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VIA E-MAIL AND HAND DELIVERY

Brad Botwin
Director, Industrial Studies
Office of Technology Evaluation
Bureau of Industry and Security
U.S. Department of Commerce
1401 Constitution Avenue NW, Room 1093
Washington, DC 20230

Re: *Section 232 National Security Investigation of Imports of
Aluminum: Response to Request for Comments*

Dear Mr. Botwin:

On behalf of Century Aluminum Company, we hereby submit comments in response to the Department of Commerce's request in its *Section 232 National Security Investigation of Aluminum*.¹

I. Introduction

Century is a domestic producer of standard grade and value-added primary aluminum products, as well as high-purity aluminum. Century has smelters in Sebree, Kentucky; Hawesville, Kentucky; and Mt. Holly, South Carolina. Century also has a smelter in Iceland.

Primary and high-purity aluminum are of vital importance to the national security of the United States, including its critical infrastructure. At present, there are only two operational producers of primary aluminum in the United States, Century and Alcoa Corporation. Century accounts for a majority of U.S. production of primary aluminum and is the only remaining commercial producer of high-purity aluminum in the United States, although just this year it was forced to curtail its remaining high-purity production.

¹ *Section 232 National Security Investigation of Imports of Aluminum*, 82 Fed. Reg. 21,509 (Dep't Commerce May 9, 2017) (notice of request for public comments and public hearing). These comments are timely filed in accordance with *Section 232 National Security Investigation of Imports of Aluminum*, 82 Fed. Reg. 25,597 (Dep't Commerce June 2, 2017) (notice of change in comment period for previously published notice of request for public comments and public hearing).

Before going any further, it is necessary to put into perspective some of the testimony provided to the Department of Commerce in yesterday's hearing in this investigation. Several witnesses from foreign invested downstream companies located in the United States asked the Department to protect their import interests to the detriment of Iraqi War veterans like Billy Hughes and the hundreds of other veterans who work at America's smelters, and to the detriment of U.S. national security. Over many years, we have heard many self-serving and cynical testimonies in many different settings, but these take the cake.

To be clear, the U.S. primary aluminum industry has been forced to endure the effects of unfair trade practices for so long that the U.S. industry is now in serious danger of completely disappearing. The loss of nearly all smelting capacity in the United States is real and has now become a matter of national security, not a trade remedy. There are only five remaining U.S. smelters, and only two of those are running anywhere close to capacity. In just the last four years, employment and production have fallen nearly 60 percent. Such a near thorough dismantling of the U.S. industry threatens to leave the United States completely dependent on unstable and insecure import sources to supply the aluminum it needs to defend itself and build its critical infrastructure.

The danger to the U.S. primary aluminum industry and the very real possibility that the United States may be left with no smelting capacity is incontrovertible. Instead, at the Department's hearing in this investigation, segments of the industry attempted to pit one end of the value chain against another and often argued for relief only for themselves, but to deny the U.S. primary aluminum industry the relief that it needs. Make no mistake, if the U.S. Government fails to adjust imports to preserve what is left of the primary industry in the United States, the "unintended consequence" will be the closure of all aluminum smelters in the United States and a complete dependence on unstable insecure sources of supply for our national defense and critical infrastructure needs.

To keep that from happening, the President must "adjust" non-Canadian primary aluminum imports. After the United States signed onto the General Agreement on Tariffs and Trade (GATT), Congress adopted the precursor to today's statute. At the time, Congress recognized that the United States should not simply throw up its hands and allow industries important to our national security to wither away. Instead, Congress enacted Section 232, requiring the President to adjust imports – fairly traded or otherwise – if they threaten to impair national security.

While most of the witnesses agreed that the root cause of the U.S. industry's problem is China's heavily subsidized excess production, many failed to recognize that these negative effects are transmitted to the United States through both the global commodity exchange and the primary imports themselves reflecting that

price. Contrary to some witness claims, no amount of blaming the victim can change those facts. While protecting downstream industries like the foil and extrusion industries through trade remedies is vital to address some of the symptoms, it cannot address the root cause of the problem in the primary industry. When imports are adjusted in trade remedy proceedings, Section 201 safeguard proceedings, or Section 232 proceedings, there may be “unintended consequences;” however, that should not be an excuse for not acting to save an industry that is vital to U.S. national security. Waiting for global negotiations to address the excess capacity problem without meaningful leverage while a vital U.S. industry perishes, is no solution at all. Only by adjusting all non-Canadian primary aluminum imports can the President provide sufficient relief for the U.S. primary industry to get back on its feet while the root causes of the problem can be addressed.

II. Request for Confidential Treatment

Century respectfully requests that the information contained in single brackets (“[]” throughout these comments be treated as business confidential information and withheld from public disclosure pursuant to 15 C.F.R. § 705.6(a). The information contained in brackets constitutes company proprietary information, including trade secrets and commercial and financial information, the release of which to the public would cause Century substantial harm. This company proprietary information is exempted from public disclosure by the Freedom of Information Act.² This information is exempted from public disclosure in trade remedy cases, pursuant to 19 U.S.C § 1677f(b). A non-confidential version of this letter with business confidential information redacted is being submitted concurrently with this business confidential version.

III. Legal Framework

A. Statute

Section 232 of the Trade Expansion Act of 1962 directs the Secretary to determine whether “an article is being imported into the United States in such quantities or under such circumstances as to threaten to impair the national security.”³ Commerce has interpreted “national security” to include the needs of “critical industries,”⁴ consistent with the legislative history of a predecessor provision.⁵

² 5 U.S.C. § 552(b)(4).

³ 19 U.S.C. § 1862(b)(3)(A) & (c)(1)(A).

⁴ U.S. Dep’t Commerce, Bureau of Export Administration, *The Effect of Imports of Iron Ore and Semi-Finished Steel on the National Security* (Oct. 2001) (“Iron Ore and Semi-Finished Steel

Since Commerce adopted that interpretation, Congress has pressed for greater action to secure the nation's critical infrastructure. In 2002, Congress passed the Homeland Security Act. Section 201 of that Act directs DHS to "develop a comprehensive national plan for securing the key resources and critical infrastructure of the United States"⁶

In the course of fulfilling its duties under the Act, DHS designated critical manufacturing as a critical infrastructure sector.⁷ Within that sector, DHS has identified primary metals manufacturing, including aluminum manufacturing.⁸ Accordingly, aluminum is one of the critical industries within the scope of Section 232.

B. Regulations

Section 232's implementing regulations set out the criteria that the Department of Commerce must consider in determining the effect of imports on national security.⁹ In its May 9 Federal Register notice seeking comments on the aluminum investigation, the Department identified the criteria of particular interest:¹⁰

- (a) Quantity of or other circumstances related to the importation of aluminum;
- (b) Domestic production and productive capacity needed for aluminum to meet projected national defense requirements;
- (c) Existing and anticipated availability of human resources, products, raw materials, production equipment, and facilities to produce aluminum;

Report") at 5, available at <https://www.bis.doc.gov/index.php/documents/section-232-investigations/81-iron-ore-and-semi-finished-steel-2001/file>.

⁵ *Id.*

⁶ 6 U.S.C. § 121(d)(5).

⁷ *Designation of the National Infrastructure Protection Plan Critical Manufacturing Sector*, 73 Fed. Reg. 23,476 (Dep't Homeland Security Apr. 30, 2008) (notice and request for comments).

⁸ U.S. Dep't Homeland Security, *Critical Manufacturing Sector-Specific Plan: An Annex to the NIPP 2013* (2015) ("DHS Critical Manufacturing Sector Specific Plan") at 3-4, available at <https://www.dhs.gov/sites/default/files/publications/nipp-ssp-critical-manufacturing-2015-508.pdf>.

⁹ 15 C.F.R. § 705.4.

¹⁰ *Section 232 National Security Investigation of Imports of Aluminum*, 82 Fed. Reg. at 21,510.

(d) Growth requirements of the aluminum industry to meet national defense requirements and/or requirements to assure such growth;

(e) The impact of foreign competition on the economic welfare of the aluminum industry;

(f) The displacement of any domestic aluminum causing substantial unemployment, decrease in the revenues of government, loss of investment or specialized skills and productive capacity, or other serious effects;

(g) Relevant factors that are causing or will cause a weakening of our national economy; and

(h) Any other relevant factors.

IV. Background on Aluminum

Aluminum is made from bauxite, a red clay-like soil. Bauxite is refined into alumina, also referred to as aluminum oxide, and alumina is in turn further processed into primary aluminum.¹¹ Specifically, alumina is dissolved in a solution in a pot. An electric current is passed through carbon anodes to separate the oxygen from the aluminum. The aluminum sinks to the bottom of the pot. Multiple pots are connected to form a single circuit, or a potline. An aluminum plant will have between 100 and 500 pots, producing aluminum continuously.¹² In general, the aluminum produced by the above process contains 99.5 percent aluminum, with trace amounts of other elements, primarily silicon and iron.¹³

Secondary aluminum is manufactured differently. Aluminum is extracted from existing products and prepared for recycling. The resulting scrap is collected and sorted, then placed in a melting furnace.¹⁴ However, even in producing secondary aluminum, primary aluminum is added in at the cast house to achieve the appropriate chemical and physical properties. As testimony at the U.S. International Trade Commission investigation into aluminum explains, there is nowhere near

¹¹ [redacted], attached as **Exhibit 2**.

¹² [redacted] at 3.

¹³ Alton T. Tabereaux, *Surge in the Growth of the High Purity Aluminum Refining Industry*, *Light Metal Age*, 38, 39 (Oct. 2016) (“Tabereaux Article”), attached as **Exhibit 3**.

¹⁴ The Aluminum Association, *Secondary Production*, available at <http://www.aluminum.org/industries/production/secondary-production>.

enough scrap aluminum to satisfy demand.¹⁵ To satisfy total downstream demand for aluminum sheet, plate, and extrusions, primary aluminum makes up the overwhelming amount of the product mix.¹⁶

High purity aluminum is high grade primary aluminum. Outside the United States, the number of “nines” in the percentage of purity reflects the degree of purity, and shorthand references to high-purity aluminum are based on the number of “nines.” For example, aluminum with 99.9% purity would be referred to as “3N.” A purity of 99.99% would be referred to as 4N, and so on.¹⁷ In the United States, high-purity aluminum is typically referred to by grade. Thus, high-purity aluminum is usually referred to as P0404 or higher.

