



NAATBatt 2020 Member Update

www.energyresponsegroup.com

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What we do: Testing



SMALL AND LARGE-SCALE TESTING

UL CERTIFICATION TESTING
RESEARCH AND PRODUCT DEVELOPMENT TESTING
PRE-CERTIFICATION TESTING

CERTIFICATION ADVISORY SERVICES

FUNCTIONAL SAFETY REVIEW AND ASSISTANCE
DESIGN FOR CODES AND STANDARDS COMPLIANCE
FMEA, HMA, AND FUNCTIONAL SAFETY ANALYSIS

What we do: Deployment



CODE COMPLIANCE SERVICES

RISK AND HAZARD MITIGATION ASSESSMENT

DISPOSAL PRE-PLANNING

DOCUMENTATION AND CERTIFICATION MANAGEMENT

PERMITTING AND DEPLOYMENT

TECHNICIAN, SME, FIRST RESPONDER, AND FIREFIGHTER TRAINING

PERMITTING SUPPORT ALONG WITH PRODUCT SAFETY AND DESIGN REVIEW

FIRE PROTECTION ENGINEERING SUPPORT WITH NATIONAL FPE PARTNER

What we do: Emergency Operations



SUBJECT MATTER EXPERTISE AND TRAINING

24/7 SME AVAILABILITY IN CONJUNCTION WITH CLOUD-BASED MONITORING
WHITEPAPER AND INDUSTRY MOVEMENT REPORTS REGARDING SAFETY AND COMPLIANCE
EMERGENCY RESPONSE PLANNING AND SOP DEVELOPMENT

END OF LIFE SUPPORT

FIRE AND FAILURE INVESTIGATION
DISPOSAL AND DECOMMISSIONING
HAZMAT REMEDIATION

Who we are



- Nick Warner
 - Formerly DNV GL; leader in battery and energy storage testing and risk assessment
- Tom Bensen
 - Certified Fire Investigator and Emergency Response Professional
- Paul Rogers
 - Former FDNY Lt.; hazmat specialist and point person for FDNY energy storage
- Ryan Franks
 - Formerly CSA Group and National Electrical Manufacturers Association (NEMA)
- Ed Ferrier
 - Formerly Assistant Chief, FDNY
- Casey Grant
 - Formerly CEO National Fire Protection Association (NFPA) Research Foundation

Who we serve



- Manufacturers
- Integrators and project developers (including solar)
- Insurers
- Utilities
- Financiers, private equity and their counsel
- Fire Service
- Authorities Having Jurisdiction (AHJs)

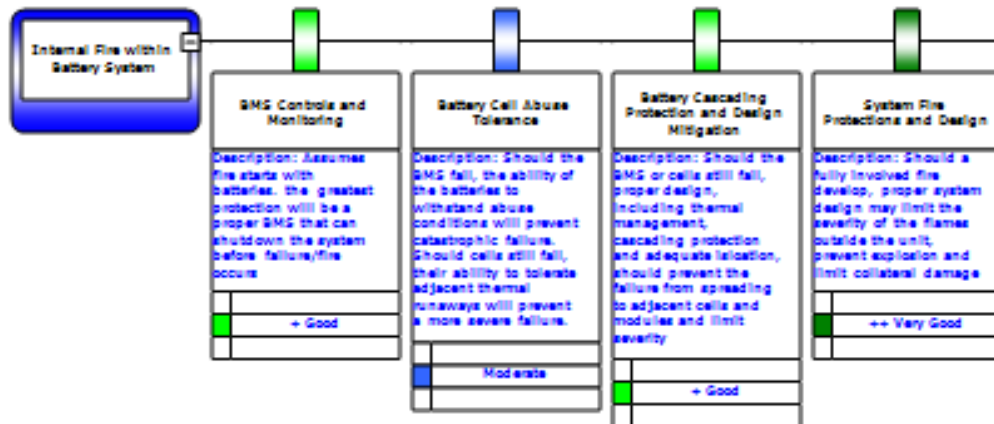
Emergency Response Platform



- Mass notifications
- Virtual emergency response plans
- Remote emergency shutoff procedures
- HAZMAT documentation/safety data sheets (SDS)
- 3D mapping, custom map integration, and computer-aided design (CAD) drawings
- Gas detection (Carbon Dioxide (CO₂), Carbon Monoxide (CO), Ethylene (C₂H₄), Hydrogen (H₂), and Methane (CH₄), and battery off gas)
- Integration with fire control system data (e.g., temperature, alarming, suppression status, etc.)
- Support for previous training and expert guidance based on situation-specific data
- Documentation management as required per NFPA 855 and other local compliance requirements (e.g., contact information, construction documents, response plans, and lists of qualified personnel).

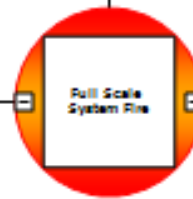
Understanding risk – Bowtie

Threats

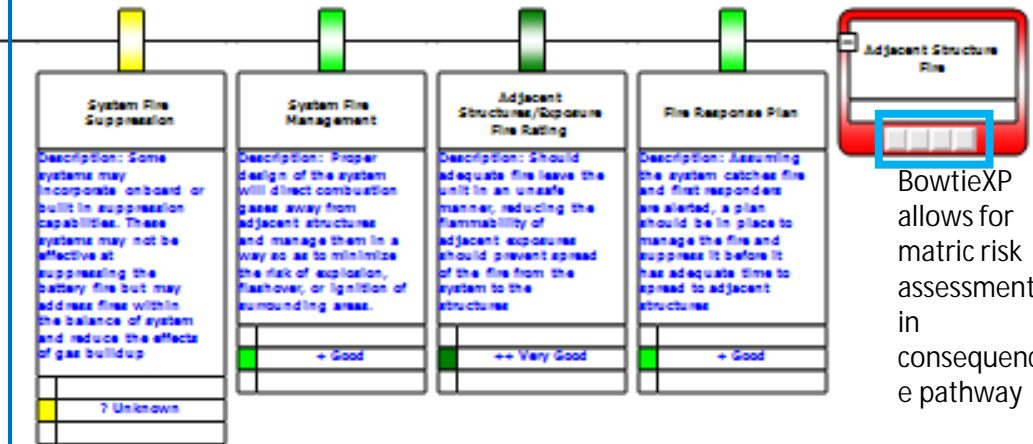


Barriers preventing threat inception from reaching "hazard" event

Hazard Event



Consequences



Barriers to mitigate "hazard" event once it has occurred

BowtieXP allows for matrix risk assessment in consequence pathway

Forthcoming EPRI Report on Bowtie Hazard Mitigation Analysis (HMA) at www.epri.com/esic

Select Experiences through 2019

- Over a dozen site assessments across US and Canada
- Over 150 cell, module, and unit level fire tests
- Over 70 consultative client projects
- Formal training provided to over 90 professionals



ESRG
ENERGY STORAGE
RESPONSE GROUP

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