# General Atomics Successfully Demonstrates Aluminum Power system to Power Remotely Operated Underwater Vehicle

SAN DIEGO, Calif. – General Atomics Electromagnetic Systems (GA-EMS) announced today that it has successfully completed the first end-to-end demonstration of its Aluminum Power System (ALPS), powering an underwater remotely operated vehicle (ROV) at a GA-EMS test tank facility in San Diego. During the demonstration, a submerged ALPS provided hydrogen and oxygen to a Teledyne Energy Systems fuel cell, which provided electrical power to propel an ROV.

“This demonstration marks a major milestone for us, illustrating for the first time that ALPS can be successfully integrated to supply hydrogen and oxygen to fuel cells to generate electrical power and drive an underwater vehicle,” stated Scott Forney, president of GA-EMS. “ALPS is a unique, high energy density system intended to provide up to 10 times the energy output of similar battery volume. With its unlimited shelf life, safe handling and high energy density, ALPS can truly enable underwater ‘refueling stations’ to support long-term underwater vehicle operations.”

“We view fuel cells as an important component in supporting challenging mission requirements for large UUVs [unmanned underwater vehicles] and other undersea platforms,” said Rolf Ziesing, vice president of Programs at GA-EMS. “Prior to this demonstration, we had successfully tested ALPS using only load banks. Working in cooperation with Teledyne, we were able to integrate an end-to-end system and test under real-world conditions. The results and data gathered during the demonstration will allow us to continue testing and advance

ALPS to meet future undersea platform energy requirements.”

ALPS provides an energy-dense, cost-efficient power source for manned and unmanned undersea vehicles. The system significantly reduces safety concerns while providing a clean, reliable power source for long-endurance missions and underwater operations.