To produce high-purity aluminum, Century uses a “wet scrubber” process in Hawesville. The advantage of the wet scrubber process is that it provides a way to capture iron and other impurities, facilitating the production of high-purity metal.¹⁸ Century’s other smelters, and indeed almost every other smelter in the world, use a dry scrubber process, where additional amounts of alumina are added to absorb the fluorides as they burn off. While the dry scrubber process can occasionally produce high-purity aluminum, such smelters are not capable of consistently producing commercial quantities of the product.¹⁹

Standard grade aluminum is denoted as P1020, where the 10 refers to a maximum of 0.10 percent silicon content and the 20 refers to 0.20 percent iron content. There are varying grades of primary aluminum beyond the standard base P1020 grade that is traded on the LME. Century defines high-purity aluminum at grades P0404 and higher. Recently, demand for these grades has been increasing.

¹⁵ Hearing Transcript, *Competitive Conditions Affecting the U.S. Industry*, USITC Inv. No. 332-557 (Sept. 29, 2016) (“Tr.”) at 109-112 (Dr. Scott).

¹⁶ At the hearing, a representative of the Russian Federation contended that the problem facing the primary aluminum industry is the raise of secondary aluminum production. This misses the point. Secondary aluminum production consumes both primary aluminum and scrap aluminum to produce intermediate forms (e.g., billets, slabs) for use in semi-finished downstream production. Statistics of semifinished consumption indicate that the ratio of primary aluminum and scrap used to produce those downstream products has not changed in any significant way. Thus, whether the intermediate forms used to produce the semifinished product came from primary or secondary production says nothing about the degree to which the market continues to demand primary aluminum to satisfy its downstream needs. The amount of primary aluminum consumed in semifinished production has remained constant.

¹⁷ Tabereaux Article at 39, attached as **Exhibit 3**.

¹⁸ Stephen J. Lindsay, *Very High Purity Aluminum: An Historical Perspective*, 66 *Journal of Materials* 217, 220 (Dec. 2014), attached as **Exhibit 4**.

¹⁹ Some high-purity aluminum may be produced more or less by accident using the dry scrubber process, but the results are not consistent, so that these smelters do not represent a reliable source of high-purity aluminum.

High-purity aluminum is used in a number of applications, including the production of semiconductors and LCD screens, as well as in certain types of capacitors. From a national security perspective, however, the most important use is in aircraft wing spars, turbine blades, aluminum armor plating, and solid rocket fuel. These are applications that place a premium on both weight and formability. As with practically all primary aluminum, high-purity aluminum is always alloyed with other elements and cast into semifinished forms such as ingots or billets before being rolled or cast into final products.

When it leaves the smelter, high-purity aluminum can physically take a number of forms. The most common are ingots and powder. For purposes of this request, “high-purity aluminum” is defined as any unalloyed aluminum product, in any form..²⁰

Primary aluminum, including standard grade and high-purity, is used in critical infrastructure applications, including defense.

V. Analysis

As the discussion of the criteria in the Federal Register notice below reveals, the circumstances related to the importation of aluminum into the United States threaten to impair the national security of the United States.

A. Quantity of or other circumstances related to the import of aluminum

Understanding how aluminum and aluminum products are priced is critical to understanding the circumstances related to the import of aluminum, and how imports have affected the U.S. market. With that understanding, the context in which primary and high-purity aluminum are imported into the United States will become clear, as will the damaging consequences of these imports to our ability to meet our national security needs.

1. Global Pricing of Aluminum

Primary aluminum is a globally traded commodity that is transparently traded on the London Metal Exchange (“LME”). The LME services as the basic price discovery mechanism for all aluminum pricing all over the world. The LME maintains warehouses all over the world. As a result, as Dr. Scott explained at the hearing, the LME cash price reflects the total global supply and demand for primary aluminum, regardless of where it is produced, sold, or stored. [

²⁰ See generally Tabereaux Article, attached as **Exhibit 3**.

]²¹

Within China, there is also an aluminum exchange, the Shanghai Futures Exchange (SHFE). Prices for primary aluminum in China are set with reference to the SHFE. [

]²²

Primary aluminum prices in the United States reflect the base LME cash price, with a premium associated with delivery.²³ Prices of high-purity aluminum are also based on the LME, with a premium to reflect the additional value added. Accordingly, the LME price for aluminum has a direct impact on the price of both standards-grade primary aluminum, as well as high-purity aluminum – regardless of where the aluminum is made or consumed.

From 2011 to 2016, the LME price fell by 29 percent. Based on average unit values for imports of primary aluminum that reflect the standard unwrought P1020 ingots traded on the LME, import prices of primary aluminum into the United States fell by 30% percent over the same period..²⁴ The fact that both the LME and import prices into the United States fell at the same rate, over the same priod, illustrates how imports transmit the distortions caused by Chinese excess capacity. Notably, these price drops do not reflect any decline in costs or demand. Rather, they are primarily the result of an enormous increase in Chinese primary aluminum capacity and production – an increase divorced from market signals, as discussed further below.

The following chart shows primary aluminum production in China and in the rest of the world between 2004 and 2016.

²¹

[

], attached as **Exhibit**

5.

²²

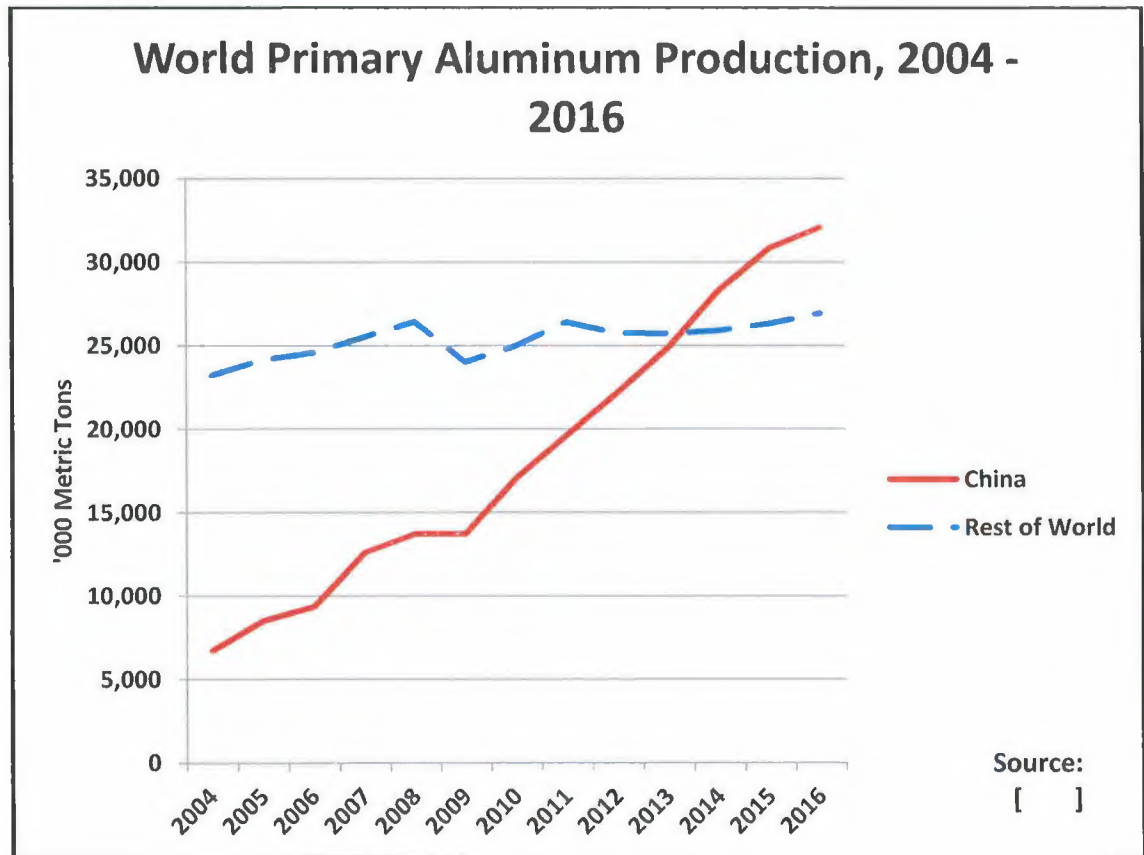
Id. at 3, attached as **Exhibit 5**.

²³

Tr. at 197 (Mr. Hamilton).

²⁴

Average Unit Values for imports under HTSUS 7601.10 and 7601.20.



Between 2004 and 2016, Chinese production of primary aluminum grew by more than 28 million tons, an increase of 376 percent. Over the same period, primary aluminum production in the rest of the world increased by less than 16 percent. In 2016, China accounted for 54 percent of the world's total production of primary aluminum, compared to only 22 percent in 2004.²⁵

Growth of this magnitude and rapidity does not reflect any competitive advantage for China in aluminum production. In fact, Chinese producers are at a competitive *disadvantage*. As **Exhibit 6** shows, China has always had by far the highest per-ton electricity costs of any aluminum producing region.²⁶ [

] has performed a detailed analysis of the cost structure of Chinese aluminum smelters compared to

²⁵ See [] attached as **Exhibit 7**.

²⁶ Relative Energy Prices, attached as **Exhibit 6**.

smelters in the rest of the world.²⁷ [] found that Chinese producers are consistently among the highest-cost in the world. []²⁸ []

].²⁹ []

]

[]³¹

[], the headlong expansion of aluminum capacity in China makes no economic sense. Rather, the growth of the Chinese aluminum industry represents a deliberate decision by the Chinese government to pour resources into the industry without regard to economic considerations or market forces. In a complaint filed with the World Trade Organization, the United States contends that China has provided a range of subsidies to its aluminum companies, from loans and other financing, to inputs such as coal, alumina, and electricity.³² The U.S. concerns have been echoed in the financial markets, where short sellers have argued that the largest aluminum producer in the world, has hidden the subsidies it receives, inflating its profits.³³

The result has been to distort global aluminum supply and crash prices, with disastrous consequences for the U.S. primary aluminum industry, including the high-purity aluminum industry.

²⁷ [], attached as **Exhibit 8**.

²⁸ *Id.* at 1.

²⁹ *Id.* at 1.

³⁰ *Id.* at 2-3.

³¹ [] at 8, 21-22, attached as **Exhibit 2**.

