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From: Robert G. Strahs, Vice President and GM Arnold Magnetic Technologies

Hearing Date: September 21, 2011, "China's Monopoly on Rare Earths: Implications for U.S. Foreign and Security Policy,"

Congressional Committee: House Committee on Foreign Affairs, Subcommittee on Asia and the Pacific

Chairman Manzullo and Members of the Subcommittee:

Thank you for the opportunity to testify regarding, "Confronting China's Rare Earths Monopoly: Implications for U.S. Foreign Policy". My name is Rob Strahs and I am the Vice President and General Manager of Arnold Magnetic Technologies.

Arnold Magnetic Technologies employs 775 people globally, 337 of these in the states of Illinois, Nebraska, New York and Ohio. The work of about 250 of our employees is directly related to the production of rare earth magnets or precision components containing them. This includes Engineers, Machinists, Accountants, Material Scientists and general laborers.

We are a tier 1 or 2 supplier and produce rare earth magnets and assemblies sold to approximately 200 customers, many of which then produce either final products or components. We estimate that our downstream customers employ over 25,000 people directly involved in the fabrication of products including rare earth magnets. These critical components can be found in all commercial planes including the 737 and the new 787. They are used by the oil and gas industry where magnets help produce power for sophisticated instruments to allow precision drilling. Rare earth magnets are used in pump systems by the chemical and mining industry., Rare earth magnets are essential to green technologies including hybrid systems important in reducing our dependence on foreign oil. Perhaps most importantly are the rare earth magnets and assemblies that are found in military weapon systems such as the F-35 Joint Strike Fighter, F-18, Javelin Missile, Precision Guidance Munitions and military counter measures. They are also being used to develop hybrid and electric power systems for our ships and ground vehicles and many other defense uses.

Today China is the only supplier of rare earths needed to produce the rare earth magnets neodymium iron boron or neo and samarium cobalt magnets. We need to maintain good relations with China as they have established themselves as the leader

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in rare earth supply and for the time being, have reserves of heavy rare earths such as dysprosium that are needed to create high performance magnets. The Chinese estimate that their known reserves of heavy rare earths may last only 15-25 years at the projected demand so it is vital that alternate supply chains be created.

Due to the export controls put in place in China, prices for products including rare earths have dramatically increased. Neo and samarium cobalt magnet costs have increased between 300 and 500+% in the last nine months. These price increases came about not only because of the export controls imposed at 2008 levels when demand was unusually low due to the recession but other factors contributed as well. These include speculators bidding up the prices of rare earth stocks and China's enforcement of environmental laws which has stopped illegal mining operations. Increased demand for rare earth magnets for green energy applications in hybrid vehicles and wind turbines has also created price increases. Industrial users hoped that prices and supply would quickly return to historical levels but that is not going to happen in my opinion. Neodymium iron boron is a relatively new magnet material and many uses are just coming into the marketplace that rely on this material to make their products more energy efficient and lighter and smaller than past magnetic materials allowed. So at a time when demand is growing, the reduced supply from China could be crippling to the next generation of energy efficient appliances, hybrid cars and wind turbines, not to mention defense systems.

We now have customers considering whether they should move their production to China. Arnold Magnetic Technologies has Chinese facilities in addition to our facilities in the U.S. and Europe to be close to the supply source. But this should be an opportunity for the U.S. to step up and re-establish an industry that was started here in the late 1950's but was substantially closed by 2002. We are here to state the importance of the need to bring back the rare earth industry in the US to protect and grow jobs as well as to control our own sources of rare earths that are so important to green technologies, aerospace and defense, and energy efficient motors and generators. Magnets are ubiquitous but because they are largely unseen inside the products we use, the public has not realized their significance in our daily lives.

We can't trade our dependence on foreign oil for dependence on foreign rare earths. The U.S. government has had a preoccupation with funding battery and solar technologies but the power that is produced or stored by these technologies will often be generated by or consumed by motors and generators that are most efficiently produced with neo magnets. Current and next generation military products from the Joint Strike Fighter to precision guided munitions to hybrid systems all require rare earth magnets to operate most efficiently.

Tens of thousands of jobs could be created by re-establishing a rare earth industry here in the U.S.

In support of this goal Arnold Magnetic Technologies has the knowledge base and people in place to produce neo magnets here in the US in addition to the samarium cobalt magnets we produce. But there are critical issues that only the US Government can address to restart rare earth magnet production in the US:

1. Intellectual property. Currently Hitachi holds the patents for the production of neo magnets and has refused to license any US companies. We would like the support of our government to work with Hitachi to have licenses granted to allow the production of these magnets in the US.
2. Stop the illegal importation of unlicensed neo magnets that enters the US either within products or as magnets. This erodes the ability of our company and our customers to fairly compete.
3. Inclusion of rare earth magnets into Buy American legislation to allow US based companies to compete with subsidized Chinese producers of magnets and assemblies.
4. Grants or loan guarantees to accelerate the construction of the rare earth industry and magnet production facilities here in the US and add high tech jobs such as was used successfully to bring back production of beryllium.

Without these steps being taken, we foresee more jobs going to China and we see the potential for the rare earths mined here in the U.S. to be exported to China to support their production, their green initiatives and their job growth further strengthening their global manufacturing dominance.

Thank you for your time and consideration.

United States House of Representatives
Committee on Foreign Affairs

"TRUTH IN TESTIMONY" DISCLOSURE FORM

Clause 2(g) of rule XI of the Rules of the House of Representatives and the Rules of the Committee require the disclosure of the following information. A copy of this form should be attached to your written testimony and will be made publicly available in electronic format, per House Rules.

1. Name: Robert G Strahs	2. Organization or organizations you are representing: Arnold Magnetic Technologies
3. Date of Committee hearing: September 21, 2011	
4. Have <u>you</u> received any Federal grants or contracts (including any subgrants and subcontracts) since October 1, 2008 related to the subject on which you have been invited to testify? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Have any of the <u>organizations you are representing</u> received any Federal grants or contracts (including any subgrants and subcontracts) since October 1, 2008 related to the subject on which you have been invited to testify? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6. If you answered yes to either item 4 or 5, please list the source and amount of each grant or contract, and indicate whether the recipient of such grant was you or the organization(s) you are representing. You may list additional grants or contracts on additional sheets. 	
7. Signature: 	

Please attach a copy of this form to your written testimony.