



SEA CORP

ADVANCED TORPEDO/ COUNTERMEASURE LAUNCHING SYSTEM

High Speed Torpedo Launch

About the Technology

Since the advent of the Lightweight (LW) torpedo, the energy used to launch torpedoes from ships has been supplied by high pressure air stored in refillable flasks attached to the torpedo tube breech. The flasks are maintenance intensive, and the physical profile, energy capacity, thrust, and payload dimensions cannot accommodate the changing needs of evolving weapons, sensors and platforms.

SEA CORP has developed an innovative family of launchers using automotive airbag inflators to provide the impulse energy. The commercially available inflators, with a 15-year shelf-life, are inexpensive, reliable, and permit the modularity of a completely sealed, maintenance-free launcher system. Through inflator selection, variable timing, and design features, the technology can accommodate a wide variety of payloads and can be adapted to platforms ranging from small unmanned surface vessels to major combatants, and aircrafts. A series of land-based and at-sea testing has brought the Advanced Surface Launcher to Technology Readiness Level 6.

Continued development is being funded by PEO Integrated Warfare Systems (IWS) not only for LW torpedo launchers, but also for future payloads such as the Common Very Light Weight torpedo. Additionally, several government agencies have funded development of a variety of launchers using this technology for other payloads.

Military and Commercial Significance

SEA CORP's inflator technology provides a lightweight torpedo launcher that is completely modular, requires little or no maintenance, and is 100% operationally ready at all times. Because of the versatility of the inflators, and by using tailored inserts, various payloads with different characteristics can be accommodated within a single launcher. The system is self-contained, never needs charging from outside sources, is usable aboard any platform, and can be installed, removed, or motivated quickly for mission-specific payloads. Commercially, the technology is applicable to launch payloads from different types of platforms or land-based facilities.

APPLICATIONS

- NAVSEA: PEO IWS
 - Surface vessel torpedo launcher, small-diameter acoustic countermeasures
 - Anti-torpedo weapons
- NAVAIR
 - Helicopter launched sonobuoys (multi-mission maritime helicopter)

About the Company

An avid participant in the SBIR Program since 1993, SEA CORP has leveraged its SBIR success into a program for launcher development. The launcher program sustains a robust department of about a dozen engineers and technicians and is the only mature developmental program for surface ship torpedo launchers. Building on its mature torpedo launcher program success, SEA CORP recently completed a Phase II SBIR for a sonobuoy launcher for the Navy's MH-60R helicopter, based on similar technology.

Topic Number: N95-208
(NAVSEA)

SBIR Investment: \$777K
Project Revenue: \$8.4M

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