³² *China – Subsidies to Producers of Primary Aluminum*, Request for Consultations by the United States, WT/DS519/1 (Jan. 17, 2017) at 1-2.

³³ Emerson Analytics, *China Hongqiao – Electrifying Margins to Absurd Levels* (Feb. 28, 2017) at 2, available at http://www.emersonanalytics.co/downloads/ChinaHongqiao-HK_1378-StrongSell.pdf.

As noted above, the LME acts as a global aluminum pricing mechanism, reflecting the worldwide balance of supply and demand in the market. Accordingly, Chinese overcapacity and production depresses the global price of aluminum without regard to whether that production is exported or consumed domestically.

This relationship is confirmed when the price movement of aluminum is compared to other metals. [

] [

] ³⁴ [

] ³⁵ [

The drop in LME prices has put enormous economic pressure on the U.S. aluminum producers, including Century. This impact is evident in U.S. production and capacity. As the following chart shows, U.S. production of primary aluminum fell by two-thirds between 2005 and 2016. Over this period, the United States closed production capacity amounting to nearly 1.5 million metric tons per year, with the most recent closure occurring in March 2016.

³⁴ See [] at 4-5, attached as **Exhibit 5**.

³⁵ See *id.* at 5.

U.S. Production of Primary Aluminum, 2004 - 2016



Significantly, once these facilities close, they almost never reopen. The reason lies in the economics of restarting potlines once they have been curtailed. An aluminum pot typically runs continuously between 1,500 and 3,000 days, until the pot must be relined.³⁶ At that point, the pot is taken offline and refurbished. Taking a pot offline is expensive. The pot must be partially drained and the carbon anodes must also be removed. Before the pot can be restarted, it must be inspected and repaired; it may need to be completely rebuilt. Pots are refurbished on a rolling basis so that the potline can continue to produce aluminum. The process usually takes between 30 to 45 days and costs [

]³⁷ Shutting down an active facility properly is an expensive proposition. Restarting it again requires relining and refurbishing all existing pots, and, given multiple potlines at an individual facility, can cost []. Such high fixed costs greatly limit the ability to restart facilities that have been taken down completely. Those

³⁶ [] at 5, attached as **Exhibit 2**.

³⁷ *Id.*

figures include the costs of curtailing the pots, as well as the restart for labor, loss of pot life, creation of aluminum scrap, and other inefficiencies.

In addition, taking too many potlines offline affects the ability to run the remaining potlines efficiently. [

] [

] ³⁸

For these reasons, the decision to curtail or shut down potlines is not taken lightly. [

] ³⁹ [

⁴⁰ In this context, it becomes clear that aluminum smelters must have confidence that the price will support restarting potlines for a reasonable period of time.

Further, because of this dynamic, as more and more Chinese production comes online, it must remain productive at high utilization rates, regardless of the price environment at the time. This only further exacerbates the negative price effects, especially when considering the extremely large smelters the Chinese have added in recent years in the name of “improved efficiency.”

2. Circumstances under which Aluminum is Imported

Having outlined the pricing mechanism and the effect of overcapacity on the global price of aluminum, we now turn to the circumstances under which aluminum is imported into the U.S. market. These circumstances are compromising the nation’s ability to meet its national security needs.

At the outset, it should be noted that the Chinese government imposes a 15% export tax on primary aluminum.⁴¹ As a result, while China is by far the largest producer of primary aluminum, it is not among the largest export sources of primary aluminum. With what is essentially captive production, Chinese producers do not

³⁸ *Id.* at 6.

³⁹ *Id.* at 6.

⁴⁰ *Id.* at 6.

⁴¹ *See, e.g.*, Aluminum Corporation of China Limited, Form 20-F, Securities and Exchange Commission (filed on Apr. 18, 2017) at 56, available at <https://www.sec.gov/Archives/edgar/data/1161611/000116161117000011/d20f.htm>.

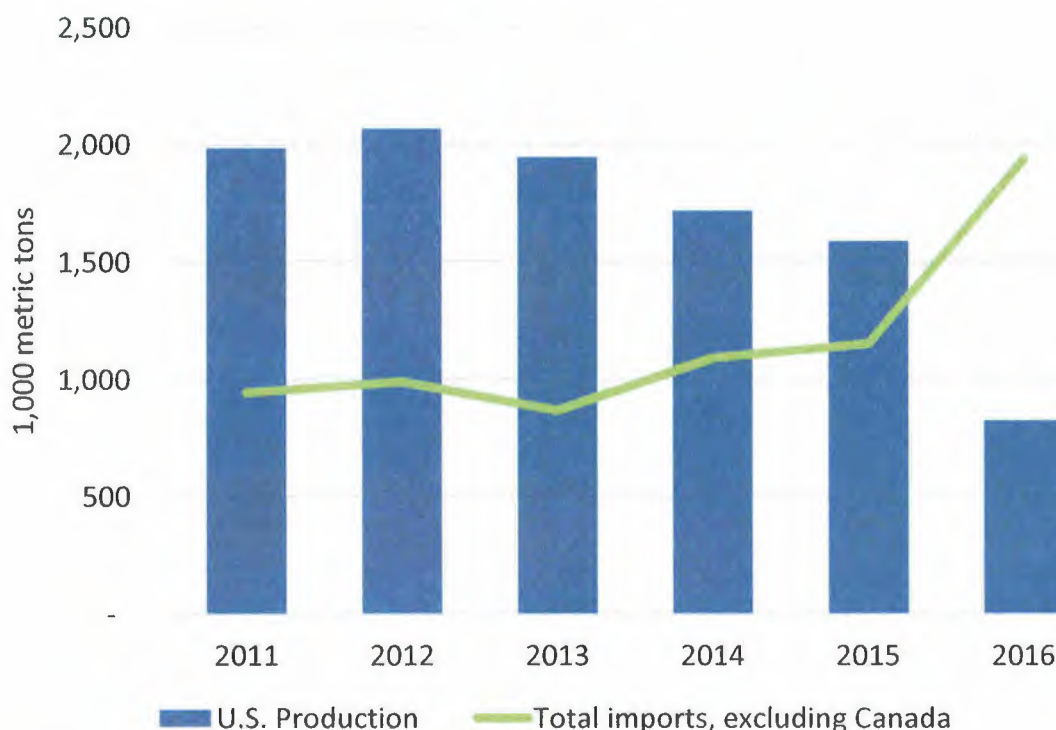
import aluminum from producers outside China, and accordingly, much of that primary aluminum makes its way into the United States in the form of downstream products, such as sheet, plate and extrusions. As the price collapsed and the U.S. producers were forced to curtail capacity, imports from other sources surged into the United States. Since 2011, imports from non-Canadian sources are up over 101% while U.S. production is down over 60%.⁴²

(At the hearing, a question was asked as to how imports of semi-finished aluminum from China contribute to the problems besetting the U.S. primary aluminum industry. These semi-finished products are produced from Chinese primary aluminum that, due to the export tax, is essentially captive. Semi-finished goods producers in China do not import primary aluminum in any meaningful quantity. These semi-finished goods are then exported to the United States, at depressed prices, displacing domestic production and further discouraging the use of domestic primary aluminum.)

The following chart illustrates the dynamic of increasing imports of primary aluminum, with declining U.S. production:

⁴² Imports of Primary Aluminum, 2011-2016, attached as **Exhibit 9**.

Primary Aluminum: U.S. Production and U.S. Imports, 2011-2016



Because primary aluminum is priced on a global basis, as excess Chinese production depresses global exchange prices, those distorted prices are further transmitted to the United States by the imports. From 2011 to 2016, the LME cash price declined by over 30 percent. Likewise, over this same period of time, the average unit value of imports of unwrought unalloyed primary aluminum declined by the same amount from 2011 to 2016.⁴³ Consequently, not only do their imports transmit the Chinese price, but without adjusting imports, prices will not recover to allow U.S. production to restart.

Moreover, while the Chinese are not exporting primary aluminum to the United States, they are exporting downstream products, and these products have flooded the U.S. market. From 2012 to 2016, imports of semi-finished aluminum from China increased by over 239%. The U.S. government has found aluminum extrusion exports from China to be unfairly traded, and the domestic aluminum foil industry recently initiated trade remedy proceedings. The United States has seen

⁴³ Imports of Primary Aluminum, 2011-2016, attached as **Exhibit 9**. Subheading 7601.10 reflects the same unwrought unalloyed primary aluminum ingot traded on the LME.

surges in imports of aluminum wheels from China, as well as other aluminum products not expressly covered by the extrusion order. The flood of downstream products translates into a second wave of harm on the U.S. industry: these imports flood the U.S. market strip demand for U.S. semi-finished products – and thus of U.S. primary aluminum as well.

High-purity aluminum is similarly affected. There is no breakout for high-purity aluminum in the Harmonized System. To estimate import volumes of high-purity aluminum, Century searched the [] database for imports of primary aluminum, and then manually selected entries reflecting high-purity grade aluminum. This includes entries under both HTS Nos. 7601.10 and 7601.20. Both are included because the [] identification of HTS category is not always accurate, and because imports of alloyed high-purity aluminum compete directly with the high-purity aluminum produced in the United States, which is always alloyed before use. Based on these criteria, imports of high-purity aluminum [] from 2013 to 2016, increasing from [] to [].⁴⁴

All imports were from the United Arab Emirates. The only producer of high-purity aluminum in the UAE is the Dubai Aluminum Co., popularly known as Dubal. Dubal is a subsidiary of Emirates Global Aluminum (“EGA”), a state-owned entity. Dubal’s high-purity aluminum is also priced based on the LME. However, Dubal is in a better position to withstand uneconomic conditions because of its access to inexpensive energy and its status as an SOE.⁴⁵

Imports of high-purity aluminum from the UAE compete head-to-head for sales with the high-purity aluminum produced by Century. Testimony before the U.S. International Trade Commission confirms direct competition between domestically produced high-purity aluminum and imports from the UAE, as well as the impact of Chinese overexpansion on the future of the domestic high-purity aluminum industry. Constellium Rolled Products Ravenswood, LLC, for example, produces aluminum products for both defense and aerospace applications. At a hearing held by the U.S. International Trade Commission, Mr. Lloyd A. Stemple, the CEO of Constellium explained that, because of Chinese overexpansion, Constellium was concerned whether the United States would be able to supply all of Constellium’s requirements for high-purity aluminum. Mr. Stemple stated that “I used to buy 100 percent of my high purity prime from him {referring to Mr. Bless

⁴⁴ Because this estimate relies upon descriptions of high-purity aluminum in the “Description” field of the [] data, Century believes that it substantially understates the total amount of high-purity aluminum actually imported.

