Japan, should be leveraged to the extent possible to ensure the health and competitiveness of Japan and the U.S. in the titanium sponge, titanium metal, and aerospace industries.

The TSWG acknowledges that Japan is an important economic and security strategic partner to the United States, including for high-quality and reliable titanium sponge imports. The TSWG recommends that the USG maintain this strategic partnership and consult with Japanese counterpart agencies in ongoing discussions related to secure supply agreements, actions on

[39] U.S. Department of State, "Reaffirming the Unbreakable U.S.-Japan Alliance," March 2021, https://www.state.gov/reaffirming-the-unbreakable-u-s-japan-alliance/

critical minerals, and any such actions that impact the titanium sponge and titanium industry where necessary.

Conclusion

Since the establishment of the TSWG in February 2020, the U.S. and global titanium industries have experienced significant shocks due to COVID-19-related impacts. These shocks included the closure of the last remaining U.S. facility capable of producing titanium sponge suitable for defense and critical infrastructure uses. This facility's closure increased the U.S.'s reliance on imports of titanium sponge to 100 percent and underscored the importance of implementing recommendations that can mitigate this reliance.

Based on research, analysis, and meetings with industry, interagency, and counterpart agencies in Japan, the TSWG has identified several recommendations that can help ensure the U.S. maintains access to titanium sponge in the event of an emergency. These recommendations can help address the national security risks stemming from complete reliance on imported titanium sponge in the short-term and the long-term.

To promote the long-term health and competitiveness of the U.S. titanium and aerospace industries and ensure sustainable and secure supply chains for these essential products, the United States must promote both recycling and innovation in these industries. Current market conditions do not support public or private investment in domestic titanium sponge production. The continued availability of low-priced, high-quality titanium sponge from long-term and reliable suppliers will likely ensure that future investments will not be justified. The U.S. excessive reliance on foreign titanium sponge is not expected to change unless total reliance on titanium sponge is reduced.

Targeting and promoting titanium recycling programs in commercial and government markets can help to alleviate overall reliance on imported titanium sponge. Similarly, promoting and investing in innovative technologies that enable the use of increasing amounts of titanium scrap can also help alleviate overall reliance on titanium sponge. Innovative technologies may also eventually obviate the need for new amounts of titanium sponge completely. Identifying, targeting, and evaluating potential funding opportunities for these emerging technologies are essential ongoing and long-term actions needed to protect domestic titanium and aerospace supply chains.

In the short-term, the U.S. must ensure access to titanium sponge in the United States in the event of an emergency. The quickest and most efficient way to ensure access to titanium sponge is to add titanium products into the National Defense Stockpile. This recommendation will ensure that regardless of market conditions, domestic production, or access to foreign suppliers, the U.S. will have a domestic source for this critical material in both the short-term and the long-term.

The USG must also monitor the availability of ATI's idle sponge production facility and determine the feasibility of using this capacity in an emergency. This idle capacity can serve as a valuable source of titanium sponge should the U.S. experience a sustained disruption in imports.

The TSWG also recommends leveraging all resources possible to strengthen and protect the U.S.'s position in the titanium and aerospace industries. If Congress updates the tariff rates on titanium-related products, including downstream titanium-embedded products utilized in aerospace applications, that could protect the U.S. titanium and aerospace industries, and enable the U.S. to remain industry leaders in these markets, and thereby address the U.S. national

security threat resulting from complete reliance on imported titanium sponge products necessary for defense and commercial needs.

Finally, maintaining a strong and collaborative relationship with Japan and other allied sources of titanium sponge should be an ongoing priority. Japanese participation and contribution to all actions related to titanium sponge will strengthen both U.S. and Japan participation in the titanium and aerospace markets.

Titanium sponge is a critical input necessary to produce titanium metal, a material that is essential for many defense and critical infrastructure applications. Maintaining secure and sustainable sources of titanium sponge and titanium metal, therefore, is vital to preserving the U.S. national security. The TSWG recommends implementing the above-outlined recommendations to ensure access to titanium sponge in the event of an emergency, and to promote the long-term health and security of the U.S. titanium and aerospace industries.

Appendices

A. Memorandum on the Effect of Titanium Sponge Imports on the National Security (February 27, 2020)

B. *Federal Register* Notice - Notice of Request for Public Comments by the Titanium Sponge Working Group, December 10, 2020

C. Public Comment Summaries

20-069673

Appendix A

THE WHITE HOUSE

WASHINGTON

February 27, 2020

MEMORANDUM FOR THE SECRETARY OF DEFENSE
THE SECRETARY OF COMMERCE
THE DIRECTOR OF THE OFFICE OF MANAGEMENT AND BUDGET
THE ASSISTANT TO THE PRESIDENT FOR NATIONAL SECURITY AFFAIRS
THE ASSISTANT TO THE PRESIDENT FOR ECONOMIC POLICY
THE DIRECTOR OF THE OFFICE OF SCIENCE AND TECHNOLOGY POLICY

SUBJECT: The Effect of Titanium Sponge Imports on the National Security

By the authority vested in me as President by the Constitution and the laws of the United States of America, including section 232 of the Trade Expansion Act of 1962, as amended (19 U.S.C. 1862) (the "Act"), it is hereby ordered as follows:

Section 1. The Secretary of Commerce's Investigation into the Effect of Titanium Sponge Imports on the National Security.

(a) On November 29, 2019, the Secretary of Commerce (Secretary) transmitted to me a report on his investigation into the effect of imports of titanium sponge on the national security of the United States under section 232 of the Act.

