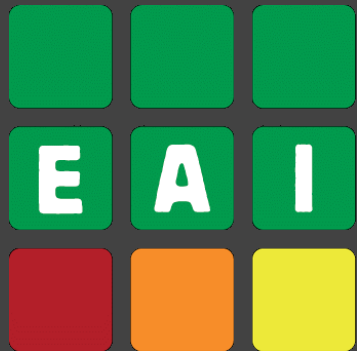

BATTERY PRODUCT DEVELOPMENT

GETTING TO MARKET QUICKLY AND EFFICIENTLY

Don Karner

Electric Applications Incorporated





WE MAKE BATTERIES WORK



Performance

**Automotive
Aerospace
Motive Power
Grid Energy Storage
Telecommunications
Performance Evaluation
Standards Certification**



Safety

**Certification Test Planning
NRTL Coordination
Mechanical Abuse Testing
Electrical Abuse Testing
Forced Thermal Runaway
Fire Testing
DUT Logistics**



Research

**Battery Product Research
Grid Energy Storage
Charging Infrastructure
Vehicle Electrification
Advanced Lead Chemistry
Lithium Chemistries
Power Generation**

OUR BUSINESS



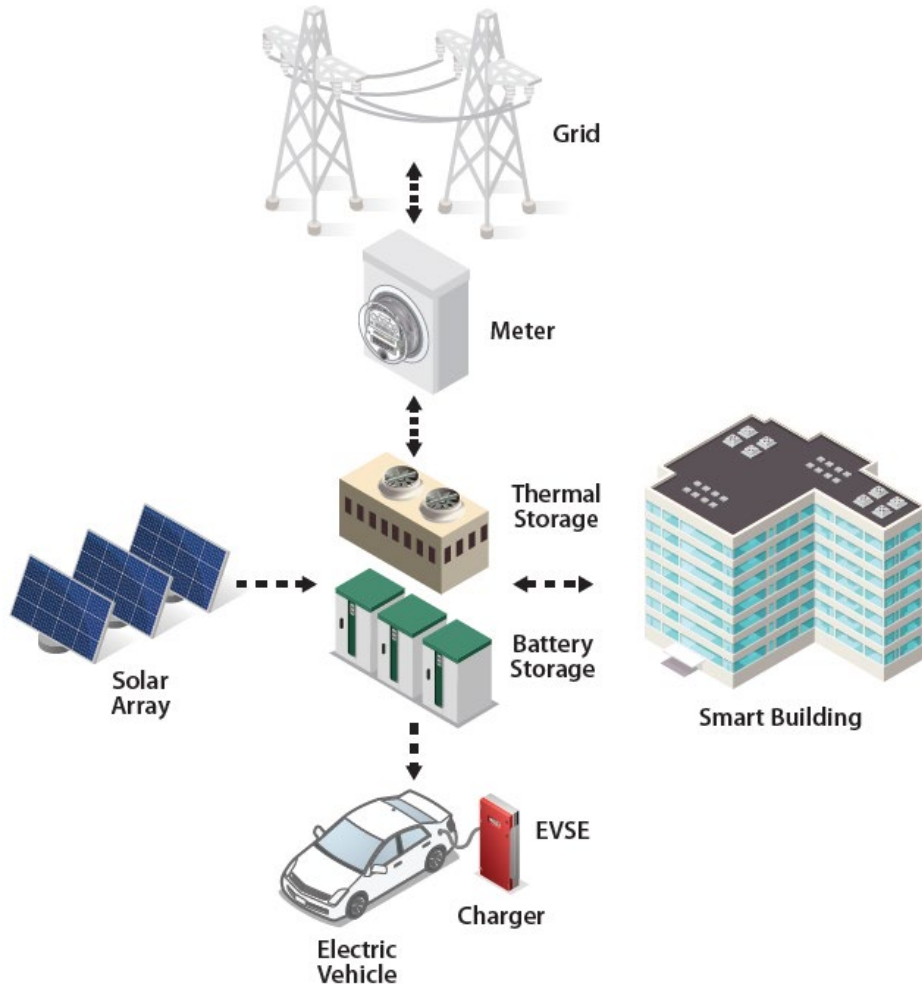
PRODUCT DEVELOPMENT SERVICES

- Application Operational and Safety Requirements
 - Operational Performance Testing
 - Safety Certification Planning
 - NRTL Interface
 - Certification Testing
- Product Design
- Product Certification

