



Comments of the
Motor & Equipment Manufacturers Association
to the
Bureau of Industry and Security, U.S. Department of Commerce
RE: Notice of Request for Public Comments on Section 232 National Security
Investigation of Imports of Neodymium-Iron-Boron (NdFeB) Permanent Magnets
Docket No. BIS 2021-0035; RIN 0694-XC083
November 12, 2021

Introduction

The Motor & Equipment Manufacturers Association (MEMA)¹ submits these comments to the Bureau of Industry and Security (BIS) at the U.S. Department of Commerce (Department) on the request for comments on its Section 232 investigation² on neodymium-iron-boron (NdFeB) permanent magnets, also known as “neo-magnets.” For the Bureau’s consideration, MEMA offers the following input related to the use of neo-magnets by vehicle parts manufacturers which are part of the critical infrastructure sector of transportation.

MEMA urges BIS not to recommend the imposition of any broad, unilateral, and import-restrictive measures – such as tariffs, quotas, or other adjustments – on imported neo-magnets. Any such restrictive action would be detrimental to vehicle parts manufacturers who rely on imported neo-magnets as critical inputs to certain vehicle components and systems. Restrictive action would jeopardize the significant product development investments made by vehicle parts manufacturers to use such magnets and could cause manufacturing of downstream products that incorporate such magnets to be shifted out of the United States.

MEMA recognizes the Department is currently investigating these matters and that no specific recommendations have been made. During last few years, the vehicle parts manufacturers have borne the burden of Section 232 tariffs on imported steel and aluminum. The serious impact these tariffs had and continue to have on vehicle parts manufacturers cannot be understated. Those tariffs have been a significant added cost and burden on vehicle suppliers – particularly smaller manufacturers – costs that often could not be passed on to their customers. Counterproductive unilateral actions place manufacturers at a competitive disadvantage to their global counterparts, erode U.S. jobs and growth, stifle innovation, with no measurable impact on the national security of the United States. Burdening vehicle parts manufacturers with higher costs or inaccessibility to magnets has the potential to weaken our nation’s economic security by harming U.S. manufacturers of vehicles and vehicle parts. Moreover, would deter U.S. investments in the kinds of advanced vehicle technologies that are essential to key inputs needed for various vehicle electrification and vehicle safety systems that use neo-magnets.

¹ MEMA represents its member companies through its four divisions: Automotive Aftermarket Suppliers Association (AASA); Heavy Duty Manufacturers Association (HDMA); MERA - The Association for Sustainable Manufacturing; and Original Equipment Suppliers Association (OESA).

² 86 *Fed.Reg.* at 53277

About MEMA

MEMA represents over 900 vehicle suppliers that develop innovative technologies and manufacture and remanufacture original equipment (OE) and aftermarket components and systems for use in passenger cars and commercial trucks. Vehicle suppliers operate in all 50 states, directly employ over 907,000 Americans, and represent the largest sector of manufacturing jobs in the United States. Direct, indirect, and induced vehicle supplier employment accounts for over 4.8 million U.S. jobs and contributes 2.5 percent to U.S. GDP.³

Vehicle Suppliers' Role in Developing Innovative and Competitive Technologies

Vehicle parts manufacturers – also known as vehicle suppliers – conceive, design, and manufacture the OE components, systems, and technologies that make up more than 77 percent of the value in new vehicles and the aftermarket parts and materials for the service, maintenance, and repair of vehicles on U.S. roadways. Vehicle suppliers' innovation provides a multitude of technologies and a wide range of products to improve vehicle safety, emissions, and efficiency. This technology development allows the U.S. vehicle industry to be globally competitive and lead the world on the path of enhanced mobility for all citizens.

Vehicle suppliers take on substantial associated risks by driving a wide array of technology advancements and innovative materials needed to improve vehicle safety, fuel efficiency and emissions reduction. The roll-out of these technologies require substantial lead-time, long-term planning, and major economic resources. A supplier's timeline for product development and investments usually includes up to six stages, each stage ranging from six months to two years depending on the technology. Technology development and investments are planned carefully to align with vehicle production cycles to avoid stranded investments. The return on investment is estimated very carefully and amortized over several years. Importantly, suppliers do not get return on their capital investment until these technologies are deployed.

