

Written Submission by Arconic, Inc.
United States Department of Commerce's
Section 232 National Security Investigation of Imports of Aluminum Written Testimony
June 20, 2017

Arconic appreciates the opportunity to provide comment to the U.S. Department of Commerce's investigation into the national security implications of aluminum imports under Section 232 of the Trade Expansion Act of 1962. We value the Administration's engagement with the aluminum industry and interest in our support to defense platforms and critical infrastructure. Arconic is proud to be a partner to the U.S. military providing engineered products that increase survivability, reduce weight and enhance performance across air, land and sea platforms. We submit that a healthy U.S. aluminum industry is critical to national security and that solutions identified during this investigation should support all segments of the aluminum value chain, including mid- and downstream value-add producers. We look forward to working with the Administration to ensure an outcome that supports U.S. competitiveness and advances our national security.

Legacy of U.S. Manufacturing Innovation

Arconic works with our customers to solve complex engineering challenges, transforming the way we fly, drive, build and power. Our businesses have helped shape the aerospace, automotive, and building industries since the days of the Wright brothers and Henry Ford, and the first modern downtowns. Today, our aluminum engineered solutions are found on cars from bumper to bumper, on aircraft from nose to tail, and across modern skylines from New York to Seattle. We constantly seek out ways to advance cutting-edge technologies, from metal powders optimized for 3D-printed aerospace components to next-generation automotive alloys that are 40 percent more formable and 30 percent stronger than those used today. Arconic is tremendously proud of our 22,750 employees in the United States who are critical to our success. Since 2009, Arconic has invested more than \$3.1 billion to modernize our U.S. facilities, adding more than 2,600 high-quality, advanced manufacturing jobs in the process.

Economic Impact and Face of the Aluminum Sector in the U.S.

Across the nation, the aluminum industry directly employs 161,000 workers and generates \$75 billion in direct economic output and an additional \$111 billion in indirect economic output. Non-primary segments of the industry represent 97 percent of the jobs in the sector and produce intermediate and finished aluminum goods like extrusions, forgings, flat-rolled products, forged wheels, and jet engine fan blades. Between 2013 and 2016, growth in these segments led total jobs in the industry to increase 3% from 156,744 to 160,888. The number of jobs involved in sheet, plate, foil, extrusions, and coatings operations saw an 8% increase in employment, while those related to foundry operations grew 14% and metal service centers by 6%.

Investing and Innovating to Strengthen the U.S. Defense Industrial Base

Arconic is proud to serve as a leading aluminum products supplier to U.S. Department of Defense platforms and original equipment manufacturers, delivering affordability and performance through our innovation to every branch of the U.S. military. Today Arconic aluminum rolls, flies and sails on over 80 major defense programs of record produced across 45 plants in the United States. Armor plate manufactured at Davenport, Iowa can be found on nearly every new U.S. combat and tactical vehicle

program of record. Single-piece aluminum bulkheads forged in Cleveland, Ohio, form the ‘backbone’ of the world’s most advanced military aircraft – the F-35 Joint Strike Fighter – and save 300 to 400 pounds per jet and up to 20 percent in costs. The demand for aluminum on critical U.S. military platforms is expected to grow significantly over the next five years, driven by the planned ramp up of programs like the Joint Strike Fighter and Joint Light Tactical Vehicle. Demand for cold-rolled aluminum alone – for armor plate and marine applications – is expected to triple by 2021.

We collaborate on R&D with the U.S. Army, Air Force, Navy and Marine Corps on alloys and manufacturing processes that improve survivability, mobility, and performance. For example, in partnership with the Defense Advanced Research Projects Agency and the Army Research Laboratory, we developed the largest single-piece, forged aluminum hull designed for future ground combat vehicles. By eliminating welded seams used in today’s manufacturing processes and tailoring thickness where needed to maximize protection, we can provide troops with twice the blast protection of a traditional welded hull. We work with the U.S. Air Force to develop next-generation propulsion and airframe structural components for aircraft through the Metals Affordability Initiative, a consortium dedicated to leveraging government and industry resources to reduce costs and lead time associated with producing metallic aircraft components. We helped re-engineer the flight deck and mission bay tie downs for the Littoral Combat Ship and Expeditionary Fast Transport vessel, taking tons of weight off those platforms.

Arconic has a long history of manufacturing partnerships with the U.S. Department of Defense, including those that helped build the world’s widest aluminum rolling mill in Davenport, Iowa and the 50,000-ton forging press in Cleveland, Ohio, which produces some of the largest closed die forgings for the aerospace and defense sectors in the world. Through these investments, we help ensure robust industrial capacity, supporting military readiness and enhancing the country’s technological edge in manufacturing processes and material solutions. Arconic has continued to invest in these assets over the years, including a recent \$100 million upgrade to the Cleveland forge and nearly \$500 million in investment at Davenport, Iowa over the last five years.

Arconic’s defense portfolio is overwhelmingly commercial item, leveraging the best of our innovation developed for commercial applications to meet the unique needs of the warfighter. Our defense products are manufactured across hundreds of commercial flowpaths as we do not have dedicated defense assets. To best maintain the health of our advanced aerospace and defense product lines, we rely on a strong backlog across our product portfolio to include commercial business in automotive, industrial, and packaging. This allows us to optimize mix across our plants and produce our parts in the most efficient and cost effective manner possible.

Regarding high purity aluminum, new defense platforms have a production ramp rate that will generate more demand and requirements that call for higher purity aluminum than legacy defense programs. This increase is fueled by important programs that are in low-rate production moving to full-rate production in the years ahead, including the Joint Strike Fighter and Joint Light Tactical Vehicle. Arconic created a refining process that produces high purity aluminum using high-yield fractional crystallization through R214 units at our rolling mill in Davenport, Iowa. As the only industrial scale producer of high purity using this process, we currently produce about half of our current demand. Further, Arconic accounts for a majority of total U.S. demand of high purity aluminum. The R214 process is reliable, efficient and can produce the highest levels of purity.

Finally, U.S. mid- and downstream producers rely on primary aluminum imports. The majority of imports are Canadian in origin and produced at factories that are considered part of the U.S. defense industrial base by statute – Title 10 U.S.C. §2500(1). Moreover, it is a preferential source from a market perspective due to its low transport costs to the U.S. and reliable energy supply found in native hydroelectric power. Even if primary producers brought all U.S.-based smelters back on line tomorrow, we would not have enough primary aluminum to satisfy domestic demand. Action on primary aluminum imports would do little to address global overcapacity and potentially harm the U.S. defense industrial base by disrupting the integrated North American supply chain.

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Arconic looks forward to working with the U.S. Department of Commerce and Administration on this investigation. We firmly believe that a sustainable and targeted solution that keeps the overall aluminum industry healthy and considers the needs of producers across the aluminum value chain is critical to supporting the U.S. defense industrial base.