

# ENABLING SAFE OPERATION OF ENERGY STORAGE SYSTEMS FOR ENHANCED RESILIENCE

MONDAY: TRACK 2

## SESSION CHAIRS

---

- Yuliya Preger, Sandia National Laboratories
- Imre Gyuk, Department of Energy

## SESSION ABSTRACT

---

Energy storage is a key component of many resilience solutions. This tutorial breaks down the basics of energy storage system (ESS) safety into three categories: 1) how ESS fail; 2) how to prevent ESS from failing; and 3) how to respond to ESS failures. The first topic cluster begins with basic safety concerns for various battery energy storage systems, including both Li-ion and aqueous technologies. Then the tutorial proceeds with an overview of system-level safety concerns beyond the battery, including electrical safety and issues with balance of plant components. The second topic cluster, on preventing ESS failure, includes an overview of current and upcoming codes and standards for ESS as well as the perspective of Authorities Having Jurisdiction (AHJs) on best practices for installations. This section concludes with guidance on establishing long-term sustainable maintenance practices for ESS. The third track offers best practices for emergency preparedness and response from the perspective of both building operators/managers and firefighters. This tutorial incorporates insights from R&D at national labs, policy influencers, and first responders.

## AGENDA

---

The role of energy storage in resilience

*Speaker: Imre Gyuk, Department of Energy Office of Electricity Energy Storage Program*

### PART I - HOW ESS FAIL

Safety overview of battery energy storage system technologies

*Speaker: Loraine Torres-Castro, Sandia National Laboratories*

Moving beyond the battery – a systems perspective on safety

*Speaker: David Rosewater, Sandia National Laboratories*



## PART II - HOW TO PREVENT ESS FROM FAILING

Overview of current and upcoming codes and standards for energy storage

*Speaker: Chris Searles, BAE Batteries*

Operations and maintenance – what to think about after commissioning

*Speaker: Richard Fioravanti, Quanta Technology*

Energy Storage Systems – The AHJ Perspective

*Speaker: Pete Jackson, City of Bakersfield Building Department*

## PART III - HOW TO RESPOND TO ESS FAILURES

Clarity and Incident Response Guidance for Building Operators

*Speaker: Michael Bobker, City University of New York Building Performance Lab*

Incident response guidance for firefighters

*Speaker: Matt Paiss, Pacific Northwest National Laboratory*