

American Maglev Technology Awarded Phase II Navy Contract to Develop Passively Cooled Jet Blast Deflector (JBD)

Amelia Island, Florida

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American Maglev Technology of Florida (AMT) Inc., a certified small business contractor for the Department of Defense based in Amelia Island, FL, is pleased to announce the receipt of a Phase II Small Business Innovation Research (SBIR) award from the Department of the Navy's Naval Sea Systems Command (NAVSEA) to develop a novel cooling solution for aircraft carrier jet blast deflectors (JBDs).

The Phase II award follows a successful Phase I program, during which AMT and its partners, Oak Ridge National Laboratory (Oak Ridge, TN), CFOAM LLC (Triadelphia, WV) and Eck Industries (Manitowoc, WI), conceptualized a novel, lightweight surface for the Navy's aircraft carrier JBDs — an Aluminum-Cerium (Al-Ce) alloy combined with CFOAM HTC graphite foam and phase-change material. Modeling, simulation and thermal-flow laboratory testing during Phase I demonstrated rapid-cooling capabilities following exposure to an aircraft's jet blast over multiple sorties.

"The novel decking material has the potential to minimize maintenance and increase the safety factor for these workhorse devices found on all 11 of our nation's aircraft carriers," said Tony J. Morris, the founder, president and CEO of AMT, who is also serving as the Principal Investigator of this SBIR program. "And from a payload standpoint, the new materials constitute about a 50% reduction in the weight of the JBD."

During the first year of the three-year Phase II program, AMT and its team will refine and optimize the preliminary design of the JBD through additional modeling and simulation, materials and corrosion testing, and thermal cycling testing of subscale samples. Full-scale JBD panels will be fabricated and tested in a maritime environment during the second and third years of the program. The contract value of the Phase II base program and two initial option years is \$1.7 million.

"Beyond aircraft carriers, this technology could constitute a breakthrough in heat exchangers and heat sinks," Morris added. "The lightweight, low-cost surface's capability to sustain extremely high temperatures over an extended time and undergo rapidly passive cooling could have many other industrial and military applications."

About AMT

American Maglev Technology of Florida (AMT) was founded in 1994 by Tony J. Morris and is in the business of placing magnetic fields in service to humanity. AMT has designed, built, operated and maintained three generations of full-scale magnetic levitation (maglev) transportation test tracks, with its latest deployment (Powder Springs, GA) the only operating facility of its kind on U.S. soil. The company submitted its first proposal to the SBIR program in 2007 and has since received 10 Phase I awards and 7 follow-on Phase II awards. AMT has established itself in the industry as a multidisciplinary program manager and integrator of complex, high-technology components.

About the SBIR Program

The Small Business Innovation Research (SBIR) program is a highly competitive program that encourages domestic small businesses to engage in Federal Research/Research and Development (R/R&D) that has the potential for commercialization. Through a competitive awards-based program, SBIR enables small businesses to explore their technological potential and provides the incentive to profit from its commercialization. By including qualified small businesses in the nation's R&D arena, high-tech innovation is stimulated, and the United States gains entrepreneurial spirit as it meets its specific research and development needs.

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