⁴⁵ Florian Neuhof, *Boardroom Reshuffle for Dubai Aluminium*, The National (Mar. 20, 2013), available at <http://www.thenational.ae/business/industry-insights/economics/boardroom-reshuffle-for-dubai-aluminium>.

of Century}}, and with the uncertainty in the U.S. smelting base this year, I was forced to buy 50 percent of my high prime, high purity prime from Dubai.”⁴⁶

These circumstances have taken a toll on the domestic industry. Noranda’s New Madrid smelter produced limited quantities of high-purity aluminum, but that facility shuttered at the beginning of 2016. The elimination of that capacity did not result in more production at Hawesville, which remains partially idled; instead, imports from the UAE soared, as noted above. The surge in imports in 2016 confirms this point. Century’s customers continued to move all of their purchasing to Dubal, to the point where Century’s entire high-purity aluminum production ceased earlier this year. Dubal consistently undersold Century over this period, causing high-purity premiums to collapse. Normally, there is a \$200 per ton premium on high purity aluminum. As high purity from Dubal surged into the U.S. market, the high-purity premium declined by over [] from 2012 to 2016. In this context, it is no surprise that Century was forced to shut down its high-purity production.

There are other producers of high-purity aluminum around the world, but they do not export their product to the United States. The only source that produces quantities of high-purity aluminum similar to those produced by Century is New Zealand, but that demand is already locked up in an existing supply agreement to another country.⁴⁷ Other sources include China, Germany, Russia, Norway, and Japan, but the quantities they produce are comparatively small and not offered for sale in the United States.⁴⁸ It is our understanding that the Chinese are beginning to make inquiries about exporting high-purity aluminum to the United States. Regardless, these sources not safe and reliable.

In a growing domestic market where two producers, Century and Dubal, essentially satisfy demand, shipments increased from [] in 2013 to []. Prices should have increased. Instead, Century’s high-purity premiums declined due to Dubal’s consistent underselling, leading Century to cease production.

Before turning to the next criterion, it is important to address a number of incorrect and blatantly false assertions made at the hearing regarding the reasons for the current state of the domestic industry. Some witnesses asserted that the U.S. industry is in trouble not because of excess global supply, a crash in prices, and a surge in imports transmitting that price, but because of (1) high energy costs; (2) lack of investment; and (3) increased availability of scrap. Each of these arguments

⁴⁶ Tr. at 111-112 (Mr. Stemple).

⁴⁷ Tabereaux Article at 40, 42, attached as **Exhibit 3**.

⁴⁸ Tabereaux Article at 42, attached as **Exhibit 3**.

is simply false. Other witnesses argued that imports have come to the United States because of inflated delivery premiums due to U.S. rules for warehousing aluminum. Again, this is not true.

With respect to energy costs, it should be noted that China by far and away has the highest energy costs of any aluminum producer in the world, yet has consistently increased capacity and production despite this significant inherent disadvantage. Not surprisingly, when there is no need to generate any return on investment, extremely high energy costs are not an impediment to investment and capacity expansion in China. Notwithstanding the uneconomic expansion by Chinese producers, with the advent of fracking and the energy revolution in the United States, industrial energy prices have been declining consistently. According to [] by 2016, U.S. power prices per ton of aluminum produced declined to an all-time low and are now lower than the average per ton power prices for aluminum producers in Europe, other Asian countries, and Africa, and have always been lower than Chinese power prices.⁴⁹ In fact, over this period, European power prices have been similar to U.S. prices if not higher, yet less European production has shuttered over this period of time. This is likely due to the large amount of state-ownership in many of the European smelters.⁵⁰

With respect to lack of investment, we just heard at the hearing yesterday that Noranda's smelter has been purchased out of bankruptcy. Moreover, the crash in global aluminum prices caused by China's heavily subsidized capacity has everything to do with the purported lack of investment. Only in China, where capital is provided by state-owned banks at uncompetitive interest rates, is it possible to ignore the need to generate returns on investment. U.S. producers on the other hand are subject to market disciplines and must earn a return on their investment, which is impossible when the Chinese crash the price. In a market that reflects reasonable non-distorted pricing, the U.S. industry stands ready to reinvest as you from Bob Prusak's testimony yesterday. But, without relief, that investment will not be realized.

With respect to scrap, that argument fails as well. According to [], the proportion of scrap and primary aluminum used to make downstream semifinished products has not changed in any meaningful way. Thus, any increase in demand for scrap has not come at the expense of demand for primary aluminum.

With respect to the warehousing rules, the litigation referenced at the hearing was largely dismissed, and regardless, the rules were changed in 2013. Yet,

⁴⁹ See Relative Energy Prices, attached as **Exhibit 6**. [

].

⁵⁰ See Smelter SOE owners and operators excluding China 2016, attached as **Exhibit 10**.

prices continued to slide after the rules were changed and imports continued to surge. In fact, the charts below show that the rate of imports entering the U.S. increased significantly between 2015 and 2016, well after the warehousing rules were changed. Once again, this is nothing more than a red herring.

B. Domestic production and productive capacity needed for projected national defense requirements

As discussed above, “national security” in the context of Section 232 includes defense as well as other critical industries. The applications for high-purity aluminum and primary aluminum are addressed below.

1. High Purity Aluminum

High purity aluminum is used in a wide variety of applications. These include aircraft, aerospace, hard disk substrates, bonding wires, wiring materials for semiconductors and liquid crystal display panels, and stabilizers for superconductors and thermal conductors. They are also used in foils for aluminum electrolytic capacitors; aluminum electrolytic capacitors are themselves used in a diverse set of applications, including electric appliances, information technology devices, electric vehicles, hybrid cars, and equipment for solar and wind power generation.⁵¹

High purity aluminum is unique because of its strength, formability, corrosion resistance, and light weight. In particular, demand for high purity aluminum is significant for the production of alloys for aircraft. The use of high purity aluminum is associated with a reduction in the onset of fatigue cracks.⁵² Century’s Hawesville facility has been recognized for its “high purity product {that} supports the U.S.’ national security efforts, as it is used in defense applications, such as the F16, Airbus, Naval war vessels, 747 airplanes, and the International Space Station.”⁵³ It is also used in the F-35 Joint Strike Fighter, the F-18 “Super Hornet”, the C-17 Globemaster, and the armor plating used in many fighting vehicles.

In addition to the need to compensate for procurement foregone during sequestration, demand for new military equipment can be expected to increase in light of the Administration’s prioritization of military readiness. For example, the

⁵¹ Tabereaux Article at 39, attached as **Exhibit 3**.

⁵² *Id.* at 40.

⁵³ *Id.*

final 2017 budget provided \$1.1 billion for 14 new F-18s.⁵⁴ Boeing, which manufactures the F-18, anticipates that production will ramp up – perhaps even doubling – in the next decade, forecasting the procurement of another 100 F-18s in the next five budget cycles.⁵⁵ Indeed, after the 2018 budget was submitted, the Navy sent Congress a request for an additional \$739 million for 10 F-18s, and \$540 million for four F-35s.⁵⁶ Assuming Century’s most recent peak production year of 2014 at [] of high-purity went *entirely* to the construction F-18s, it would still amount to less than [] of the fighter jets’ cost. Thus, while the drop in the price of high-purity due to Dubal’s underselling is destroying Century’s ability to produce high purity, restoring the price would have little effect on the overall cost of the plane. Based on the two domestic operating high-purity producers’ production, plus imports of high-purity demand, the size of the domestic market for high-purity appears to be approximately []⁵⁷ – and that is before the increase in military expenditures is accounted for.

Further, projections are that production of the F-35s will increase significantly through 2022:⁵⁸

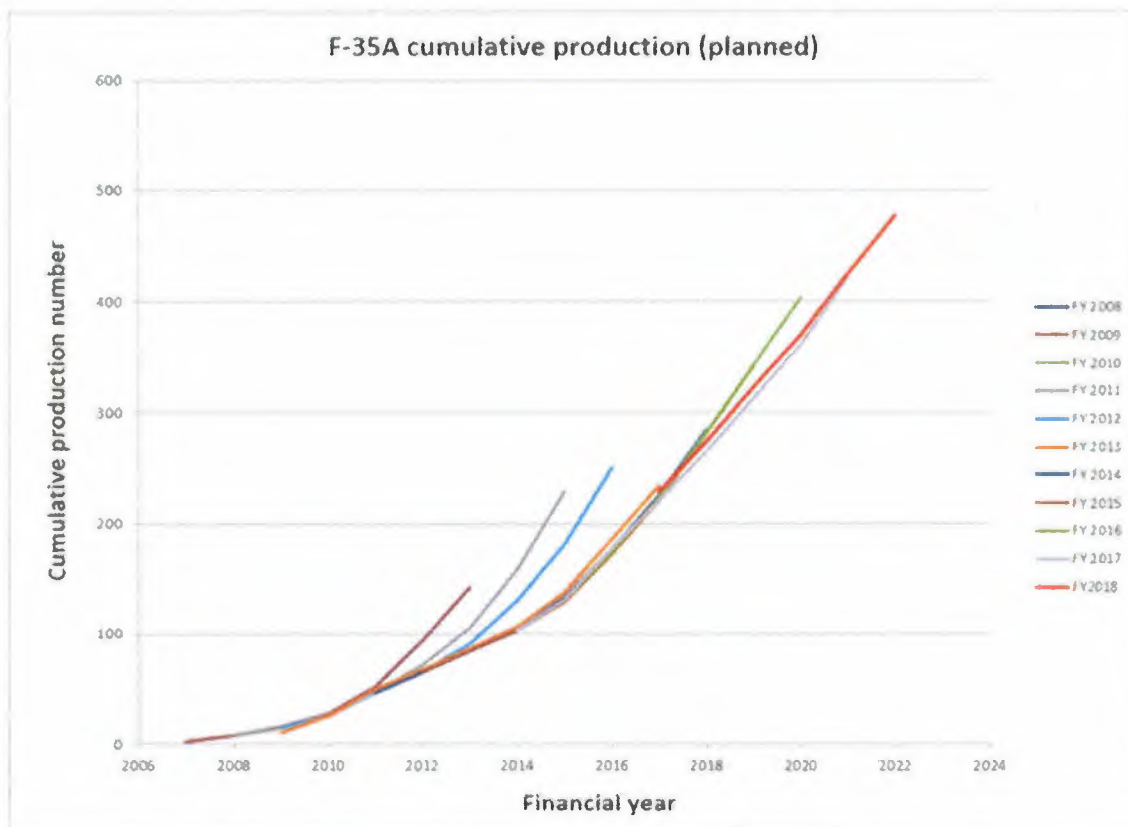
⁵⁴ Under Trump, Super Hornet Gets a Boost: Production Set to Double, CNBC (May 8, 2017), available at <http://www.cnbc.com/2017/05/08/super-hornet-production-set-to-double-as-trump-gives-program-a-boost.html?view=story&%24DEVICE%24=native-android-mobile>.

