

# LI ION BATTERY RESPONSE PLANNING

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**For USCG SE District**

## RESPONSE GUIDANCE BASICS SPECIFIC TO SHIPBOARD INCIDENTS

- **I. EVALUATE:** determine the location and extent of the fire or potential, accessibility and associated risks and hazards. This can be difficult given the incident specific situation such as on a car carrier with thousands of Evs onboard and no access between vehicles and on multiple decks. What are the worse case outcomes and options to conduct safe assessments and evaluations for response? Where are pre-identified areas to consider for potential repositioning the vessel for a higher measure of safety and effective response?

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- **II. ISOLATE:** Identify options and feasibility of isolating the fire and heat to provide cooling and isolation to prevent further spreading of the fire and damage to additional Li Ion cels. Firefighters identify the use of water curtains high volume. water deluge and fire blankets. Vessel stability will be a primary concern during these response options. Some industry developments for inhibitors and proprietary technologies have been suggested but are not fully tested or evaluated and likely have challenging limitations.

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- **III. MITIGATE/ELIMINATE:** What are the options for removing storage and disposing of the source. There are significant complications associated with these actions so alternatives, tradeoffs, permit requirements and details of options and locations should be understood and planned for.

## APC PLANNING FOCUS

- I. Details of the 3 tier response foundation: Evaluation, Isolation, Mitigation/Elimination
- II. Identification of key resources, roles and responsibilities at local, regional, and national levels
- III. Development of a response decision matrix (criteria for active and effective response options vs "run away" and let it burn (based on safety, access, scope, and risks
- IV. Evaluation of Resources at Risk and proximity to populations or infrastructures that could be affected

## APC PLANNING FOCUS

- V Training and education for responders on shipboard firefighting issues including access, monitoring, stability issues, use of firefighting water, foam inhibitors, CO<sub>2</sub>, blankets, etc. Cover basic hazards, composition, structure, hazards, differences of various Li Ion battery types and configurations.
- VI Modeling to run scenarios and gain understanding and intuition for future potential response (HF modeling for example)
- VII Exercises to evaluate any gaps, needs and state of preparedness

## APC PLANNING FOCUS

- VIII Address on land vs on ship responses including access and special knowledge needs and considerations
- IX Address establishments of safety zones
- X Establishment of target End point considerations
- XI Identification of key authorities and support agencies: H&S, regulatory, responders, etc.
- XII Identification of disposal considerations and options