(b) The Secretary advised me of his finding that titanium sponge is being imported into the United States in such quantities and under such circumstances as to threaten to impair the national security of the United States as defined under section 232 of the Act. The Secretary noted that imports of titanium sponge, which accounted for 68 percent of all titanium sponge consumed in the United States in 2018, threaten to impair the national security by placing the remaining U.S. titanium sponge producer's operation under severe financial stress. The Secretary found that low-priced titanium sponge imports, as well as low-priced titanium scrap imports, depress the price of

U.S. titanium sponge and discourage recapitalization and modernization of the remaining active producer's aging production facility. The Secretary concluded that if the remaining facility ceases operation, the United States will have no active domestic capacity to produce titanium sponge for national defense and critical infrastructure needs. The Secretary advised that, absent domestic titanium sponge production capacity, the United States will be completely dependent on imports of titanium sponge and scrap, and will lack the surge capacity required to support defense and critical infrastructure needs in an extended national emergency.

(c) I have also considered the Secretary's finding that 94.4 percent of titanium sponge imports in 2018 were from Japan. The United States has an important security relationship with Japan, including our shared commitment to eliminating the North Korean nuclear threat; our decades-old military alliance; and our strong economic and strategic partnership.

(d) I concur in the Secretary's finding that titanium sponge imports threaten to impair the national security of the United States as defined under section 232 of the Act.

(e) I also agree with the Secretary's recommendation that actions to adjust imports under section 232 not be taken at this time. The Secretary has advised me that measures apart from the adjustment of imports are more likely to be effective to address the threatened impairment of the national security, and such measures are set forth in section 2 of this memorandum.

Sec. 2. Measures to Address the Threatened Impairment of the National Security.

(a) The Secretary of Defense and the Secretary of Commerce are directed to form a working group, along with the heads of other executive departments and agencies as the Secretaries deem appropriate, and invite their counterpart agencies in Japan to participate in discussions with the working group in order to agree upon measures to ensure access to titanium sponge in the United States for use for national defense and critical industries in an emergency.

(b) The Secretary of Defense is directed to take all appropriate action, including using his delegated authorities under the Defense Production Act (50 U.S.C. 4501 *et seq.*) and

seeking new appropriations as necessary, to increase access to titanium sponge for use for national defense and critical industries and to support domestic production capacity for the production of titanium sponge to meet national defense requirements.

(c) The Secretary of Defense and the Secretary of Commerce shall provide periodic updates to me on the progress of these efforts.

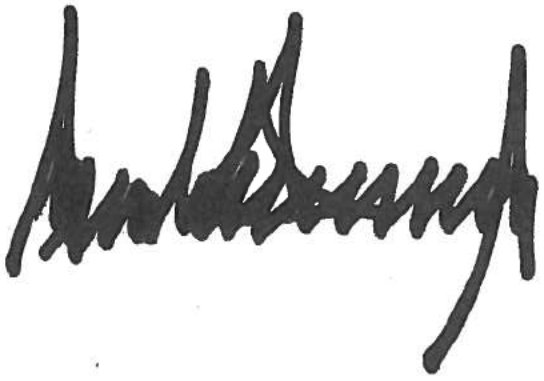
Sec. 3. General Provisions. (a) Nothing in this memorandum shall be construed to impair or otherwise affect:

(i) the authority granted by law to an executive department or agency, or the head thereof; or

(ii) the functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(b) This memorandum shall be implemented consistent with applicable law and subject to the availability of appropriations.

(c) This memorandum is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.



See United Farm Workers v. *Perdue,* No. 20–cv–01452–DAD–JLT (E.D. Cal. Oct. 28, 2020). Pursuant to the court's order, NASS issues this notice of reinstatement. The reinstated survey will be based on July and October reference weeks and completion of the survey and report is expected to require nine weeks following the **Federal Register** publication of this notice. If the court's order is modified or dissolved in the future, NASS will publish a subsequent notice informing the public of that development as well as NASS's intentions regarding this information collection.

Authority: These data are collected under authority of 7 U.S.C. 2204(a). Individually identifiable data collected under this authority are governed by Section 1770 of the Food Security Act of 1985, 7 U.S.C. 2276, which requires USDA to afford strict confidentiality to non-aggregated data provided by respondents.

Signed at Washington, DC, December 4, 2020.

Kevin L. Barnes,

Associate Administrator.

[FR Doc. 2020–27109 Filed 12–9–20; 8:45 am]

BILLING CODE 3410–20–P

DEPARTMENT OF COMMERCE

Foreign-Trade Zones Board

[B–53–2020]

Foreign-Trade Zone (FTZ) 82—Mobile, Alabama Authorization of Production Activity; Aker Solutions, Inc. (Subsea Oil and Gas Systems), Mobile, Alabama

On August 7, 2020, Aker Solutions, Inc., submitted a notification of proposed production activity to the FTZ Board for its facility within FTZ 82, in Mobile, Alabama.

The notification was processed in accordance with the regulations of the FTZ Board (15 CFR part 400), including notice in the **Federal Register** inviting public comment (85 FR 50802, August 18, 2020). On December 7, 2020, the applicant was notified of the FTZ Board's decision that no further review of the activity is warranted at this time. The production activity described in the notification was authorized, subject to the FTZ Act and the FTZ Board's regulations, including Section 400.14.

Dated: December 7, 2020.

Andrew McGilvray,

Executive Secretary.

[FR Doc. 2020–27139 Filed 12–9–20; 8:45 am]

BILLING CODE 3510–DS–P

DEPARTMENT OF COMMERCE

Bureau of Industry and Security

[Docket No. 201120–0309]

RIN 0694–XC067

Notice of Request for Public Comments by the Titanium Sponge Working Group

AGENCY: Bureau of Industry and Security, Commerce.