⁵⁵ Under Trump, Super Hornet Gets a Boost: Production Set to Double, CNBC (May 8, 2017), available at <http://www.cnbc.com/2017/05/08/super-hornet-production-set-to-double-as-trump-gives-program-a-boost.html?view=story&%24DEVICE%24=native-android-mobile>.

⁵⁶ Sydney J. Freedberg, Jr., *Aircraft Dominate Navy Unfunded List; Still No New Ships*, Breaking Defense (June 3, 2017), available at <http://breakingdefense.com/2017/06/aircraft-dominate-navy-unfunded-requirements-still-no-new-ships/>; Christopher P. Cavas, *U.S. Navy Unfunded Requirements List Totals \$4.8 billion*, Defense News (June 2, 2017), available at <http://www.defensenews.com/articles/us-navy-unfunded-requirement-list-totals-48-billion>.

⁵⁷ Noranda provided its information confidentially for the sole purpose of this submission.

⁵⁸ Andrew Davies and James Mugg, *FY 2018 Budget: F-35 and Super Hornet Updates*, Real Clear Defence (May 31, 2017), available at http://www.realcleardefense.com/articles/2017/05/31/fy_2018_budget_f-35_and_super_hornet_updates_111486.html.



Source: USAF budget papers, FYs 2008–2018.

As noted above, high purity aluminum is also used in armor plating. Because of its lightweight properties and resistance to corrosion, aluminum is an ideal metal – enhanced protection can be provided without additional weight, promoting mobility and survivability.⁵⁹ For example, one U.S. producer, Constellium, has created an armor suite for hulls, underbellies, and appliqué.⁶⁰ Witnesses at the hearing also discussed the importance of aluminum to the production of Humvees and Bradleys.

In 2017 Century was the only U.S. producer of commercial quantities of high-purity aluminum, but has been forced to suspend its production. The following table shows the quantity and value of Century’s production of high-purity aluminum from 2013 through 2016.

⁵⁹ Michael Niedzinski, *Advanced Aluminum Armor Alloys*, Light Metal Age (Dec. 19 2016), available at <https://www.lightmetalage.com/news/industry-news/flat-rolled-sheet/article-advanced-aluminum-armor-alloys>.

⁶⁰ *Armored Vehicles Parts Supplier: Aluminum Armor, 2139, 2195, 7449 alloys*, Constellium (last updated Mar. 6, 2017), available at <http://www.constellium.com/markets/defense/armored-vehicles>.

TABLE I
CENTURY'S PRODUCTION OF HIGH-PURITY ALUMINUM

	Quantity (Metric Tons)	Value (\$Million)	Average Unit Value (\$/MT)
2013	[]	[]	[]
2014	[]	[]	[]
2015	[]	[]	[]
2016	[]	[]	[]

As imports soared, premiums collapsed, and so did Century's production.

Noranda also produced high-purity aluminum in the United States. However, the company shuttered its facility in early 2016 and ceased its high-purity production in [].

Century has the only "wet scrubber" smelter in North America, which is what allows it to produce large commercial quantities of high-purity aluminum. While there are other processes available to make high-purity aluminum, such as fractional crystallization or segmentation, they cannot produce large commercial quantities.⁶¹ At the hearing, Arconic contended that it has the ability to make high-purity aluminum, and that its production is "easily scalable." However, Arconic uses the fractional crystallization method to make high-purity aluminum which *itself* requires high-purity aluminum. As a result, Arconic's ability to produce a very high grade of high-purity aluminum does not change the underlying problem, which is that the United States is excessively dependent on unsafe and unreliable sources of primary aluminum, including high-purity aluminum.⁶² Moreover, as indicated in industry publications, these fractional crystallization refinement methods cannot produce large quantities of high-purity aluminum. Again, it is important to note that these other methods of producing high-purity aluminum are not actually producing aluminum. They refine existing aluminum into higher grades. The need for the aluminum still exists. Only Century's and Noranda's smelters produce high-purity aluminum from virgin alumina.

⁶¹ For a discussion of fractional segmentation, see Tabereaux Article at 41-42, attached as Exhibit 3.

⁶² See *id.* at 41. The three-layer refining process is another method, but it too requires access to aluminum in order to purify it.

As the foregoing discussion indicates, with the curtailment of both Noranda's and Century's high-purity aluminum facilities, there is, at the moment, *no* domestic production to meet defense requirements. With demand for high-purity aluminum expected to increase, both of these smelters will need to be restarted to service that demand.

2. Primary Aluminum

In terms of primary production in the United States, two smelters are operating at full capacity at this time: Seabee, Kentucky and Massena West, New York. The capacity of each is []

]. Three other smelters that are partially operating, and it would take six months to restart the idled capacity. These smelters are in Hawesville, Kentucky; Mount Holly, South Carolina; and Ferndale, Washington. Their current production and capacity are set out below, as well as the differential, which is the capacity that can be brought back online in six months:

	Current Production (MT)	Capacity (MT)	Potential Increase
Hawesville	[]	[]	[]
Mount Holly	[]	[]	[]
Ferndale	[]	[]	[]

In addition, three other smelters have been fully curtailed and could be brought back online in nine months: New Madrid, Missouri; Warrick, Indiana; and Wenatchee, Washington. Their current production and capacity are set out below, as well as the differential, which is the capacity that can be brought back online in nine months:

	Current Production (MT)	Capacity (MT)	Potential Increase
New Madrid	0	[]	[]
Warrick	0	[]	[]
Wenatchee	0	[]	[]

The total amount of capacity that can be brought online in the next nine months is 1,066,000 metric tons.

Primary aluminum is itself used in the production of defense materiel, including littoral combat ships. These ships are valued for their speed and agility for use in anti-submarine warfare, reconnaissance, and special operations.⁶³

Primary aluminum also has a number of applications that support the nation's critical infrastructure. Critical infrastructure is defined as "systems and assets, whether physical or virtual, so vital to the United States that the incapacity or destruction of such systems and assets would have a debilitating impact on security, national economic security, national public health or safety, or any combination of those matters."⁶⁴ Among the 16 sectors included as part of the critical infrastructure is critical manufacturing.⁶⁵

The Department of Homeland Security is the lead agency for coordinating the U.S. government's efforts to secure critical infrastructure, and the lead agency for the critical manufacturing sector.⁶⁶ As DHS has explained, that sector is "crucial to the economic prosperity and continuity of the United States. A direct attack on or disruption of certain elements of the manufacturing industry could disrupt essential functions at the national level and across multiple critical infrastructure sectors."⁶⁷

Primary metal manufacturing is among the industries DHS has recognized as being within the critical manufacturing sector. Within primary metals, alumina and aluminum production and processing are specifically identified.⁶⁸ DHS has made it clear that critical manufacturing encompasses the entire value chain, from "process{ing} raw materials" through the finished end product.⁶⁹

DHS notes that these primary metals, including aluminum, support "transportation, urban centers, energy supply, clean water, safe food, and defense."⁷⁰ DHS further notes that a "failure or disruption in the Critical

⁶³ *Library – Littoral Combat Ship*, Aluminum Extruders Council (website excerpt), available at http://www.aec.org/?page=lib_jun2012_cmbtship.

⁶⁴ 42 U.S.C. § 5195c(e).

⁶⁵ *Presidential Policy Directive – Critical Infrastructure Security and Resilience*, PPD-21, The White House, Office of the Press Secretary (Feb. 12, 2013) ("Presidential Policy Directive PPD-21"), available at <https://obamawhitehouse.archives.gov/the-press-office/2013/02/12/presidential-policy-directive-critical-infrastructure-security-and-resil>.

⁶⁶ *Id.*

⁶⁷ *Critical Manufacturing Sector*, the Department of Homeland Security (last updated June 7, 2017), available at <https://www.dhs.gov/critical-manufacturing-sector>

⁶⁸ *Id.*

⁶⁹ DHS Critical Manufacturing Sector Specific Plan at iv, 3.

⁷⁰ *Id.* at 3.

Manufacturing Sector could result in cascading disruptions to other critical infrastructure sectors in multiple regions.”⁷¹

The types of products made from aluminum that form part of the critical infrastructure include:

- Transportation. Transportation accounts for 27% of global aluminum consumption.⁷² As noted above, aluminum is used in national defense applications involving aviation. It is also used in commercial aviation, as well as vehicles, because of its light weight and corrosion resistance.⁷³ Its use is on the rise because it increases performance, boosts fuel economy, and reduces emissions.⁷⁴ It is also an excellent absorber of shock.⁷⁵

Aluminum is also used for cargo transport, including freight and tanker cars.⁷⁶ It is used in long distance rail systems, as well as in modern shipping vessels.⁷⁷

Bridges are an additional end-use for aluminum. It supports higher loads. Aluminum is even used to replace bridge decking, given the deterioration of reinforced concrete bridge decks.⁷⁸ According to the Aluminum Association of Canada, a study of bridges in the Eastern United States and Canada indicated that half of the bridges of the bridges due to be replaced or rehabilitated in the coming decades- at a rate of 1,000 to 1,400 per year - are candidates for aluminum decking.⁷⁹

⁷¹ *Id.* at iv.

⁷² *Aluminum in Transport*, All About Aluminum, available at <http://www.aluminiumleader.com/application/transport/>.

⁷³ *Id.*

⁷⁴ *Product Markets*, The Aluminum Association, available at <http://www.aluminum.org/product-markets>.

⁷⁵ *Aluminum in Transport*, All About Aluminum, available at <http://www.aluminiumleader.com/application/transport/>.

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ *Infrastructure and Bridges*, Aluminum Association of Canada, available at <https://aluminium.ca/en/aluminium/infrastructure-and-bridges>.