We Make Batteries Work



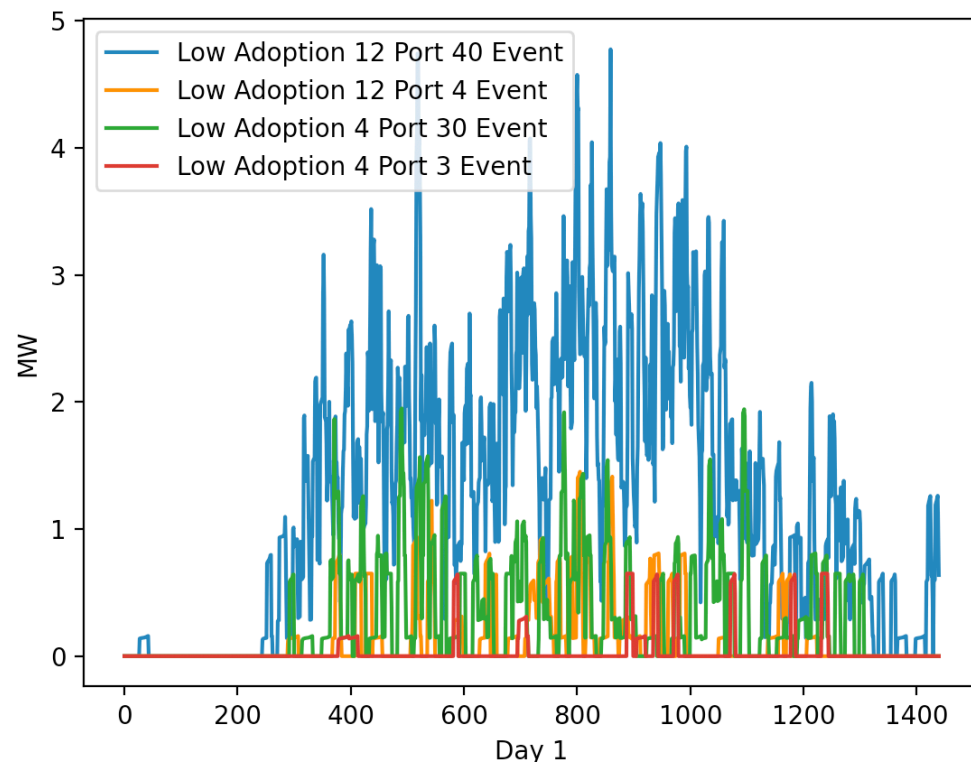
EV FAST CHARGE DEMAND REDUCTION OPPORTUNITIES