ACTION: Notice of request for public comments.

SUMMARY: In March of 2019, the Secretary initiated an investigation under Section 232 of the Trade Expansion Act of 1962, as amended, to determine the effects on the national security from imports of titanium sponge. In February of 2020, the President issued a memorandum concurring with the Secretary's findings that titanium sponge imports threatened to impair U.S. national security. The President's concurrence also agreed that actions to adjust imports under Section 232, such as tariffs, should not be taken at this time and established an interagency working group. The work of the Titanium Sponge Working Group has proceeded in exploring measures to ensure access to titanium sponge in the United States for use for national defense and in critical industries during an emergency, and at this time the Bureau of Industry and Security (BIS) is seeking public comments to better inform the deliberations of the working group.

DATES: The due date for filing original comments is January 11, 2021. The due date for rebuttal comments is January 25, 2021. Rebuttal comments may only address issues raised in the original comment it is filed under, which was filed on or before January 11, 2021.

ADDRESSES: *Submissions:* All written comments on the notice must be addressed to the Titanium Sponge Working Group and filed through the Federal eRulemaking Portal: *http://www.regulations.gov.* To submit comments via *http://www.regulations.gov,* enter docket number BIS–2020–0037 on the home page and click ''search.'' The site will provide a search results page listing all documents associated with this docket. Find a reference to this notice and click on the link entitled ''Comment Now!'' (For further information on using *http://www.regulations.gov,* please consult the resources provided on the website by clicking on ''How to Use This Site.'')

FOR FURTHER INFORMATION CONTACT: *TSWG@bis.doc.gov;* Titanium Sponge 232 Project Line 202–482–3110. Email is the preferred method of contact, and will facilitate a more timely response by BIS.

SUPPLEMENTARY INFORMATION:

Background

On March 4, 2019, in response to a petition, the Secretary initiated an investigation under Section 232 of the Trade Expansion Act of 1962, as amended (19 U.S.C. 1862), to determine the effects on the national security from imports of titanium sponge. This petition led the Bureau of Industry and Security (BIS) to publish a *Notice of Request for Public Comments on Section 232 National Security Investigation of Imports of Titanium Sponge* on March 8, 2019 (84 FR 8503). The March 8, 2019 notice requested comments specific to the status of the titanium sponge industrial base in the United States. While the comments received were pertinent, several developments have occurred since the end of that notice period that warrant this notice of request for additional comments.

On November 29, 2019, the Secretary transmitted to the President a report on the Section 232 investigation in which he found that titanium sponge imports threatened to impair the national security, and stated that there is a risk of the United States being completely dependent on imports of titanium sponge and could therefore lack surge capacity required to support defense and critical industries needs in an extended national emergency. On February 27, 2020, the President issued a memorandum regarding the Section 232 investigation into whether imports of titanium sponge threatened to impair the national security. The President concurred with the Secretary's finding that imports of titanium sponge threatened to impair U.S. national security, and also agreed with the Secretary's recommendation that he not take actions to adjust imports under Section 232 at that time. Instead, the President directed the Secretaries of Commerce and Defense to form a working group, along with other executive departments and agencies that they deemed appropriate, to develop recommended actions.

The Titanium Sponge Working Group (TSWG), established at the President's direction, consists of the following permanent members: The Departments of Commerce, Defense, Interior, and State, which are joined by rotating members from other U.S. Government agencies as needed. The goal of the TSWG is to reach interagency agreement on measures needed to ensure access to titanium sponge in the United States for

use for national defense and critical industries in an emergency. The TSWG will submit to the President a report detailing agreed upon recommendations to ensure U.S. access to titanium sponge for national defense and critical industries purposes, in addition to detailing the current and projected U.S. industrial requirements.

The establishment of the TSWG and the required report, along with the impact of the ongoing COVID–19 pandemic on U.S. access to titanium sponge, merit a comment period to solicit information to assist the interagency working group in its deliberations regarding imports of titanium sponge. The Department of Commerce (Department) has determined that although there is significant governmental expertise on the TSWG, receiving public input in this area would further the understanding of the TSWG members as they develop potential solutions to address the issue of imports of titanium sponge.

Although the President established the working group after he concurred with the Secretary that imports of titanium sponge threatened to impair the national security, the solicitation of comments to assist in the TSWG deliberations is distinct from the Department's prior Section 232 titanium sponge investigation. However, the Section 232 investigation and the TSWG both deal with the importance of access to titanium sponge for national defense and critical industries purposes. Therefore, BIS is handling the solicitation of comments similarly to how BIS has previously solicited comments for Section 232 investigations. The TSWG will consider the public comments when preparing interagency recommendations to the President for further consideration.

Written Comments

Interested parties are invited to submit written comments, data, analyses, or information pertinent to the task of the TSWG to the Department's Office of Technology Evaluation no later than January 11, 2021. An original comment will not be considered if: (1) It is received no later than January 11, 2021; (2) and/or includes rebuttal language pertaining to a different comment. Rebuttal comments may be submitted in response to issues raised in original comments received on or before January 11, 2021 may be filed no later than January 25, 2021. Rebuttal comments may only address issues raised in the original comment it is filed under, which was filed on or before January 11, 2021. Rebuttal comments that address new or different issues other than the issues raised in the original comment it was filed under will not be considered. A rebuttal comment will not be considered if: (1) It is received no later than January 25, 2021; (2) and/or includes language that is partially original and partially in response to an original comment.

