



## **American Superconductor and U.S. Navy Initiate Testing of an HTS Degaussing System on USS Higgins**

### **-Successful Electrical Tests of High Temperature Superconductor Degaussing Coil to be Followed by Sea Trials Over Next Two Years**

### **-System is Significantly Lighter and Less Expensive to Install and Operate Than Conventional Copper-Based Degaussing Coils**

DEVENS, Mass.--(BUSINESS WIRE)--July 29, 2008--American Superconductor Corporation (NASDAQ: AMSC), a leading energy technologies company, today announced that it has supplied critical components to the Office of Naval Research (ONR) and the Naval Surface Warfare Center Carderock Division (NSWCCD) Ship Engineering Station Philadelphia for a high temperature superconductor (HTS) degaussing coil system that has successfully completed initial electrical testing onboard the USS Higgins (DDG 76), an 8,000-ton Arleigh Burke-class destroyer. Powered by AMSC's HTS wire and magnet cable technology, the coil system will undergo U.S. Navy sea trials over the next two years on the Higgins.

Degaussing systems containing multiple tons of copper wire are utilized in most naval ships to cloak their magnetic signature, thereby making them much more difficult to be "seen" by magnetic sensors and magnetically activated mines. These systems are composed of a network of electrical cables installed around the circumference of a ship's hull, running from the bow to the stern on both sides of the vessel.

"The work on the Higgins represents a true leap ahead for the U.S. Navy magnetic silencing and HTS communities that takes advantage of two decades worth of research," said ONR program manager George Stimak. "HTS degaussing brings with it a new capability in not only being able to perform the same functionality that legacy copper-based degaussing systems can accomplish but being able to do the same task in a much more efficient manner that is less invasive to the ship. It opens up the design trade space for the naval architect in planning out the degaussing system to meet the platform's signature requirement. The Navy's adoption of the technology is a result of many years of hard work in developing HTS wire and demonstrations funded by both the Department of Defense and the Department of Energy."

AMSC produces HTS wires that conduct more than 150 times the electrical current of copper wires of the same dimensions. With this "power density" advantage, the Navy estimates that HTS degaussing systems projected for the LPD-17, LCS, CG(X), DDG-1000, and CVN-21 classes of ship will show a 50%-80% reduction in total system weight and a reduced total ownership cost compared to the current copper-based systems. In addition, a 90% reduction in the total installed cable lengths for all Navy ship classes is expected.

"With the ability to reduce the size, weight and cost of ship motors, generators, power cables and degaussing systems, HTS wire holds tremendous promise in the maritime market," said Dan McGahn, senior vice president and general manager of AMSC Superconductors. "We are quite pleased with the successful installation and initial electrical tests of an AMSC designed and manufactured HTS degaussing coil on a U.S. Navy guided missile destroyer."

AMSC has a lengthy history working with the U.S. Navy and the U.S. Department of Defense (DOD). In April 2006, the company completed the successful demonstration of the world's first full-scale superconductor-based degaussing coil, an internally funded research and development program. The 142-foot (40 meter) HTS degaussing coil produced 4,100 Amp-turns, a typical level of performance of conventional copper-based degaussing systems deployed in military ships today. AMSC's degaussing coil achieved this with an operating voltage of less than 0.5 volts, 1,000 times lower than copper-based systems.

In March 2007, AMSC completed factory acceptance testing of a 36.5 megawatt (49,000 horsepower) HTS ship propulsion motor for the U.S. Navy. AMSC designed, developed and manufactured the motor along with strategic partner Northrop Grumman under a contract from the U.S. Navy's Office of Naval Research (ONR). The motor was developed to demonstrate the efficacy of HTS primary-propulsion-motor technology for future Navy all-electric ships and submarines. The HTS motor is less than one-half the size and weight of the current baseline DDG 1000 propulsion motor and is more efficient over a much wider range of ship speeds. This results in weight and space advantages, enabling a significant increase in weapons payload capacity such as more powerful radar and additional missiles. This same advantage applies to commercial vessels. The HTS motor is currently awaiting load testing by the U.S. Navy.

## About the Office of Naval Research (ONR)

The Office of Naval Research (ONR) coordinates, executes, and promotes the science and technology programs of the United States Navy and Marine Corps through schools, universities, government laboratories, and nonprofit and for-profit organizations. It provides technical advice to the Chief of Naval Operations and the Secretary of the Navy and works with industry to improve technology manufacturing processes.

## About the Naval Surface Warfare Center Carderock Division (NSWCCD)

The NSWCCD is part of the Naval Sea Systems Command (NAVSEA), the Navy's central activity for designing, engineering, integrating, building and procuring U.S. Naval ships and shipboard weapon and combat systems. The NSWC exists to understand the technical dimensions of military problems and assist in finding competent solutions through a combination of government and private industry resources.

## About American Superconductor (NASDAQ: AMSC)

AMSC is a leading energy technologies company offering an array of solutions based on two proprietary technologies: programmable power electronic converters and high temperature superconductor (HTS) wires. The company's products, services and system-level solutions enable cleaner, more efficient and more reliable generation, delivery and use of electric power. AMSC is a leader in alternative energy, offering grid interconnection solutions as well as licensed wind energy designs and electrical systems. As the world's principal supplier of HTS wire, the company is enabling a new generation of compact, high-power electrical products, including power cables, grid-level surge protectors, Secure Super Grids™ technology, motors, generators, and advanced transportation and defense systems. AMSC also provides utility and industrial customers worldwide with voltage regulation systems that dramatically enhance power grid capacity, reliability and security, as well as industrial productivity. The company's technologies are protected by a broad and deep intellectual property portfolio consisting of hundreds of patents and licenses worldwide. More information is available at [www.amsc.com](http://www.amsc.com).

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Any statements in this release about future expectations, plans and prospects for the company, including our expectations regarding the future financial performance of the company and other statements containing the words "believes," "anticipates," "plans," "expects," "will" and similar expressions, constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. There are a number of important factors that could cause actual results to differ materially from those indicated by such forward-looking statements. Such factors include: uncertainties regarding the company's ability to obtain anticipated funding from corporate and government contracts, to successfully develop, manufacture and market commercial products, and to secure anticipated orders; the risk that a robust market may not develop for the company's products; the risk that strategic alliances and other contracts may be terminated; the risk that certain technologies utilized by the company will infringe intellectual property rights of others; and the competition encountered by the company. Reference is made to these and other factors discussed in the "Risk Factors" section of the company's most recent quarterly or annual report filed with the Securities and Exchange Commission. In addition, the forward-looking statements included in this press release represent the company's views as of the date of this release. While the company anticipates that subsequent events and developments may cause the company's views to change, the company specifically disclaims any obligation to update these forward-looking statements. These forward-looking statements should not be relied upon as representing the company's views as of any date subsequent to the date this press release is issued.

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