⁷⁹ *Id.*

- Urban Centers. Aluminum is used in building and construction. Because aluminum is lightweight,⁸⁰ strong, and corrosion-resistant, it is used to construct buildings, including skyscrapers.⁸¹ (The Empire State Building was the first building in which aluminum was widely used.) It is also used for “roofs, siding, translucent panes, window and doorframes, staircases, air conditioning systems, solar protection, {and} heating systems”⁸² Furthermore, aluminum can be used in any climate, withstanding extreme temperatures.⁸³ As much as 25% of aluminum produced globally is used in construction.⁸⁴
- Energy Supply. Copper has traditionally been a critical component in the wiring for power transmission. However, aluminum is increasingly replacing copper in utility grids⁸⁵ because it is lighter.⁸⁶ Weight is an important factor, particularly for high-voltage lines that transmit power long-distance. Aluminum is also replacing copper even in low-voltage lines.⁸⁷ Part of the reason is that aluminum transmits more electricity per pound than copper, thus allowing more electricity to pass through existing infrastructure at lighter weights.⁸⁸

Aluminum is also used in solar panel nanotechnology.⁸⁹

- Safe Food. Aluminum is used in foil and packaging, including foil packets that protect medicines.⁹⁰ Indeed, at the hearing yesterday,

⁸⁰ Aluminum plate weighs half of its steel counterpart. Aluminum weighs one-seventh of its reinforced concrete counterpart. *Aluminum in Construction*, All About Aluminum, available at www.aluminiumleader.com/application/construction/,

⁸¹ *Id.*

⁸² *Id.*

⁸³ *Id.*

⁸⁴ *Id.*

⁸⁵ *Product Markets*, The Aluminum Association, available at <http://www.aluminum.org/product-markets>.

⁸⁶ *Aluminum in Electrical Engineering*, All About Aluminum, available at http://www.aluminiumleader.com/application/electrical_engineering/.

⁸⁷ *Id.*

⁸⁸ *Id.*

⁸⁹ *Product Markets*, The Aluminum Association, available at <http://www.aluminum.org/product-markets>.

⁹⁰ *Id.*

witnesses explained that foil can be used not just with medicines, but medical devices and prosthetic limbs.

The very survival of the remaining primary aluminum capacity is at risk. Not only is there currently insufficient capacity to meet domestic requirements, but the existing capacity is at serious risk of being eliminated altogether.

C. Existing and anticipated availabilities of human resources, products, raw materials, production equipment and facilities to produce aluminum

There is currently insufficient capacity to meet our national security requirements, with only two smelters at full capacity and the remaining smelter producing high-purity aluminum at partial capacity. As noted, the current price of aluminum makes sustaining these facilities improbable, and the prospect of expanding them to meet projected needs impossible, unless relief is provided.

While many shuttered smelters have been demolished and cannot be brought back online, there are, as noted above, six smelters that can be brought up to full capacity. With these smelters back online, the United States will have a basic source of primary and high-purity aluminum. Without them, it does not.

To be sure, past practice under Section 232 recognizes that the United States does not expect to be entirely self-reliant in meeting its national security needs. Rather, the question is whether the United States is “excessively” dependent on imports from “unreliable or unsafe sources.”⁹¹ The answer is yes.

First, with respect to high-purity aluminum, the only significant current source of imports is the UAE. As recent events in the Middle East have highlighted, the region is itself unstable, and normal supply chains have been disrupted – including aluminum supply chains.⁹²

The only other source of significant quantities of high-purity aluminum is New Zealand. However, the sheer distance between New Zealand and the United States means that source of supply is necessarily unstable. Moreover, the smelter in New Zealand does not currently supply the United States, as its production already committed to customers elsewhere. DHS has itself recognized the risks associated

⁹¹ Iron Ore and Semi-Finished Steel Report at 6, available at <https://www.bis.doc.gov/index.php/documents/section-232-investigations/81-iron-ore-and-semi-finished-steel-2001/file>.

⁹² [], attached as **Exhibit 11**.

with lengthy supply chains, noting that they pose a risk because they “decrease the ability to absorb disruptions.”⁹³ DHS has further stated that “{c}omplex international networks of raw materials and finished products expose U.S. operations to a range of global risks and geopolitical conditions.”⁹⁴ Accordingly, {s}upply chain disruptions are one of the top five security concerns cited by Critical Manufacturing Sector Coordinating Council members.”⁹⁵

Other potential sources of imports include China. However, it is China’s own policies that have led to the destruction of aluminum facilities all over the world. China has, in other contexts, affirmatively argued that it has directed its exporters to behave in anticompetitive ways, including restricting supply and engaging in price-gouging.⁹⁶ When Chinese exporters were sued under the Sherman Act, the U.S. judiciary declined jurisdiction *because* the Chinese government asserted that defendants in the proceeding were following government orders to engage in uncompetitive conduct.⁹⁷ Put simply, China is not a safe or reliable source of imports.

Canada does not manufacture high-purity aluminum of grade P0404 or higher in any commercial quantities.

With respect to primary aluminum, Canada is the most significant source of imports into the United States. As a NAFTA partner, and as a friendly, contiguous defense partner, Canada is both a safe and reliable source of supply. However, the volume of imports from Canada does not mean we can decline to take action and simply allow the rest of our production capacity in the United States to be eliminated. First, the Canadian industry is itself at risk from the very same policies that are undermining the U.S. industry. At the International Trade Commission hearing last fall, the President and Chief Executive Officer of the Aluminum Association of Canada testified that a wave of curtailments and shutdowns had hit Canada as well.⁹⁸ Second, as noted above, Canada does not produce high-purity aluminum at grades P0404 or higher. With no other safe or reliable sources of supply, the United States must maintain its existing high-purity smelters, and for those smelters to be economically viable, the United States must likewise maintain

⁹³ DHS Critical Manufacturing Sector Specific Plan at iv.

⁹⁴ *Id.* at 2.

⁹⁵ *Id.* at 3.

⁹⁶ *In re: Vitamin C Antitrust Litigation, Animal Science Products, Inc., the Ranis Company, Inc., v. Hebei Welcome Pharmaceutical Co. Ltd., North China Pharmaceutical Group Corp.*, 837 F.3d 175, 180 (2d Cir. 2016).

⁹⁷ *Id.* at 184-85 (explaining that international comity favored declining jurisdiction over the case.).

⁹⁸ Tr. at 314 (Mr. Simard).

primary aluminum capacity. Analysis of Canada's imports into the United States, Canadian capacity, and U.S. demand indicate that Canada cannot meet U.S. demand alone without restoring U.S. production. Adopting the course of action outlined in Dr. Hausman's paper, Canadian production would be 3.285 million metric tons. U.S. capacity would be 1.84 million metric tons. Thus, North American capacity would be 5.125 million metric tons. This total would very nearly meet North American demand.⁹⁹ If U.S. production is not preserved, then the United States will have no choice but to become dependent on unsafe and unreliable sources of non-Canadian supply.¹⁰⁰

The only way to ensure that the United States can meet its projected national security requirements is to provide relief that allows us to have a viable domestic primary aluminum and high-purity aluminum industry, and to maintain Canadian access to the U.S. market.

At the hearing, we heard important testimony about the adverse consequences down the road if the industry is entirely idled. Two plant workers, one in New York and the other in Kentucky, explained how much experience smelter employees must have to do their jobs effectively. Potline managers must have anywhere from 10 to 30 years of experience; other employees must have six months' experience. If we do not save the industry now, an entire generation of experience will be lost and cannot be regained quickly in a time of national emergency.

D. Growth requirements of the aluminum industry to meet national defense requirements and/or requirements to assure such growth

As discussed in Section B, demand for aluminum to meet national defense needs will grow.

Century recognizes that at this time there is no prospect of expanding the domestic aluminum industry beyond its currently available supply in the near term. Instead, the goal is to preserve existing production capacity and to satisfy demand in conjunction with imports from Canada. To do otherwise is to concede that the United States will continue to be excessively dependent on imports from unreliable or unsafe sources, and eventually totally dependent.

⁹⁹ Jerry Hausman, *Estimation of the Aluminum Tariff* at 2, attached as **Exhibit 12**.

¹⁰⁰ See Scott Patterson, John W. Miller, and Chuin-Wei Yap, *Chinese Billionaire Linked to Giant Aluminum Stockpile in Mexican Desert*, Wall Street Journal (Sept. 9, 2016), attached as **Exhibit 13** (Mexico has no smelters and therefore is not included in the calculations. Imports from Mexico are transshipped Chinese products, and therefore would be within the scope of action taken.).

E. Impact of foreign competition on the economic welfare of the aluminum industry

As the discussion in Section A makes clear, foreign competition has severely compromised the economic welfare of the aluminum industry. Overcapacity has depressed the global price, and the lack of market discipline in China permits uneconomic smelters there to continue, and expand, production. Other producers around the world are confronted with the same reality, and their excess production makes its way to the United States at depressed prices.

Century has described the effects of foreign competition in its filings with the Securities and Exchange Commission. In its 2016 annual report, Century described the curtailment of its Hawesville smelter, as well as deferring capital expenditures and maintenance costs, and implementing workforce reductions. Century warned that further measures may be required if aluminum price remain depressed.¹⁰¹ Century reported a net loss of \$252.4 million in 2016.¹⁰² Alcoa, the other domestic producer of primary aluminum, has likewise suffered as a result of foreign competition. Citing “the global supply and demand of aluminum,” Alcoa explained that it curtailed or closed portions of its capacity and noted that other producers had done so as well.¹⁰³ Alcoa reported a net loss of \$400 million in 2016.¹⁰⁴ Finally, as noted above, Noranda was forced into bankruptcy in 2016.

Finally, it should be noted that both Century and Noranda’s high-purity production was forced to compete with DUBAL’s state-owned high-purity production. DUBAL and its other smelter EMAL are both 100% state-owned entities controlled by the Emirates Global Aluminum Corporation, a state-owned entity. Both smelters appear to have been financed by the Emirati state investment fund, “Mubadala, an investment company owned by Abu Dhabi’s ruling al-Nahyan family. ...”¹⁰⁵ Smelters in the United States are not simply dealing with the adverse effects of Chinese SOEs. There is a significant amount of state ownership and investment in this industry, including outside of China, that contributes to the trade distortions and further illustrates why the adverse effects of China’s actions disproportionately affect U.S. producers, where there is no state ownership.