The Department is particularly interested in comments and information directed to the following criteria:

(i) Potential measures to ensure access to titanium sponge in the United States for use for national defense and critical industries in an emergency, including, but not limited to, U.S. Government or industry investment in any portion of the U.S. titanium supply chain (including ore, sponge, semi-finished, and finished titanium products), stockpiling, multilateral negotiations, trade actions, and industrial base analyses.

(ii) Potential measures to increase access to titanium sponge in the United States for use for national defense and critical industries, and to support domestic production capacity for the production of titanium sponge to meet national defense requirements, including, but not limited to, U.S. Government or industry investment in any portion of the U.S. titanium supply chain (including ore, sponge, semi-finished, and finished titanium products), stockpiling, multilateral negotiations, trade actions, and industrial base analyses.

(iii) The structure of the global titanium sponge supply chain, including upstream (ore and other feedstock) and downstream (semi-finished and finished titanium products, increased usage of scrap) production steps, especially as the structure may impact recommendations targeting alternative parts of the titanium sponge supply chain in order to ensure and/or increase access to titanium sponge in the United States;

(iv) Pandemic-related impacts on the supply and demand of titanium sponge and other titanium products in the United States and abroad (such as the decline in aerospace demand, prospects for recovery, maintaining essential workforce, or the recent idling of U.S. sponge operations);

(v) The role of non-U.S. titanium sponge production and distribution in ensuring and/or increasing access to titanium sponge and domestic titanium sponge capacity in the United States, including prospects for partnerships or joint ventures between U.S. and non-U.S. sponge producers, trade actions (*e.g.,* modification of current global tariff/quota structures on titanium products), or non-U.S. investment in U.S. production capacity. Additionally, the impact of U.S.-reliance on single or sole source supplies of titanium sponge from non-U.S. sources; and

(vi) Prospects and risks of brownfield or greenfield investments in any step of the titanium supply chain, including upstream ore extraction and processing, intermediate titanium sponge production, or other downstream titanium production steps; and

(vii) How great of a threat is cybercrime or malicious cyber activity to organizations in the titanium sponge supply chain? In addressing this question, commenters are encouraged to provide specific examples of how malicious cyber activity such as ransomware, distributed denial of service (DDoS) attacks, or malware have undermined or threatened production in the U.S. and/or the reliability of U.S. supply chain for titanium sponge. Additionally, what actions or policies are recommended to strengthen the titanium sponge and related sectors' ability to prevent, detect, and recover from malicious cyber activity? In addressing this question, to what extent, if any, does dependence on foreign suppliers increase organizations' exposure to cybercrime/impacts or create any additional burdens because of the complexities involved with dealing with different countries' laws on cyber issues?

Requirements for Written Comments

The *http://www.regulations.gov* website allows users to provide comments by filling in a ''Type Comment'' field, or by attaching a document using an ''Upload File'' field. The Department prefers that comments be provided in an attached document. The Department prefers submissions in Microsoft Word (.doc) or Adobe Acrobat (.pdf). If the submission is in an application format other than Microsoft Word or Adobe Acrobat, please indicate the name of the application in the ''Type Comment'' field. Please do not attach separate cover letters to electronic submissions; rather, include any information that might appear in a cover letter within the comments. Similarly, to the extent possible please include any exhibits, annexes, or other attachments in the same file, so that the submission consists of one instead of multiple files. Comments will be placed in the docket and open to public inspection, except information determined to be confidential. Comments may be viewed on *http://www.regulations.gov* by entering docket number BIS–2020–0037 in the search field on the home page.

All filers should name their files using the name of the person or entity submitting the comments. Communications from agencies of the United States Government will not be made available for public inspection.

Material submitted by members of the public that is properly marked as business confidential information with a valid statutory basis for confidentiality, and which is accepted as such by the Department will not be disclosed publicly. Guidance on submitting business confidential information is as follows: Anyone submitting business confidential information should clearly identify the business confidential portion at the time of submission, include a statement justifying nondisclosure and referring to the specific legal authority claimed with the submission, and provide a non-confidential version of the submission which will be placed in the public file on *http://www.regulations.gov*. For comments submitted electronically containing business confidential information, the file name of the business confidential version should begin with the characters ''BC''. Any page containing business confidential information must be clearly marked ''BUSINESS CONFIDENTIAL'' on the top of that page. The non-confidential version must be clearly marked ''PUBLIC''. The file name of the non-confidential version should begin with the character ''P''. The ''BC'' and ''P'' should be followed by the name of the person or entity submitting the comments or rebuttal comments.

Matthew S. Borman,

Deputy Assistant Secretary for Export Administration.

[FR Doc. 2020–27119 Filed 12–9–20; 8:45 am]

BILLING CODE 3510–33–P

DEPARTMENT OF COMMERCE

International Trade Administration

[C–533–872]

Finished Carbon Steel Flanges From India: Preliminary Results of Countervailing Duty Administrative Review and Intent To Rescind, in Part; 2018

AGENCY: Enforcement and Compliance, International Trade Administration, U.S. Department of Commerce.

SUMMARY: The Department of Commerce (Commerce) preliminarily determines that Norma (India) Ltd. (Norma) and R.N. Gupta & Co. Ltd (RNG) received countervailable subsidies during the period of review (POR), January 1, 2018 through December 31, 2018. In addition, we are announcing our intent to rescind this review with respect to two companies. Interested parties are invited to comment on these preliminary results.

DATES: Applicable December 10, 2020.