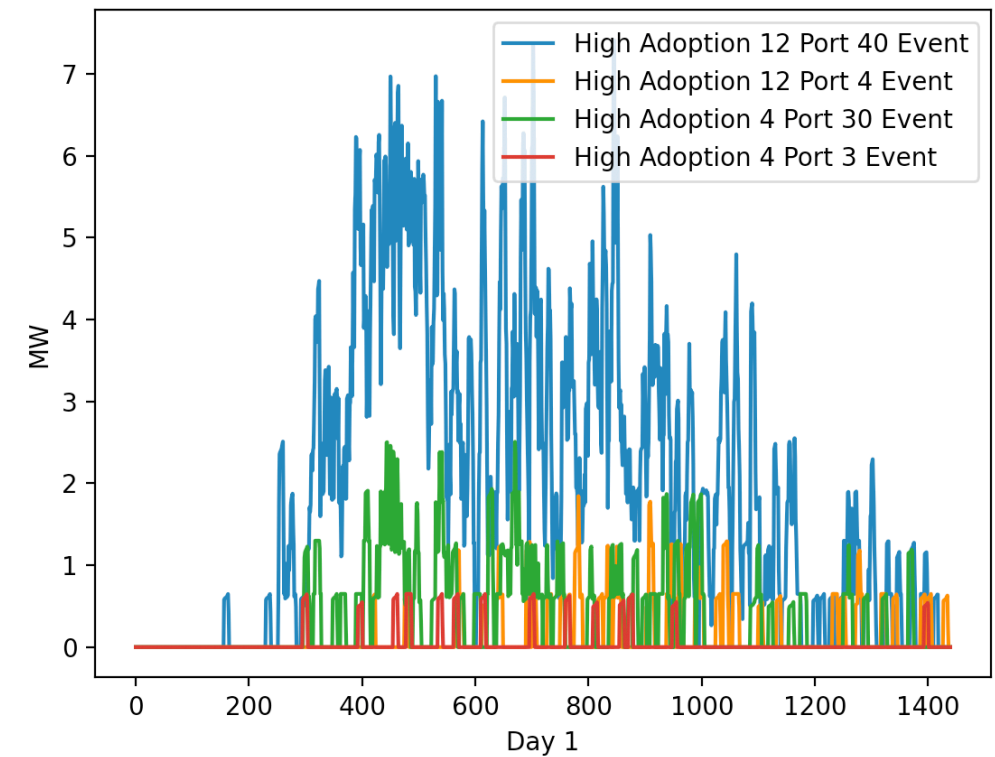
- **Infrastructure Funding Distributed Through Local Government**
- **Look To The Future**
 - **EV Charging Power up to 650kW**
 - **Multi-port Charging Facilities**
 - **Shared Use For Building Loads**
 - **Multiple Energy Sources**

FUTURE BATTERY POWER REQUIREMENTS

Early Vehicle Adoption



Mature Vehicle Adoption



STATIONARY BATTERY CERTIFICATION

New Building Codes

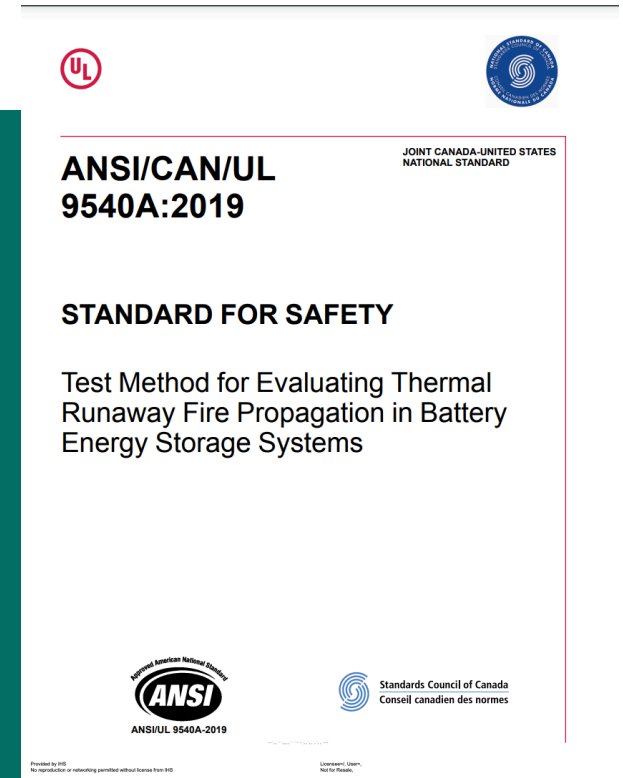
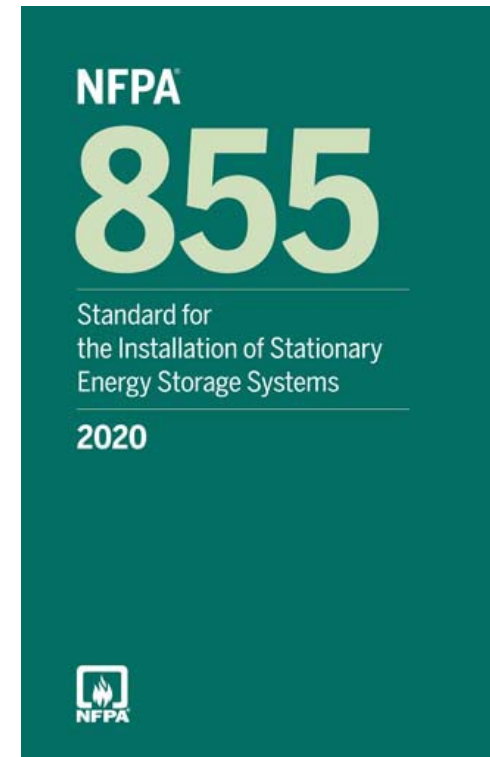
- NFPA 855