Since 2012 – driven in large part by federal greenhouse gas emissions and fuel efficiency rules – vehicle suppliers have invested billions of dollars in the U.S. establishing more manufacturing facilities and innovation centers that conduct research, testing and development. Between 2012 and 2015, the vehicle parts supplier sector saw employment grow three times more than that of any other major U.S. manufacturing sector.⁴ This growth, in part, is a result of the long-term investment decisions – and the risks – suppliers took in developing these advanced technologies. These technologies range from advancements in the internal combustion engine (ICE) to increased levels of electrification to off-cycle technologies.

Now, more than ever, the vehicle industry is at an inflection point as it moves towards an economy-wide net-zero emissions future with new propulsion technologies – including battery electric vehicles (BEVs), plug-in hybrid electric vehicles (PHEVs), fuel cell electric vehicles (FCEVs), and advanced internal combustion engines (ICE). MEMA has conferred its support for policies that that (1) transition the vehicle industry to a cleaner transportation future, (2) allow multiple pathways for compliance and (3) utilize a broad spectrum of advanced technologies. Vehicle suppliers stand ready to help the industry meet ambitious policy goals. The roll out of higher levels of advanced technologies, including electrification, must be partnered with cohesive complementary policies that address both supply and demand for these technologies. All these

³ [U.S. Labor and Economic Impact of Vehicle Supplier Industry](#), MEMA and IHS Markit. February 2021.

⁴ "The Employment and Economic Impact of the Vehicle Supplier Industry in the U.S." based on research undertaken by IHS Markit on behalf of MEMA. August 2016.

elements, along with consistent, long-term policies, are essential to support vehicle suppliers' commitments, avoid stranded investments, and advance industry's innovation.

Applications of NdFeB Permanent Magnets in Critical Vehicle Components and Systems

Neo-magnets are critical inputs used in certain vehicle components and systems. Examples of applications include, but are not limited to, the following: electric drive solutions for BEVs and PHEVs, ignition coils, electric power steering motors, advanced steering technologies, e-motors (rotating machines), all-wheel drive couplings, EGR valves, electronic actuators, magnetic sensors, and solenoid valves used in automatic transmissions. These components are used in conventional and electrified vehicles.

Different vehicle suppliers may process neodymium materials in various ways – depending on their products. For instance, a supplier may magnetize the raw materials themselves or purchase materials already magnetized. In other cases, a vehicle supplier may acquire standalone neo-magnets as well as finished goods with the neo-magnets already embedded. Processing and acquisition are generally dependent on customer requirements and specifications.

Importantly, many of the electric power steering motors and related components are incorporated into electric vehicles. Furthermore, neo-magnets are also utilized in the advanced steering systems used in advanced driver assistance systems (e.g., automatic emergency braking, automatic lane keeping systems) and automated vehicles. In short, neo-magnets are critical inputs for advanced vehicle technologies and a transportation future that envisions enhanced mobility for citizens.

Sources of Neo-Magnets and Neodymium Inputs are Critical to EVs and Vehicle Safety Systems

As is common knowledge, the primary source of this rare earth material is China. Anecdotally, our members have indicated that the costs of these materials continue to increase, and capacity is expected to be further constrained as demand for neo-magnets rises. As noted in a recent *Investing News* article, demand for rare earth materials is being driven by high-tech and electric vehicle markets.⁵ The Biden Administration's goal⁶ of making EVs more widely accessible to consumers and a multitude of vehicle safety mandates in Congress' recently passed infrastructure legislation could all be jeopardized by an imposition or restriction of access to imported neodymium, neo-magnets and/or related material inputs that are vital to critical vehicle components and systems.

As noted in a CNBC article earlier this year, although companies are “eager to ramp up the domestic supply chains, extracting rare earths is a difficult process due to a combination of environmental, technical and political factors. Many regions, including the European Union, have an abundance of these resources but lack the expertise that other countries like China have in the processing and magnet production.”⁷ Certainly, the administration understands and supports the desire to enhance domestic supply of rare earth materials, but building up to the levels of capacity needed to be less reliant on other regions will take a significant amount of time – likely decades. The article went on to note that, “While the U.S. aims for raw materials self-sufficiency, any drastic move away from China and other Asia-based supply chains would dramatically affect American consumers as domestic demand for batteries and electric vehicles ramps up. The pace of demand growth is expected to rise rapidly over the next few years as sales of electric vehicles are slated to reach 12.2 million in 2025, according to data from IHS Markit.”⁸ It would be helpful over the

⁵ [“Top Rare Earth Reserves by Country,”](#) Investing News.com, June 16, 2021.