FOR FURTHER INFORMATION CONTACT: John McGowan or Tyler Weinhold, AD/CVD Operations, Office VI, Enforcement and Compliance, International Trade Administration, U.S. Department of Commerce, 1401 Constitution Avenue NW, Washington, DC 20230; telephone: (202) 482–3019 or (202) 482–1121, respectively.

SUPPLEMENTARY INFORMATION:

Background

On August 24, 2017, Commerce published in the **Federal Register** the countervailing duty (CVD) order on finished carbon steel flanges (steel flanges) from India.[1] On August 2, 2019, Commerce published a notice of opportunity to request an administrative review of the *Order*.[2] On September 3, 2019, Weldbend Corporation and Boltex Mfg. Co., L.P., (the petitioners), requested a review of 37 producers and/or exporters of subject merchandise.[3] Further, from August 29, 2019 through September 3, 2019, Norma,[4] RNG, Jai Auto Pvt. Ltd., and Bebitz Flanges Works Private Limited, foreign producers or exporters of subject merchandise, each requested a review of the *Order* with respect to themselves.[5] On October 7, 2019, Commerce published a notice of initiation of an administrative review of the *Order*.[6] Based on our examination of the Customs and Border Protection (CBP) data, on November 6, 2019, we selected Norma and RNG, the two largest producers and/or exporters, as mandatory respondents.[7]

On April 24, 2020, Commerce tolled all deadlines in administrative reviews by 50 days, thereby extending the deadline for these preliminary results until June 22, 2020.[8] Further, on June 19, 2020, Commerce extended the time period for issuing these preliminary results by 109 days, in accordance with section 751(a)(3)(A) of the Act, to October 8, 2020.[9] On July 21, 2020, Commerce again tolled all deadlines in administrative reviews by 60 days, thereby extending the deadline for these results until December 7, 2020.[10] For a complete description of the events that followed the initiation of this review, *see* the Preliminary Decision Memorandum.[11] A list of topics discussed in the Preliminary Decision Memorandum is included at Appendix I to this notice. The Preliminary Decision Memorandum is a public document and is on file electronically via Enforcement and Compliance's Antidumping and Countervailing Duty Centralized Electronic Service System (ACCESS). ACCESS is available to registered users at *http://access.trade.gov*. In addition, a complete version of the Preliminary Decision Memorandum can be accessed directly at *http://enforcement.trade.gov/frn/*. The signed and electronic versions of the Preliminary Decision Memorandum are identical in content.

Scope of the Order

The merchandise covered by the *Order* is steel flanges. For a complete description of the scope of the *Order, see* the Preliminary Decision Memorandum.

[1] *See Finished Carbon Steel Flanges from India: Countervailing Duty Order,* 82 FR 40138 (August 24, 2017) (*Order*).

[2] *See Antidumping or Countervailing Duty Order, Finding, or Suspended Investigation; Opportunity to Request Administrative Review,* 84 FR 37834 (August 2, 2019).

[3] *See* Petitioners' Letter, ''Finished Carbon Steel Flanges from India: Request for Administrative Review,'' dated September 3, 2019 (Petitioners' Review Request).

[4] We note that Norma requested a review of itself and its affiliates USK Export Private Limited (USK); Uma Shanker Khandelwal and Co. (UMA); and Bansidhar Chiranjilal (BCL).

[5] *See* Norma's Letter, ''Finished Carbon Steel Flanges from India: Request for an Administrative Review,'' dated August 29, 2019; *see also* RNG's Letter, ''Finished Carbon Steel Flanges from India: Request for Countervailing Duty Administrative Review,'' August 30, 2019; Jai Auto Pvt. Ltd.'s Letter, ''Request for Review of Countervailing Duty Administrative Review of Finished Carbon Steel Flanges from India,'' dated August 30, 2019; and Bebitz Flanges Works Private Limited's Letter, ''Finished Carbon Steel Flanges from India: Requests for Administrative Review,'' dated September 3, 2019.

[6] *See Initiation of Antidumping and Countervailing Duty Administrative Reviews,* 84 FR 53411, 53421–53422 (October 7, 2019).

[7] *See* Memorandum, ''Countervailing Duty Administrative Review of Finished Carbon Steel Flanges from India: Respondent Selection,'' dated November 4, 2019.

[8] *See* Memorandum, ''Tolling of Deadlines for Antidumping and Countervailing Duty Administrative Reviews in Response to Operational Adjustments Due to COVID–19,'' dated April 24, 2020.

[9] *See* Memorandum, ''Finished Carbon Steel Flanges from India: Extension of Deadline for Preliminary Results of Countervailing Duty Administrative Review; 1/1/2018–12/31/2018,'' dated June 19, 2020.

[10] *See* Memorandum, ''Tolling of Deadlines for Antidumping and Countervailing Duty Administrative Reviews,'' dated July 21, 2020.

[11] *See* Memorandum, ''Decision Memorandum for the Preliminary Results of the Countervailing Duty Administrative Review of Finished Carbon Steel Flanges from India,'' dated concurrently with, and hereby adopted by, this notice (Preliminary Decision Memorandum).

Appendix C

Public Comment Summaries

Aerospace Industries Association

- AIA recommends a stockpile of titanium products to achieve additional security of supply. Reduced demand and production schedules would enable the U.S. government to make these acquisitions with relative ease and bolster the position of domestic titanium producers by providing liquidity in the current crisis.

- AIA also recommends suspending the current 15% import tariff on titanium sponge. The closure of the sole U.S. production facility for titanium sponge means the current relatively high import tariff no longer provides any protection to U.S. producers and is simply an added cost for U.S. businesses that import titanium sponge. Relief from the current 15% TS tariff would improve the ability of U.S. companies to access a more affordable supply and enhance their ability to maintain leadership in the aerospace and defense sectors.