¹⁰¹ Century Aluminum, 10K/A, Securities and Exchange Commission (filed Mar. 16, 2017) at 10, available at <http://investor.shareholder.com/cenx/secfiling.cfm?filingID=949157-17-33&CIK=949157>.

¹⁰² *Id.* at 22.

¹⁰³ Alcoa Corporation, Form10-K, Securities and Exchange Commission (filed Mar. 15, 2017) at 30, available at http://otp.investis.com/clients/us/alcoa_inc/SEC/sec-outline.aspx?FilingId=11934478&Cik=0001675149&Paper Only=0&HasOriginal=1.

¹⁰⁴ *Id.* at 58.

¹⁰⁵ See Middle East State Investment, attached as **Exhibit 14** (Regarding UAE state investment).

F. Displacement of any domestic aluminum causing substantial unemployment, decrease in the revenues of government, loss of investment or specialized skills and productive capacity, or other serious effects

The displacement of domestic aluminum by imports has been generally described above. It has caused substantial unemployment, decrease in government revenues, and other serious effects. Specifically, the following are smelters that have closed since 2000:

- Kaiser Aluminum, Spokane Washington
- Kaiser Aluminum, Tacoma, Washington
- Alcoa, Vancouver, Washington
- Northwest Aluminum Company, the Dalles, Oregon
- Reynolds, Longview, Washington
- Reynolds, Troutdale, Washington
- Alcoa, Badin, North Carolina
- Northwest Aluminum Company, Goldendale, Washington
- Alcoa, Frederick, Maryland
- Alcoa, Eastalco, Maryland
- Alcoa, Rockdale, Texas
- Columbia Falls Aluminum Company, Columbia Falls, Montana
- Alcoa, Alcoa Tennessee
- Alcoa, Massena East, New York
- Ormet, Hannibal, Ohio
- Century, Ravenswood, West Virginia

With the exception of the Columbia Falls smelters, these facilities have all been demolished and cannot be brought back online. The total amount of lost productive capacity is nearly 2 million metric tons.

The lost jobs over that period of time are staggering, from nearly 16,000 to just over 2,000:



In 2001, the top five states for primary aluminum shipments were Kentucky, Indiana, Tennessee, New York, and Ohio.¹⁰⁶ As of 2017, neither Tennessee nor Ohio has *any* primary production. Indeed, there are only five states even producing primary aluminum today.

These job losses are only the losses associated with the closure of primary aluminum smelters. However, primary aluminum smelters are the core of broader manufacturing clusters. For example, in South Carolina, aluminum is a “\$2.5 billion industry” that supports “approximately 2,806 employees throughout the state.”¹⁰⁷ Thus, while the Mt. Holly smelter itself is responsible for 582 direct hires when operating at full capacity,¹⁰⁸ associated downstream jobs are fourfold. Moreover, these jobs are high-wage jobs. The average wage among jobs in the aluminum industry was almost 77% than among all South Carolina jobs.¹⁰⁹ Indeed, the average wage at the Mt. Holly smelter itself is 26% higher than other jobs in the aluminum industry, and 129% higher than the average wage among all South Carolina jobs.¹¹⁰ In total, the labor income associated with Mt. Holly and the

¹⁰⁶ Rick Hall, *Profile of Kentucky's Aluminum Industry*, Office of Research and Information Technology, Kentucky Cabinet for Economic Development (July 2005) (“Kentucky’s Aluminum Industry Profile”) at 7, attached as **Exhibit 15**.

¹⁰⁷ *Anchoring the Aluminum Industry: The Economic Impact of Century Aluminum on South Carolina*, Division of Research, Moore School Business, University of South Carolina (Mar. 2015) at 11, attached as **Exhibit 16**.

¹⁰⁸ *Id.* at 15.

¹⁰⁹ *Id.* at 14.

¹¹⁰ *Id.* at 18.

industries it supports is \$124 million.¹¹¹ Estimates are that the Mt. Holly smelter supports a statewide economic output of \$977 million.¹¹²

In terms of taxes, the Mt. Holly smelter contributes \$977 million in annual economic output, and the aluminum industry as a whole contributes \$3.8 billion.¹¹³ Every dollar generated in economic activity generates 5.2 cents in new state tax revenue.¹¹⁴ Mt. Holly's contribution to South Carolina's gross state revenue is almost \$260 million, and the associated tax revenue is estimated at over \$13 million.¹¹⁵ The broader aluminum industry's tax revenue contribution is estimated at almost \$47 million.¹¹⁶

In this context, it becomes clear that if the Mt. Holly smelter is forced to close, a domino effect across the state economy can be expected to follow, eroding a meaningful part of the tax base.

Century's smelter in Hawesville, Kentucky likewise has a positive effect in terms of direct and indirect job, income, and revenue creation. At capacity, Century directly employs approximately 770 employees in Hawesville itself.¹¹⁷ An additional 474 jobs in Hancock County are associated with Century's smelter due to "economic activity related to the ongoing operations and {Century's} annual capital investments"¹¹⁸ The annual wages paid in connection with these direct and indirect jobs is \$94.9 million.¹¹⁹

In terms of tax revenue, Century's taxes are \$825,000, and the local tax revenues generated indirectly by Century's operations are \$1.5 million.¹²⁰ More broadly, Century's utility payments – such as natural gas and electricity – amount to \$220 million per year.¹²¹

¹¹¹ *Id.*

¹¹² *Id.* at 19.

¹¹³ *Id.* at 19, 22.

¹¹⁴ *Id.* at 23.

¹¹⁵ *Id.*

¹¹⁶ *Id.*

¹¹⁷ *Economic Impact Analysis*, Younger Associates (Dec. 2011) at 3, attached as **Exhibit 17**.

¹¹⁸ *Id.* at 4.

¹¹⁹ *Id.*

¹²⁰ *Id.*

¹²¹ *Id.* at 5.

As Kentucky Representative Jim Gooch testified, a similar story can be told with respect to Century's Sebree smelter. It supports 500 jobs and pays \$35 million taxable wages, and those wages in turn generate almost \$2 million in state income taxes. The plant itself pays \$1.5 million in state sales tax. More broadly, the plant purchases over \$40 million in goods and services from vendors in the area.¹²²

Another important link in the extended manufacturing chain is research and development. At the U.S. International Trade Commission hearing on aluminum, European Aluminum Director General Gerd Götz explained that "we are cluster-driven industry in Europe. Our industry is strictly intertwined with local communities, universities, research centers and training programs, fitting into innovation flows. By removing one of the links, the rest of the chain falls apart."¹²³

The same is true in the United States. For example, in Kentucky, Secat, Inc. is a for-profit business reflecting a cooperative effort among the aluminum industry, the University of Kentucky, the Kentucky Cabinet for Economic Development, and the U.S. Department of Energy.¹²⁴ Its purpose is to make up for the loss of company-sponsored research and development in the aluminum industry. Along those lines, the Center for Aluminum Technology was established in 1999 at the University of Kentucky. CAT provides research and educational services to the aluminum industry.¹²⁵ (A third entity, the Center for Manufacturing, was "reorganized" in 2009 and no longer exists.)¹²⁶

At the hearing, we also heard testimony about the effects on the broader community of plant closures in Ormet, Ohio, and New Madrid, Missouri. As the foregoing makes clear, the shuttering of the remaining domestic primary and high-purity aluminum capacity would have devastating, cascading effects on the surrounding communities.

G. Relevant factors that are causing or will cause a weakening of our national economy

The United States was the first country to commercially smelt aluminum. We used to be the world leader. The loss of this industry will send a negative signal to our overall manufacturing base that the U.S. government simply does not care

¹²² Testimony of Representative Jim Gooch, *Hearing on Section 232 Investigation of Imports of Aluminum* (June 22, 2017), attached as **Exhibit 18**.

¹²³ Tr. at 294 (Dr. Götz).

¹²⁴ Kentucky's Aluminum Industry Profile at 14, attached as **Exhibit 15**.

¹²⁵ *Id.* at 32.

¹²⁶ University of Kentucky, *Center for Manufacturing* (last updated May 18, 2015), available at <http://www.mfg.uky.edu/>.

enough about its vital industries or its workers to stand up for them. That would empower others to pursue the same mercantilist policies as the Chinese, not to mention encouraging such behavior in other vital industries such as glass, steel, cement, and semiconductors.

H. Other relevant factors

As discussed above, for decades the Chinese government has, as part of its centralized economic planning, sought to create and grow a domestic aluminum industry without regard to market conditions. Unlike competitors who are subject to market disciplines, Chinese companies do not need to turn a profit. When these centrally-planned strategies fail, the consequences are forced onto everyone else in the market. At a time when U.S. demand went up and energy costs went down, U.S. producers should have enjoyed a period of health. Instead, Chinese non-economic capacity expanded, at the expense of U.S. and other producers. Imports then surged.

It is a mistake to believe that these actions are limited to state-owned enterprises. Even “private” companies in China are shielded from the natural consequences of their own misdeeds. For example the largest aluminum producer in the world, Hongqiao, has been accused by short-sellers of fraudulent financial reporting.¹²⁷ In March, Hongqiao requested that its stock be suspended from trading on the Hong Kong Stock Exchange, and trading has yet to resume. Hongqiao’s auditors at the time, Ernst & Young, suspended their audit of the Hongqiao’s 2016 results, and asked Hongqiao to commission an independent investigation into the allegations.¹²⁸ The company resisted, Ernst & Young subsequently resigned.¹²⁹ This is second Big Four auditing firm to resign in as many years, with Deloitte relinquishing its duties in June 2015. Hongqiao requested that the government bail it out when its failure to obtain audited financials risked triggering a default.¹³⁰

There is a legitimate question as to whether Hongqiao accessed the capital markets by misleading investors as to its profitability, and, based on that deception

¹²⁷ Scott Patterson and Brian Spegele, *Chinese Aluminum Giant Faces Credit Crunch*, Wall Street Journal (Apr. 14, 2017), attached as **Exhibit 19**.

¹²⁸ *Id.*

¹²⁹ Russell Flannery, *EY Quits as Auditor at China Aluminum Giant*, Forbes (Apr. 30, 2017), available at <https://www.forbes.com/sites/russellflannery/2017/04/30/ey-quits-as-auditor-at-china-aluminum-giant/#559561056c24>; China Hongqiao Group Limited, *Change of Auditors* (Apr. 28, 2017), attached as **Exhibit 20**.