⁶ “Strengthening American Leadership in Clean Cars and Trucks” Executive Order 14037, 86 *Fed.Reg.* at 43583.

⁷ [“The new U.S. plan to rival China and end cornering of market in rare earth metals,”](#) by Samantha Subin, CNBC, April 17, 2021.

⁸ *Ibid.*

medium- and long-term to ramp up production of rare earth materials and neo-magnets, including neodymium inputs in places like North America, Europe, and other parts of Asia to diversify supply chains. However, these are supplemental not replacement supply chain actions.

U.S.-based manufacturers rely on neo-magnets and neodymium because there are few alternatives available to achieve the level of quality, performance, and durability required for these essential vehicle components and systems – several of which are safety-critical – needed for electrified and advanced technology vehicles. MEMA notes that neo-magnets can be recycled, but that may not be a feasible option at present. Because of the increased deployment and adoption of EVs and advanced vehicle safety systems pushing demand, compounded with increasing average age of vehicles (which is now 12.1 years⁹), it may take years or even decades before viable recycled supply could be recouped and available to support a significant portion of the market. Moreover, there is the added limitation for the critical minerals found in batteries.

MEMA wishes to note that, should a tariff be imposed on imported neo-magnets, such action could actually serve as an active detriment to the production of these advanced EV components and systems in the United States. Companies could be incentivized to do final production and assembly in other countries or regions and then simply export the final product to the United States.

Current Challenges for Motor Vehicle Parts Industry

Vehicle suppliers face a myriad of current challenges within their U.S., North American, and global supply chains. MEMA members continue to struggle with shortages, allocation shortfalls, extended lead times, unreliable deliveries, and exorbitant price increases for a wide range of raw materials and components. Recent examples of broad risks to the motor vehicle parts supply chain include the acute shortage of vehicle-grade semiconductors, shipping delays, drastic escalation in the prices for shipping containers, port backlogs, and at least three to fourfold increases in logistical expenses. Skyrocketing raw material and input costs as well as shortages of critical minerals, resins, metals, and other commodities are adversely impacting the sector and adding to the overall threat of inflation facing the country. Additionally, acute worker shortages continue to plague all tiers of motor vehicle parts suppliers from our smallest to largest members. Ripple effects from disruptions due to the pandemic and natural disasters have also been highly problematic. While these impacts reverberate up and down the vehicle industry supply chain, smaller manufacturers, with limited fiscal and personnel resources, are hardest hit.

While MEMA views the recent announcement to lift the long-standing Section 232 tariffs on some steel and aluminum imports from the European Union as a positive step, we are concerned about the potential implications of quotas, which place a new significant burden on and intensifies the uncertainty for vehicle suppliers. MEMA addresses this recent development in the context of BIS's current Section 232 investigation on neo-magnets because it is a cautionary example of the downward pressure tariffs put on the availability, accessibility, and viability of key inputs needed for vehicle products – products that are imperative to critical vehicle component systems and products for a wide array of other industry sectors.

Conclusion

MEMA appreciates BIS's consideration of our comments. In sum, MEMA urges the Department of Commerce and BIS to not recommend the imposition of any Section 232 actions against neo-magnets – both standalone neo-magnets and finished goods with neo-magnets embedded. Tariffs, quotas, or any similar action would only compound an already stressed supply chain and increase

⁹ IHS Markit report, June 2021. <https://ihsmarkit.com/research-analysis/average-age-of-cars-and-light-trucks-in-the-us-rises.html>

costs for manufacturers – the very manufacturers needed to keep the U.S. globally competitive on key, transformational vehicle technologies as we transition to an increasingly electrified and automated vehicle fleet. Moreover, no suitable alternatives for neo-magnets exist at this time, or for the foreseeable future, until the U.S. builds its own capacity, which may take decades.

At bottom, MEMA urges BIS and the Department to take a holistic view of the current global supply chain crisis and all of the related ramifications of other trade actions that can inhibit the ability of U.S. vehicle parts manufacturers to remain globally competitive with their regional counterparts in Europe and Asia.

MEMA is available to assist the Department in providing information on the impact of possible adjustments on imported vehicle parts and can survey its members to provide such information. For questions or more information, please contact Ann Wilson, senior vice president of government affairs, at awilson@mema.org or Leigh Merino, vice president of regulatory affairs, at lmerino@mema.org.

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