- Industry must continue to rely on some form of titanium imports, and the partnership with Japan addresses this gap. Japan is a reliable, long-standing provider of high-quality titanium sponge to the aerospace and defense industries.

- Kazakhstan is also an alternative source of titanium sponge for U.S. industry

- AIA does not support any investment in a domestic titanium sponge facility. The U.S. industry has invested billions in downstream titanium mill product technology innovation and production capacity.

American Lightweight Materials Manufacturing Innovation Institute (dba LIFT)

- LIFT/UAT explains UAT's robust direct approach to manufacturing titanium metal in only two steps, with only three steps to many downstream products including wire, powder, ingot, plate, near net shaped parts, metal injection molded parts sheet.
- The two-step process consists of 1) extraction of metal from domestic titanium-bearing ores and 2) electro-refining the extracted metal.

- Due to the extreme reduction in processing costs this process make the market competitive with Asian products.

- LIFT/UAT requests a DPA Title III investment of ~$10 million.

- LIFT is already established as a DOD sponsored Manufacturing Innovation Institute and stands ready to rapidly action the plan they offer to benefit national security.

Allegheny Technologies Incorporated

- ATI encourages the TSWG to consider a policy that would involve compensating a domestic producer to convert some of the purchased sponge into titanium mill products that would be held as part of the defense stockpile, or in lieu of the titanium sponge.

- Holding downstream titanium mill products in the stockpile would make such material even more readily available in the event of a national emergency, and that inventory could be manufactured to specifications linked to certain defense needs

- [redacted]

- Recommends eliminating or reducing the normal duty on imports of titanium sponge and maintaining the current normal duties on imports of downstream titanium mill products. This will reduce the cost of titanium mill products and forgings to the defense and other critical industries and will increase the competitiveness of domestic mills in the U.S. market.

Dickson Consulting

- Two important industries that are dependent on a reliable supply of titanium products are the aerospace and medical device industries.

- The TSWG should make every effort to restore and grow the manufacturing base in the U.S.; offer incentives and support processing of titanium sponge and related products in the U.S.; and retain intellectual developments under the control of U.S. companies.

- Processing titanium sponge and related products in the U.S. supports the employment base and provides quality jobs.

- Dickson Consulting also notes that tariffs should be used to when necessary to discouraging dumping of titanium products into the U.S. and to enable fair trade and the funds received from this should be invested in the U.S. titanium processing operations. Consideration should be given to stockpiling titanium ingots.

- U.S. foreign policy efforts should be dedicated to identifying and establishing strong relations with non-U.S. titanium sponge producers.

- The U.S. cannot leave itself exposed to over-reliance on foreign supply chains or producers.

Embassy of Japan

- Japan is a long-term (60+ years) and stable supplier of titanium sponge to the United States, and strengthening such cooperative ties in the aerospace manufacturing supply chain and securing long-term and stable procurement of high-quality products will lead to greater international competitiveness for both the U.S. and Japan.

- Japanese producers supply most U.S. titanium sponge imports due to "quality reliability" and "free market factors."

- A greenfield investment would require the U.S. to create 22,000 metric tons of capacity to meet current U.S. demand requirements, which would be very costly. Such an investment would require consideration of future market prospects and the situation of downstream industries. The new producer would need to gain certification to provide rotating-grade sponge to end-users, a process which takes substantial investment and requires a long lead time (~ 3 years).

- Trade restrictions would not immediately lead to a greenfield investment, and a such an investment would cause long-term disruption of vital inputs and lead to cost increases for downstream industries.

- Eliminating the current 15% tariff on titanium sponge could help reinforce the competitiveness of U.S. downstream manufacturers of titanium mill products, which will in turn help bolster the aviation and defense industries. Eliminating the tariff could also ease the impacts of COVID-19 on these industries. Additionally, eliminating the tariff would eventually lead to the strengthening of its cooperative relationship with its ally, Japan.

Howmet Aerospace

- Stockpiling titanium sponge would provide assurances of the availability of this key feedstock material in the event of market disruption and bolster strategic domestic titanium industry capabilities

- A stockpile of titanium mill products would reduce lead time for the manufacture of end products required in a national emergency. These mill products should take the form of standard aerospace-grade alloy grades and be focused on ingot or billet rather than products further downstream.

- Removal of the titanium sponge tariff would increase domestic titanium producers' access to titanium sponge and will support titanium mill product producers' global competitiveness by reducing production costs.

- A brownfield or greenfield investment would create an imbalance in the industry and lead to additional job losses among existing titanium and specialty metals producers.

- Imports of titanium sponge do not constitute a threat to national security, but rather are critical to ensuring national security imperatives are met.

- Supports the legitimate alternative of a stockpile and also recommend ensuring cost-effective access to titanium sponge through the removal of the 15% tariff on titanium sponge imports.

Japan Titanium Society (JTS)

- JTS members (including Toho and Osaka) have been exporting titanium to the United States for nearly 70 years.

- Japan is reliable ally of the United States and Japanese titanium sponge producers have been the best partners of the U.S. titanium industry. Approximately 80% of Japanese sponge exports are destined for the United States, and JTS expects the U.S. market to remain essential to Japanese titanium sponge producers.

- JTS members are prepared to replace the production lost to TIMET's idling.

