

PROTOTYPING COST-EFFECTIVE CHARGING CONTAINERS FOR LARGE LITHIUM BATTERIES

PROJECT OVERVIEW

Lithium ion batteries meet a crucial power need for Department of Defense (DoD) entities, but their stored energy poses operational and transportation hazards (notably, toxic and flammable gas release, fire, and rapid disassembly). These hazards must be characterized by a DoD entity, before the systems are certified for use or transport on surface, subsurface, and air platforms. One mitigation against these hazards is containment.

Current options for lithium battery containers are limited. Custom solutions may be cost and time-prohibitive, and emerging commercial solutions have yet to be validated by DoD.

This program seeks to investigate a leading commercial-off-the-shelf lithium battery case, and upon validation with a 5kWh battery, transition the product into a conditioned, two-man-portable battery charging container.

BENEFITS

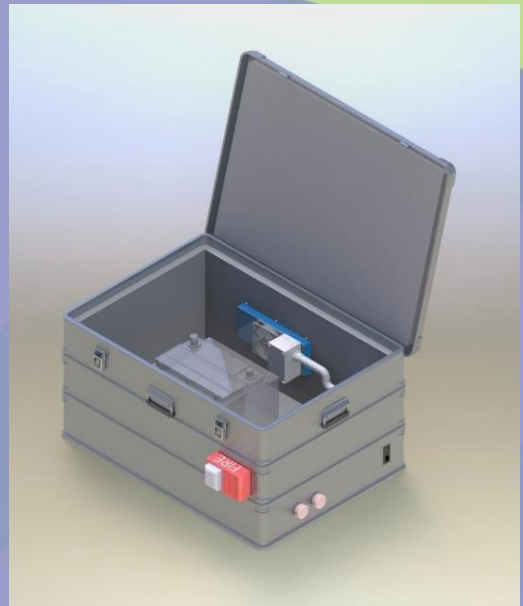
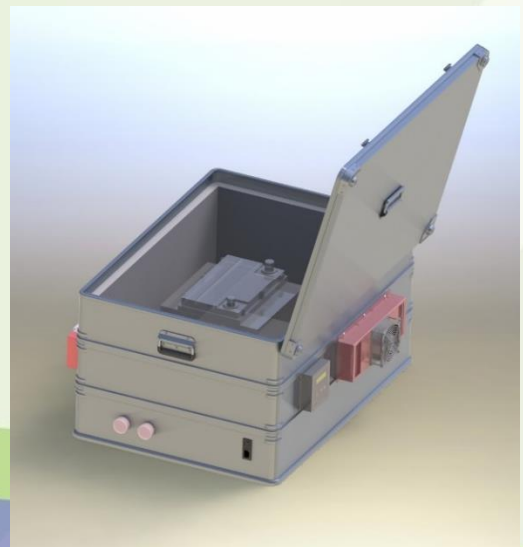
Lithium battery operations may be severely limited due to their hazard potential. If these hazards can be mitigated, this offers an easier pathway for deployment by:

- Offering a fast and economical path for lithium battery certification in DoD
- Decreasing programmatic burden for extensive testing of new or prototype battery systems
- Expanding options for platforms and usage scenarios

PATH FORWARD

Completion of this project will increase the collective DoD knowledge of lithium battery failures and inform the procurement and development of containment systems. These systems serve to decrease risk to both critical DoD platforms and the warfighter, while enabling expanded use of energy-dense power sources.

CONCEPT RENDERING OF CHARGING CONTAINER



DoD Executive Agent

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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/>