

WHO

SYSCOM: NAVAIR

Sponsoring Program: NAVAIR Aircrew Systems
Program Office (PMA-202)

Transition Target: Navy and Marines Rotary and Tiltrotor
Aircraft Aircrew

TPOC: cody.r.shepherd.civ@us.navy.mil

Other Transition Opportunities: Military and Civilian
Rotary and Tiltrotor Aircraft Aircrew and Ground Forces
that conduct work over water environments.

Notes: The illustration shows that NACEAR enables
warfighters to stay in the fight while allowing rigid ballistic
armor plates to be jettisoned with one hand or both for
front and back armor plates that are negatively buoyant
and restrict the member from evacuating a downed
aircraft. The system also allows the aircrew member to
retain the vest, survival, and operational components
attached to it if needed after the aircrew has evacuated
the crash area.



Image courtesy of Bunker Supply 2024, image credit -
Marco Vanella

WHAT

Operational Need and Improvement: During water survival situations, dense on-body equipment hinders a rotorcraft operator's ability to remain buoyant, impeding mobility and posing a significant drowning risk. The ability to quickly yet selectively shed negatively buoyant hard plates presents an opportunity to improve survivability without requiring complete separation of the entire vest and all gear attached to it.

Specifications Required: Bunker Supply Co.'s Naval Aircrew Emergency Armor Release (NACEAR) solution allows an aircrew member to jettison their hard armor plates without abandoning their survival vest and, by extension, gear critical for extended survival capacity, warfighting potential, and asset protection. The solution is thin, lightweight, and compatible with fielded survival vest platforms through a retrofit process conducted by Aircrew Survival Equipment Technicians using standard equipment.

Technology Developed: Bunker Supply has developed an innovative and scalable Emergency Armor Release that prioritizes ease of operation for the aircrew member. Additionally, it simplifies the modification of the survival vest retrofit by the Survival Equipment Technician, making it a user-friendly solution. Bunker Emergency Release Insert (BERI): The BERI is our solution to create a system capable of retrofitting into existing carrier platforms with minimal change to the performance of the vest itself. Minimizing weight and bulk were strong design drivers, ensuring the solution does not burden aircrew members. The BERI allows for 1. RAPID, SINGLE HAND OPERATION 2. NON-SLIP HANDLE DESIGN 3. UNIVERSAL VEST COMPATIBILITY.

Warfighter Value: Over the last year, the US military has lost more than thirteen members in over-the-water rotary wing aircraft crashes. The Naval Aircrew Emergency Armor Release (NACEAR) concept is invaluable for those military units that lose valuable personnel to over-the-water crashes. The technology allows the individual to rapidly but smoothly remove negative buoyancy ballistic plates so the aircrew member can go on to other aircraft egress tasks to ensure their safety. Additionally, it allows the aircrew member to retain their survival vest and the components attached to it in case of use after the event of a crash.

WHEN

Contract Number: N68335-23-C-0230

Ending on: Mar 17, 2025

Milestone	Risk Level	Measure of Success	Ending TRL	Date
Knowledge Transfer: Receive Government Furnished Property / Platform Information	N/A	Component System Verified	5	1st QTR FY24
Prototype & Testing: Subsystem Testing/Demonstration	Medium	MIL-STD-882D / Prototype Passes Test	6	4th QTR FY24
Prototype & Testing: Full System Testing/Demonstration	Medium	Prototype Passes Testing	7	1st QTR FY25
Technical Data Package Development	Low	Feedback from End User	7	1st QTR FY25
Demonstration/Final Report	Low	Feedback from Program Manager	8	2nd QTR FY25

HOW

Projected Business Model: Bunker Supply is a design-forward US military contractor, developing and manufacturing optimized equipment for agents in the field. We exist to optimize operator capabilities and safety through innovation and human-centered design. The team behind Bunker Supply has extensive experience commercializing products in both public and private sectors. By keeping current with state-of-the-art approaches to product development, leveraging advanced testing and manufacturing techniques, and applying a proven methodology to relevant, impactful marketing, fundraising, and sales approaches, Bunker Supply can develop proven products, manufacture them efficiently, and close large quantity sales across many industries.

Company Objectives: Bunker Supply targets DoD, Coast Guard, Homeland Security, Law Enforcement, and Civilian Rotary and Tiltrotor Aircrew units for sales in NACEAR. It already sells to those customer groups for other products it produces.

Potential Commercial Applications: Commercial variants would be suitable for recreational pilots or aircrews that fly over water.