- The most effective way to ensure and increase access to titanium sponge in the United States would be to eliminate the U.S. import duty on titanium sponge. JTS believes that the elimination of the duty would help increase profits of U.S. titanium mill operators and could help lower costs and bolster economic performance of the entire titanium supply chain.

- JTS believes that if the TSWG must recommend other actions apart from those described above, they recommend stockpiling titanium sponge and/or ingot as described by Osaka and TOHO's public comments. JTS members are prepared to contribute to such a stockpile.

OSAKA Titanium technologies Co., Ltd. (OTC)

- OTC is a producer of titanium sponge and titanium ingot and provides premium-quality titanium sponge for use in the manufacture of titanium mill products that are critical to the U.S. economy and national security.

- The most effective way to ensure and increase access to titanium sponge in the U.S. would be for the U.S. government to reduce the cost of imported titanium sponge by removing 15% ordinary customs duty on Japanese titanium sponge, or any country that has signed a reciprocal defense procurement agreement with the U.S.

- OTC recommends stockpiling titanium sponge or both titanium sponge and downstream titanium products.

- Recommends that the U.S. maintain Japan as a reliable supplier of titanium sponge
- OTC is prepared to increase its U.S. exports to pre-pandemic levels as soon as demand improves. In addition, OTC will prioritize its supply for U.S. customers if there is an unexpected demand by the U.S.

Perryman Company

- After being thoroughly involved during the 232 Investigation in 2019, Perryman has changed their optimism on the U.S. titanium market due to COVID-19.

- The demand in commercial aerospace sector is down nearly 70% and a recovery is not expected until 2024, at best, and Perryman has been forced to implement workforce reductions of almost 30% of its pre-COVID employment levels

- Trade restrictive measures on TS are unnecessary to protect the national security and would threaten national security and harm domestic producers of titanium mill product.

- Perryman urges the TSWG to remove the counterproductive 15% tariff on titanium sponge imports and to avoid any trade-restrictive measures.

- Urge the TSWG to focus on the creation of stockpiles of critical titanium sponge and titanium mill products, which serve the dual purpose of directly benefitting U.S. producers and satisfying the public goal of ensuring access to critical resources in an emergency.

- Urges the TSWG to allow market forces to drive brownfield or greenfield investments in the titanium supply chain.

- Japan is a reliable and supplier and efforts should be made to increase the close cooperation with this ally, and the viable second source of titanium sponge from Kazakhstan.

- Moreover, Kazakhstan—a compliant member of the WTO and an active participant in NATO's Partnership for Peace program—is a reliable strategic partner of the United States in global security and trade.

- The U.S. can also ensure access to titanium sponge and titanium mill products in an emergency through the creation of strategic stockpiles.

Service Steel Aerospace

- No domestic source of supply and only one ally as a single source of supply makes the U.S. vulnerable.

- Recommend a stockpile of sponge or ingot, and/or a greenfield state of the art sponge plant that can compete globally.

- Urges the government to work closely with industry to support U.S. sponge production, but acknowledges the incentives are low to produce sponge in the U.S.

- The company currently sees no risk to supply chain but sees the possibility of a threat.

Thyssen Krupp

- The U.S. needs to increase the availability of domestic titanium. Without an increase, the aerospace community may start to become dependent on foreign entities in China and Russia.

- Recommends modernizing titanium facilities and titanium supply chains by moving to clean manufacturing of titanium and ensuring the U.S. remains globally competitive.

Titanium Metal Corporation (TIMET)

- Considering the events in 2020 (COVID-19), TIMET has changed its position and recommendations and believes, under the current economic conditions, national security can be protected without domestic sponge production capacity

- A titanium melter-centric stockpile approach is the most practical and easily adopted solution.

- The current 15% import tariff on titanium sponge from U.S. allies should be eliminated. The tariff should remain in place on sponge imported from China and Russia, and TIMET suggests agreeing to eliminate the tariff on titanium sponge from Japan through a trade agreement and to restore GSP eligibility for titanium sponge which would eliminate the tariff for GSP-eligible countries.

- Establishing a new producer in the U.S. is not necessary and the geopolitical risk associated with Japan's proximity to China and North Korea can be effectively managed through a 12 to18 month stockpile solution.

- TIMET's position changed due to the significant drop in demand stemming from COVID-19 impacts. The current expectation is that significant supply from both Japan and Kazakhstan will be available for the next 3 or 4 years and now is the ideal time to generate a 12 to 18-month stockpile. Each domestic melter should manage its own stockpile, and sponge is the ideal candidate for stockpiling due to its position prior in any manufacturing divergent point.

- Opposes any stockpiling solution of ingots that allows use of government resources to be used to import ingots.

- Each titanium melter should establish a rotation plan to protect against obsolescence, with the stockpile being rotated often enough so that no inventory exceeds a pre-established time limit.

- A necessary condition should be that the participating melter report quarterly to the USGS. In recent years, many of the melters have chosen not to report USGs resulting in an inability for the government to track the volumes and health of the titanium industry. Making USGs reporting a pre-condition of government sponge stockpile financing would reverse this trend.

Toho Titanium Company, Ltd.

- Has exported titanium sponge to the U.S. market since the 1950s primarily for use in aerospace applications.

- Reiterates that Japan is stable and reliable source of titanium sponge

- U.S. access to titanium sponge supplies should be ensured through eliminating the 15% tariff on titanium sponge and stockpiling titanium sponge products in the U.S.

UST- Kamenogorsk Titanium and Magnesium Plant JSC (UKTMP)

- Due to the onset of the pandemic, the impacts it has had on domestic titanium supply, and the reliability of foreign suppliers (Japan, China, Kazakhstan, Russia, and Ukraine), there is no need for U.S.-based titanium sponge production. This would be the worst possible time for investment in new or expanded titanium sponge production facilities anywhere.

