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CSA Group Introduction

Jody Leber

Global Business Manager, Energy Storage



About CSA Group

Not-for-Profit Standards Development

The mission of CSA Group's Standards Development organization is to enhance the lives of Canadians through the advancement of standards in the public and private sectors. We are a leader in standards research, development, education, and advocacy. The technical and management standards developed with our more than 10,000 members improve safety, health, the environment, and economic efficiency in Canada and beyond.

Global Testing, Inspection and Certification

CSA Group's global commercial subsidiaries provide expert testing, inspection, and certification services that enable manufacturers to demonstrate that their products are in compliance with applicable safety, environmental, and operating performance standards for markets around the world. We offer deep expertise and industry-leading service delivery across a wide range of current and emerging technologies.

CSA Scope

CSA evaluates products to the following standards

- CSA C22.2 No. 340 Battery Management Systems
- CSA C22.2 No. 350 Test Method for Safety and Performance of Thermal Barriers for use in Batteries and Battery Based Energy Storage Systems
- CSA C800 Testing Protocol for Energy Storage System Reliability and Quality Assurance Program
- CSA C801 Testing protocol for evaluating effectiveness of detection and mitigation systems for battery failure events
- CSA TS-800 Large-Scale Fire Testing (LSFT) Procedure
- IEC 62933-X-X Electrical energy storage (EES) systems
- NFPA 855 Installation of Stationary Energy Storage Systems
- UN 38.3 Transportation Testing for Lithium Cells and Batteries

CSA Scope

CSA evaluates products to the following standards

- UL 1973 Batteries for Use in Stationary and Motive Auxiliary Power Applications
- UL 1974 Evaluation for Repurposing Batteries
- UL 2271 Batteries for Use In Light Electric Vehicle (LEV) Applications
- UL 2580 Batteries for Use in Electric Vehicles
- UL 2743 Portable Power Packs
- UL 9540 Energy Storage Systems and Equipment
- UL 9540A Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems

Our Services Stack

CREATING SOLUTIONS THAT ENABLE YOUR BUSINESS

Certification and Performance

Keep up with the fast pace of global market opportunities. Our certification experts understand that reliable and predictable service is essential to your business. We can help you take full advantage of today's global economy and gain the approvals you need to enter new markets worldwide.

Global Market Access

Get one-stop-shop certification services to help you access up to 200 countries

Cyber Security

Work closely with you to develop tailored solutions that help you identify potential issues, and then implement security measures covering the entire product lifecycle to reduce the chance of malicious intrusions and attacks.

Consumer Product Evaluation

Offers third-party, independent verification, inspection and testing for a range of retail products, so you can make informed decisions that keep your customers happy.

Energy Efficiency Verification

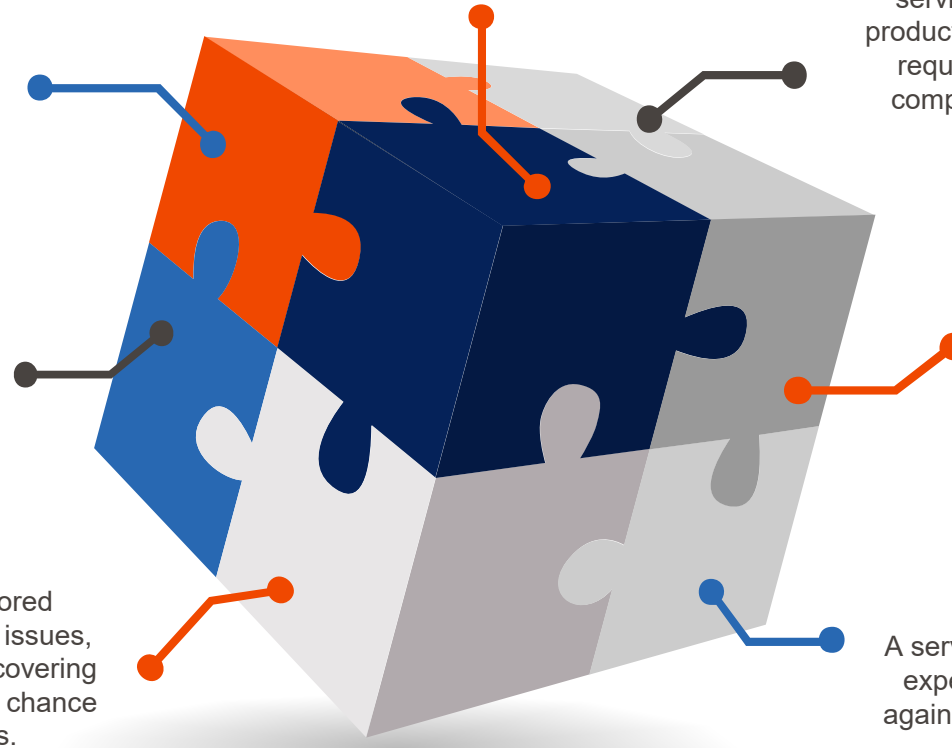
CSA Group's energy efficiency verification services allow you to demonstrate that your products meet North American energy efficiency requirements. Our services encompass the complete set of energy efficiency standards, including ENERGY STAR®.

