

UL 9540 & IEC 62619 Technical Compliance Register: Energy Storage Product

Liability Insurance Certificate

PRODUCT IDENTIFICATION

The Energy Storage Product Liability Insurance Certificate is an official OEM-backed commercial instrument that documents the insurance coverage affixed to a Tier-1 commercial and industrial battery energy storage system (BESS). This certificate serves as verifiable proof that the integrated hardware platform, including LFP battery cabinets, bi-directional PCS, thermal management subsystem, and energy management controller, is protected under a comprehensive product liability policy. The document is issued to asset owners, EPC contractors, and financiers as part of the turnkey delivery package.



INTERNAL BESS TOPOLOGY

The insured product architecture comprises a modular, containerized or cabinet-based energy storage platform. At its core are Tier-1 LFP cells configured in series-parallel strings, managed by a multi-level battery management system (BMS). The DC busbar integrates with a high-efficiency bi-directional power conversion system (PCS) that supports grid-tied, off-grid, and hybrid operating modes. A smart liquid cooling pipeline maintains cell temperature uniformity within ± 2 degrees Celsius. The product liability insurance certificate specifically covers the integrated system as delivered, including all structural, electrical, and thermal components.

THERMAL PROTECTION MECHANISMS

The insured platform incorporates multi-layer thermal runaway suppression. Each battery module includes cell-level temperature sensing, active equalization, and aerosol-based fire suppression. The liquid cooling loop is designed with redundant circulation pumps and leak detection. These mechanisms are audited and certified under UL 9540 and IEC 62619, and their performance is a material condition of the product liability insurance certificate. Any alteration to the thermal management system without OEM approval may void coverage.

OPERATIONAL ADVANTAGES

- Financial Risk Transfer: The certificate transfers defined product liability risks from the asset owner to the insurer, backed by the OEM's master policy.
- Financing Bankability: Lenders and investors recognize the certificate as evidence of safety and quality, accelerating project finance approval.
- Regulatory Acceptance: The certificate supports permitting and grid interconnection applications by demonstrating compliance with fire and electrical safety codes.
- Global Coverage: Policies are structured to meet local insurance regulations across North America, Europe, and Asia-Pacific.
- Transparent Exclusions: The certificate clearly defines coverage limits, exclusions, and claims procedures, avoiding ambiguity during incidents.

SPECIFICATION MATRIX

Parameter	Specification
Insured Product	Integrated C&I Battery Energy Storage System
Certificate Type	Product Liability Insurance Certificate
Coverage Territory	Worldwide (excluding sanctioned countries)

Policy Period	10 years from commercial operation date
Per-Occurrence Limit	USD 10,000,000
Aggregate Limit	USD 25,000,000
Retention / Deductible	USD 250,000 per claim
Underlying Standards	UL 9540, UL 9540A, IEC 62619, NFPA 855
Certificate Holder	Asset Owner / EPC Contractor (as named)
Issuing Entity	Tier-1 Global Insurance Carrier, on behalf of OEM

REGULATORY COMPLIANCE

The product liability insurance certificate is issued only after the underlying BESS has demonstrated conformity with the following standards: UL 9540 (Energy Storage Systems and Equipment), UL 9540A (Test Method for Evaluating Thermal Runaway Fire Propagation), IEC 62619 (Secondary Cells and Batteries Containing Alkaline or Other Non-Acid Electrolytes), IEC 62933 (Electrical Energy Storage Systems), and NFPA 855 (Installation of Stationary Energy Storage Systems). The certificate references the specific test reports and

certification numbers. It does not replace the underlying certifications but serves as a commercial insurance attestation.