■ New Safety Standards

- UL 9540/A

■ Revised Safety Standards

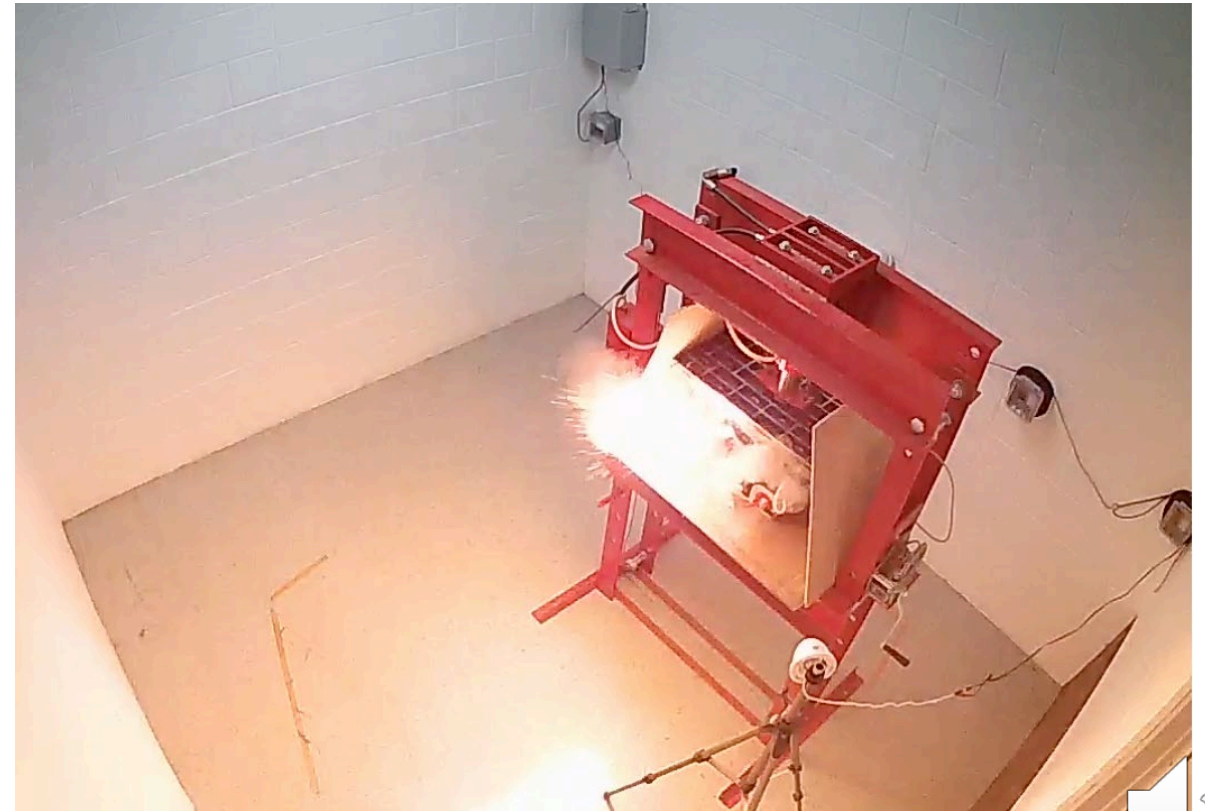
- UL 1973



EAI PRODUCT SUPPORT

Certification Planning

- Define Requirements
- Coordinate Testing
- Provide NRTL Interface
- Safety Testing
 - Electrical
 - Mechanical
 - Environmental



THANK YOU



WE MAKE BATTERIES WORK

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