

# NAVY CERTIFICATION OF LITHIUM-ION 6T BATTERIES FOR GROUND VEHICLE USE AND SURFACE SHIP TRANSPORT

## PROJECT OVERVIEW

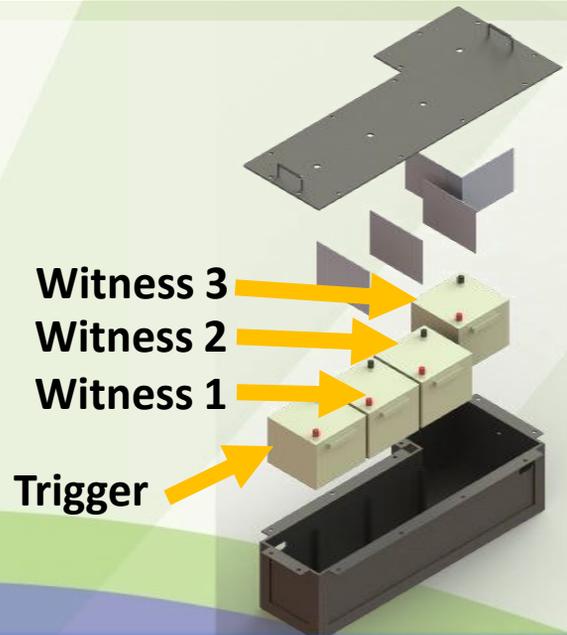
Lithium-ion batteries pose safety issues to personnel and host platforms, requiring safety certification prior to their use on Navy platforms. Currently no Li6T in development meets MIL-PRF-32565B; however, 2 manufacturers (SAFT and Toshiba) are expected to have MIL-PRF compliant batteries by the end of CY20. We are characterizing the failure response of Li6Ts in relevant vehicle configurations from 2 leading manufacturers and demonstrating a general test methodology for assessing hazards of Li6T failure on a variety of UMSC and US Army vehicle platforms.

## BENEFITS

Due to safety concerns, lithium-ion batteries require significant buy-in from stakeholders for Navy use. This project will advance the use of lithium-ion 6Ts in many vehicle platforms by establishing a clear and cost-effective path forward for Navy safety certification of Li6T batteries, which can replace outdated technology (lead-acid) to provide unprecedented mission capabilities to the warfighter.

## PATH FORWARD

The completion of this project will expedite safety certification of Li6Ts for Stryker transport on Navy vessels. A pathway will be opened up for safety certifications of additional ground vehicles based on common battery locations and quantities.



Exploded view of Stryker vehicle test fixture with four Toshiba Li6Ts batteries



Stryker vehicle test fixture with test instrumentation and batteries installed before propagation testing.

## DoD Executive Agent

Office of the Assistant Secretary of the Army for Installations, Energy, and Environment

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## FOR FURTHER INFORMATION

National Defense Center for Energy and Environment

<http://www.denix.osd.mil/ndcee/home>

Naval Surface Warfare Center Carderock Division

<https://www.navsea.navy.mil/Home/Warfare-Centers/NSWC-Carderock/>