- UKTMP recommends two actions that would benefit U.S. titanium sponge consumers: The existing U.S. tariff on titanium sponge and titanium ingots should be removed immediately, and recommends a strategic stockpile composed of titanium ingots.

- To enable acquisitions for the stockpile to be made as efficiently as possible, the U.S. tariff on ingots should be removed and any otherwise applicable Buy America, Buy American, or other such origin restrictions on U.S. Government purchases should be lifted for acquisitions for the stockpile.
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- The U.S. does not rely on a sole source of titanium sponge, and in fact U.S. consumers buy from a minimum of two and sometimes three or more suppliers, which reduces any risk of an interruption of supply from any one source.

- Steady returns of profit for debt service and investors could not be guaranteed and would be highly uncertain for a titanium sponge greenfield project. Furthermore, in the current titanium market any such investment would be certain to fail.

- UKTMP does not recommend a brownfield investment in a U.S. facility (RMI, ATI, or TIMET), as these companies have made it clear that, in their view, such an investment is not warranted.

Rebuttal Comment Summaries

TIMET – Rebuttal Comment

- Regarding Howmet Aerospace's suggestion regarding vendor management of a titanium stockpile:
    - Howmet fails to fully consider the complexities of the market, and it is still unclear whether the vendor would be foreign producer or the USG after purchase from the producer
    - Rather than vendor-managed, each melter participating in the stockpile program should maintain their own government-owned revolving stockpile
- Regarding numerous suggestions of stockpiling ingots and other mill products including, slabs, blooms, and billets in addition to sponge:
    - There are risks associated with stockpiling material the wrong grade, chemistry, size, weight, method, or specification of titanium metal product. As such, there should be a limit on the amount of value-added titanium material in the stockpile
    - TIMET recommends that no more than 10-25% of the stockpile volume at each melter be further downstream than sponge
    - Stockpiling ingots and other mill products would be more costly and more likely to result in obsolescence in the future.
- Regarding ATI's suggestion to maintain the tariff on imports of downstream titanium mill products:
    - TIMET supports the elimination of the tariff on titanium sponge because there is no domestic producer to protect. However, removal of the tariff on ingots and other downstream mill products would harm the domestic industry and result in both reduced investment and job loss in the United States.
    - TIMET agrees that tariffs should remain unchanged for ingots and other downstream titanium mill products.

- Regarding UKTMP's suggestion that the stockpile be ingots instead of sponge and the tariff on imports of titanium ingot be eliminated.
    - Rejects this suggestion due to above outlined issues.

Perryman – Rebuttal Comment

- Agrees with comments that supported the removal of the titanium sponge tariff and the maintenance of the tariff on titanium ingots and other titanium mill products and supports the strengthening of the Buy America provisions for the purchase of titanium products for the stockpile.

- Notes that these three things will generate synergistic benefits for the public and private sectors and address any national security concerns.

ATI – Rebuttal Comment

- Regarding UKTMP's suggestion to eliminate normal duties and the Buy American/domestic sourcing requirements for titanium ingot:
    - The removal of normal duties on titanium ingots or other downstream titanium products would reduce any benefit to industry from the reduction/removal of the titanium sponge tariff.
    - The U.S. maintains ample capacity for titanium ingot production and reducing or eliminating the titanium ingot tariff would not benefit domestic industry or enhance national security.

American Titanium Works (ATW) – Rebuttal Comments (3)

- Regarding ThyssenKrupp's recommendation to increase the availability of titanium in the United States:
    - Agrees with ThyssenKrupp and notes that a domestic greenfield project dedicated to the speedy production of low-cost titanium flat products is required to re-establish U.S. competitiveness in the manufacturing of this strategic material.
    - What is needed is domestic disruptive change. To do nothing is a strategic and commercial mistake and will further cede market share to U.S. political strategic rivals.
- Regarding ATI's comments on the prospects of a greenfield or brownfield investment in the domestic titanium supply chain:
    - Additional greenfield development represents a generational investment in long-term strategic assets to ensure US competitiveness and reduced reliance on Russia and China- it should not be assessed based on temporary market dynamics that are a historic aberration, but rather with respect to long-term demand for aircraft, weapon systems, and industry, with aircraft being the main market driver.
    - ATW's mill has been specifically designed to fix problems endemic to other titanium rolling operations before they happen. No mill that rolls titanium in the world has the same capability because they were never intended for this purpose

    - ATW believes, contrary to ATI, the DOD and industry should welcome the prospects of brownfield greenfield investments in downstream domestic titanium production if both desire to receive quality, low-cost titanium to meet their demand on a timely basis.
- Regarding AIA's comment that current global market demand does not support an investment in a domestic titanium sponge facility, and instead the U.S. industry has invested billions in downstream titanium mill product technology and capacity.
    - ATW has not seen the evidence of investments in domestic downstream titanium mill product technologies.
    - No strategic investment has been made by anyone in downstream low-cost titanium alloy plate production and to the extent incremental investments have been made to improve discreet aspects of alloy plate production, it has been in processes that support older inefficient business models.
    - Without action under DPA authority, U.S. industry cannot reasonably be expected to provide needed industrial resources or critical technology items in a timely manner. The creation of an alternate supply chain that would produce non-aerospace titanium using proven low-cost production methods would overcome the limitations associated with existing aerospace titanium market dynamics. The large capital investment required to establish such a low-cost titanium production capability created a risk-level that is too high for industry to justify the needed investment