Functional Safety

Offers customers valued peace of mind through fast and efficient safety and evaluation services, technical guidance and training

Field Evaluation/ Special Inspection

A service that allows a qualified certification expert to assess your uncertified product against required safety and other applicable standards and codes.



DER Laboratory

CSA Groups Distributed Energy Resource (DER) laboratory in Independence, Ohio provides testing solutions to the energy storage, electric vehicle, electric vehicle charging infrastructure and microgrid technology markets.

40,000 square foot technology lab providing solutions that include electrical safety evaluation, megawatt scale fire testing, environmental simulations, energy efficiency verification, performance testing, cybersecurity and grid interoperability evaluation solutions.



About the Speakers

Jody Leber is the Global Business Manger for Energy Storage at CSA Group and an accomplished International compliance professional with 34 years of experience in product testing and participates on the following committees:

- NFPA 855
- Standards Technical Panel (STP) for UL 1642, UL 1973, UL 2054, UL 2271, UL 2272, UL 2580, UL 2738, UL 2743, UL 2849, UL 8139, UL 9540 and UL 9540A
- US TAG for TC 21, TC 35, TC 120 and SC 21A
- Technical Advisor (TA) for TC21 and SC21A
- SAE Battery



Jody Leber

Global Business Manager - Energy Storage

What is NFPA 855 ?

NFPA 855 - Installation of Stationary Energy Storage Systems

The National Fire Protection Association Standard defines the requirement and decommissioning of stationary energy storage systems including traditional battery systems such as those used by utilities.

- Provides minimum requirements for mitigating the hazards associated with ESS
- Applies to ESS exceeding 20 kWh with higher capacity exceptions (70 kWh) to Lead Acid and Nickel based systems
- Address standards referenced in NFPA 855 and distinguish the difference in type of codes
- NFPA 855 is **NOT** a Certification Standard



What is CSA TS-800?

TS-800 is designed to address the potential fire hazards of ESSs, particularly those utilizing lithium-ion batteries. The risks associated with these systems are significant, ranging from manufacturing quality to external environmental stresses, which can lead to catastrophic fire events. TS-800 provides an extensive testing procedure that verifies fire events from a fully involved ESS unit do not propagate to adjacent units or external exposures, helping safeguard lives and the surrounding environment.

This specification goes beyond existing tests, such as UL 9540A, which may not result in a fire condition. TS-800 aligns with requirements in codes like the California Fire Code and the International Fire Code, offering a much-needed standardized approach to large-scale fire testing.



What is CSA C801?

This Standard outlines a testing protocol for evaluating the effectiveness of detection and mitigation systems for battery failure events. It is intended to be used by code officials, financial institutions, insurers, fire responders, developers, independent engineers, manufacturers, and other relevant stakeholders in the battery industry.





Thank you!

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