¹³⁰ Aluminum Insider, *Leaked Letters Purport to Show Hongqiao Appealing to Chinese Government for Help with Auditors, Short-Seller*, (Apr. 10, 2017) available at <http://aluminiuminsider.com/leaked-letters-purport-show-hongqiao-appealing-chinese-government-help-auditors-short-seller/>.

and an array of government subsidies, procured the financing necessary to fund the expansion that saw it go from a denim manufacturer in 2002 to the world's largest aluminum producer a decade later. In the meantime, Hongqiao, at risk of defaulting on its debt, was bailed out by the Chinese government.

Concerns about financial reporting practices in China go well beyond companies such as Hongqiao. Pursuant to Sarbanes-Oxley, the United States has sought to send inspectors from the Public Company Accounting Oversight Board to review the audit work papers of Chinese companies listed on American stock exchanges. The Chinese government has not permitted inspections as required, and thus companies such as Chalco include the following in their annual reports:

Auditors of companies that are registered with the SEC and traded publicly in the United States, including our independent registered public accounting firms, must be registered with the US Public Company Accounting Oversight Board (United States) (the "PCAOB") and are required by the laws of the United States to undergo regular inspections by the PCAOB to assess their compliance with the laws of the United States and professional standards. Because we have substantial operations within the PRC and the PCAOB is currently unable to conduct full inspections of the work of our auditors as they relate to those operations without the approval of the Chinese authorities, our auditors' work related to our operations in China is not currently inspected by the PCAOB.

This lack of PCAOB inspections of audit work performed in China prevents the PCAOB from regularly evaluating audit work of any auditor that was performed in China including that performed by our auditors. As a result, investors may be deprived of the full benefits of PCAOB inspections.

The inability of the PCAOB to conduct inspections of audit work performed in China makes it more difficult to evaluate the effectiveness of our auditors' audit procedures as compared to auditors in other jurisdictions that are subject to PCAOB inspections on all of their work. Investors may lose confidence in our reported financial information and procedures and the quality of our financial statements.¹³¹

¹³¹ Aluminum Corporation of China Limited, Form 20-F, Securities and Exchange Commission (filed on Apr. 18, 2017) at 26, available at <https://www.sec.gov/Archives/edgar/data/1161611/000116161117000011/d20f.htm>.

Chalco has reported losses. There is a question, though, as to whether those losses are still greater than what has been reported.

Looking at the bigger picture, it becomes increasingly clear that Chinese aluminum companies – even the purportedly successful ones – are benefiting from a combination of government intervention and financial reporting opacity with which companies operating under more transparent and market-oriented regimes simply cannot compete.

At the hearing, Li Xie, an official from China’s Ministry of Commerce, was asked what steps China had taken to address overcapacity. Notwithstanding China’s repeated assertions over the years that it would reduce capacity, Mr. Li was unable to answer the question because China has not reduced its capacity. China claims it has eliminated “inefficient” capacity. This is nothing more than eliminating old smelters and replacing with new smelters that are twice the size. The Chinese measure “efficiency” by the amount of electricity consumed per ton of aluminum produced. The only way to increase “efficiency” is to replace old potlines with newer potlines that are twice as large to reduce the ratio of electricity per ton of aluminum produced. This has the perverse result of expanding the capacity they claim to be reducing. The Chinese are able to continually expand and upgrade these smelters because the Government provides heavily subsidized financing is provided for the express purpose of “upgrading” the smelters. Any argument that the U.S. industry is failing because of its older facilities only reminds us how unlevel the playing field really is.

The Chinese claim they want a negotiated solution, yet only a negotiated solution that does not entail real and enforceable cuts to production and capacity are worthless. To this point, the Chinese have paid lip service to wanting negotiations. They have taken no real, concrete action. Waiting for the Chinese to voluntarily reduce overcapacity will only guarantee that what’s left of the U.S. industry will disappear. The U.S. industry cannot wait any longer.

VI. Action Requested

The requested action differs for standard-grade and high-purity primary aluminum, discussed further below. However, for both grades, Century requests the President to require that, for any Department of Defense or Department of Transportation projects subject to Buy America or Buy American requirements, aluminum be included. For such items, any aluminum content must come from primary aluminum smelted in the United States and domestically generated scrap, as applicable.

A. Standard-Grade Primary Aluminum

To avoid total dependence on unsafe and unreliable foreign sources, the goal is to bring back online the existing capacity that is currently idled, or 1,066,000 metric tons so that the United States and Canada can satisfy nearly all North American consumption needs.

According to the [], Canadian primary aluminum producers had 3,332,000 metric tons of production capacity in 2016, bringing combined North American capacity to 5,125,000 metric tons. Professor Hausman concluded that it would take a 20% increase in the U.S. price of aluminum to correct for the distortions created by Chinese overcapacity and transmitted through the imports.¹³² Professor Hausman used the relative differential between input cost changes in bauxite and aluminum pricing on the LME exchange to estimate the size of the tariff necessary to bring idled capacity back online. Professor Hausman concluded that a 20% tariff would be necessary to correct the U.S. price sufficiently to restart capacity. This approach would also permit non-Canadian imports to make up any shortfall in North American supply.

Century does not support the use of a tariff rate quota approach to address the problem. As Professor Hausman's analysis demonstrates, the goal is a price rise of 20%, and that can be most directly effectuated through a tariff. However, if the President chooses to impose a tariff rate quota, then the in-quota amount for non-Canadian sources will depend on the degree to which Canadian capacity is excluded from relief. If Canada is entirely excluded from relief, as Rob Scott indicated in his testimony, because aluminum is priced as global traded commodity, this would result in virtually all Canadian capacity flowing to the United States to maximize returns and reduce freight costs. This would increase Canadian imports from their current 2.3 million tons to something close to their 3.3 million tons of capacity. The United States can restart its remaining 1.06 million tons of idled capacity, bringing the total U.S. production capacity up to 1.8 million tons of supply. This means that on a combined basis, Canadian and U.S. producers have the ability to satisfy nearly all of the United States' 5.3 million tons of primary aluminum demand.¹³³ As a result, because Canadian producers possess between 3.2 and 3.3 million metric tons of capacity, the in-quota amount for the rest of the world must be phased in over six to nine months as U.S. production ramps up, but will ultimately be drawn down to zero over that time. Excluding any amount beyond the Canadian portion of supply will undermine the ability of U.S. smelters to restart, and the ability of the United States to mitigate its dependence on unsafe and unreliable sources, by simply displacing what should be restarted U.S. production. If any less than Canada's full

¹³² Jerry Hausman, *Estimation of the Aluminum Tariff* at 2, attached as **Exhibit 12**.

¹³³ *Id.*

capacity is allocated to Canadian producers, then more of the in-quota amount can be allocated to other input sources. Regardless, approximately 1 million tons of imports must be adjusted to allow U.S. capacity to restart.

Furthermore, as Professor Hausman indicated, this tariff should be applied downstream. However, Century leaves it to the downstream industry members to more specifically identify the import sources and relief they feel is appropriate to benefit the entire supply chain.

Accordingly, Century requests that the relief on primary aluminum must cover non-Canadian primary aluminum imports under HTSUS 7601.10 and 7601.20 (except HTS 7601.20.9060 and 7601.20.9075). Century further supports relief for downstream aluminum imports in Chapters 7604, 7605, 7606, 7607, 7608, 7609, 7610, 7611, 7614 and 7616 from China and any other source identified by downstream U.S. producers. However, to the extent the downstream producers can agree, Century defers to the downstream industry to identify the appropriate downstream tariff codes for relief.

B. High-Purity Aluminum

The circumstances surrounding the importation of high-purity aluminum are different from those surrounding the importation of standard-grade primary aluminum. The only imports of high-purity aluminum are from the United Arab Emirates. As discussed above, Century has experienced head-to-head lost sales to these imports. High-purity aluminum is not imported from Canada.

Accordingly, to restore U.S. production of high-purity aluminum, Century requests a tariff on all imports of 40%. This tariff is based on the [

]. In the event that the President chooses to impose a quota, Century requests a quota of zero. Imports from a single source have, in conjunction with the depressed LME, forced the idling of the remaining two smelters in North America capable of producing high-purity aluminum. In the absence of a tariff, the only way to assure adequate domestic production is a zero quota on imports.

We note that at the hearing Mr. Vazquez claimed that the U.S. possesses some vast stockpile of high-purity aluminum. Like so many other statements Mr. Vazquez made, this alleged “fact” is demonstrably false. The stockpile Mr. Vazquez is referring to was purchased and consumed soon after Century was forced to stop its high-purity production in late 2016. Thus there is no stockpile of high-purity aluminum in the United States. Currently, there is only approximately 140,000 metric tons of primary aluminum inventory held in LME warehouses in the

United States, none of which is high-purity.¹³⁴ That amount is only a few weeks of supply. Further, according to the [] outside of China there is only 40 days of supply held in warehouses globally.¹³⁵ Like the rest of Mr. Vazquez' testimony, the location of this vast stockpile of aluminum is a mystery.

VII. Conclusion: Aluminum is Being Imported under Circumstances that Threaten to Impair the National Security

Overcapacity has depressed the LME aluminum price to the point that smelters – in the United States and elsewhere – are being put out of business. Not only is the LME price low, but the United States, as a market of last resort, is a repository for the glut of aluminum resulting from excess production overseas. Aluminum is used in a range of national defense applications, including fighter jets and warships. It is used in other critical infrastructure applications as well, such as transportation, construction, and energy transmission.

The United States cannot afford to depend on unsafe and unreliable sources of imports for these vital requirements. While Canada, as a contiguous neighbor and NAFTA partner, satisfies a significant amount of our needs of standard-grade primary aluminum, Canada does not, and cannot, supply them entirely. Moreover, Canada does not supply us with any high-purity aluminum of grades P0404 or better.

Accordingly, Century requests that the Secretary find that aluminum is being imported into the United States under circumstances that threaten to impair the national security. Century further requests that action be taken with respect to imports of aluminum, but that any action on standard-grade primary aluminum be designed to permit joint production in Canada and the United States to satisfy North American demand.

¹³⁴ LME Stock Report, attached as **Exhibit 21**.

¹³⁵ [], attached as **Exhibit 22**.



Should you have any questions regarding this request, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in dark ink, appearing to be "Alan H. Price", written over a horizontal line.

Alan H. Price, Esq.

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