



Overview and Background of Peer Review

Critical Battery Energy Storage System (BESS) permitting deliverables, particularly the Hazard Mitigation Analysis (HMA), Failure Modes and Effects Analysis (FMEA), and UL 9540A test reports containing product-level test data collectively contain information on which to base important siting decisions and requirements. Misinterpretation or misunderstanding of these deliverables can lead to design and installation of energy storage systems for which the requirements of Fire Code of New York State (FCNYS) are not sufficiently met.

Peer reviews by experts in the field can assist local Authorities Having Jurisdiction (AHJs) in their review and understanding of BESS permit applications and their compliance with existing fire code requirements. The 2020 FCNYS Section 1206.8 Peer Review gives local AHJs the authority to require that BESS developers pay for an independent peer review of the developer's permit application. However, despite the benefits, peer reviews are rarely utilized.

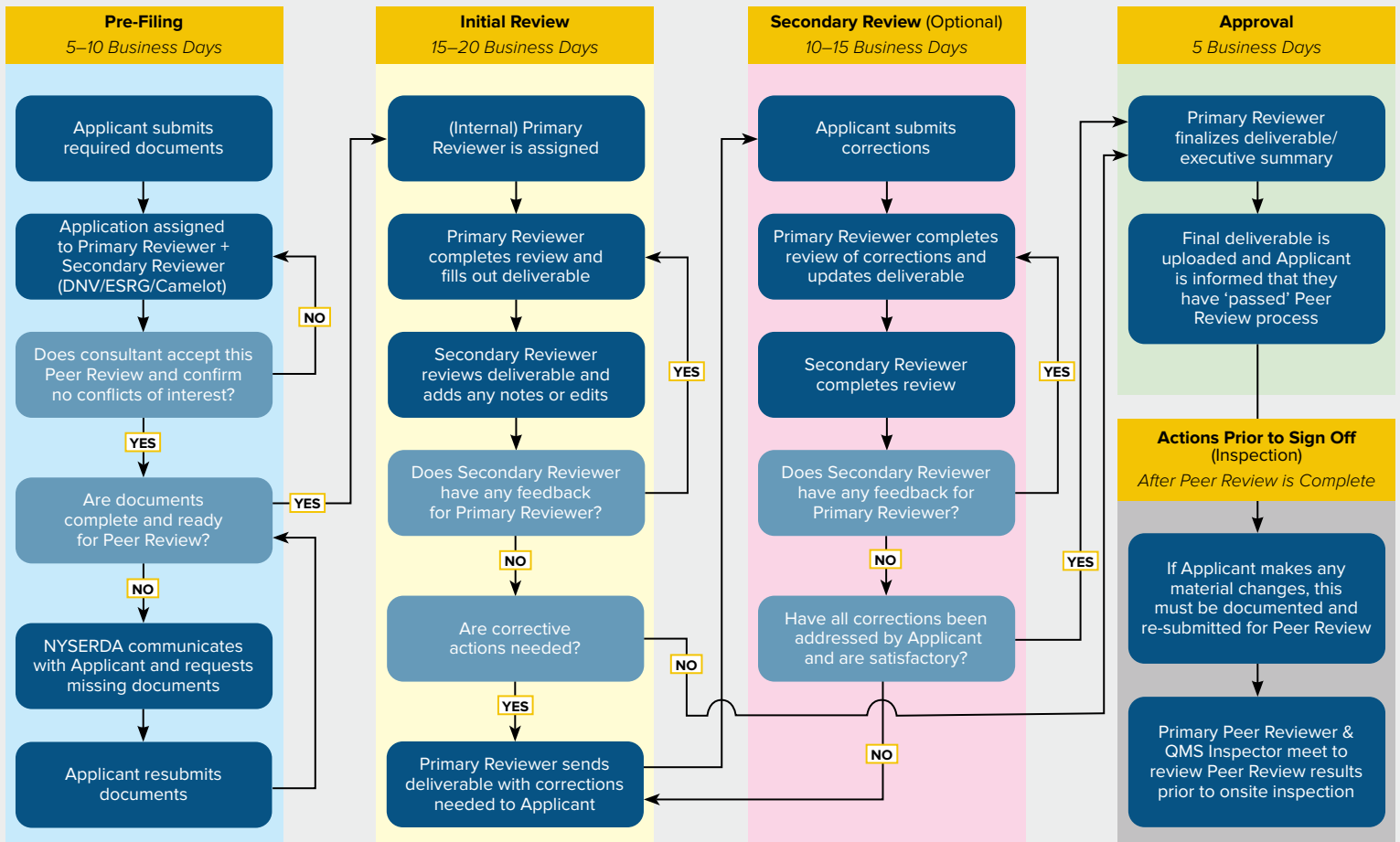
Accordingly, NYSERDA has incorporated a mandate for peer reviews to be conducted by vetted, qualified experts for all BESS installations not sited in New York City exceeding the Maximum Allowable Quantity (MAQ) energy capacity thresholds established for lithium-ion batteries in 2020 FCNYS Table 1206.12 and 2025 FCNYS Table 1207.5 to ensure proper compliance and oversight for projects procured under NYSERDA's retail and bulk energy storage programs. In the 2025 FCNYS, effective in January 2026, peer reviews will be mandatory for all projects exceeding MAQ thresholds.

Process Diagram

Energy storage projects assigned to a peer reviewer will go through a thorough evaluation of project design and product safety before a project design is finalized and before construction begins. Documentation submitted include but are not limited to:

- Site Plan
- Emergency Response Plan
- Large-Scale Fire Testing (UL 9540A) Results
- Hazard Mitigation Analysis
- Manufacturer Specifications
- UL Listings (UL 9540, UL 1973, UL 1741) and Associated Documentation
- NFPA Standards and Associated Documentation
- Fire Alarm Drawings
- Electrical Drawings
- Explosion Control Verification
- Other Project Application Documents

The peer review process is depicted in the following diagram:



A field inspection, conducted by NYSERDA's Quality and Market Standards (QMS) Team and required for all commercial scale energy storage projects contracted with NYSERDA, will cross-reference the findings from peer review. This inspection will occur once a project is mechanically complete but before the project is energized. Projects will be required to correct all nonconformities before an incentive is paid out.

NYSERDA has contracted with three reviewers, each of which has extensive experience in the field of energy storage fire safety. The team of reviewing companies may evolve over time, based on the program's needs.

ESRG

Energy Safety Response Group (ESRG) provides comprehensive safety and emergency management services for battery energy storage systems. Leveraging real-world experience from firefighting, risk assessment, and safety testing, the company offers safety testing and guidance to support the safe and reliable deployment of energy storage systems across the globe.

DNV

DNV is a global advisory, certification, and testing services company, providing assurance services to all sectors of energy industry. In North America, DNV's Energy Storage Advisory Team provides technical due diligence and advisory services, ensuring storage projects and products are designed and operated with high performance, safety, and reliability.

CAMELOT ENERGY GROUP

Camelot is a technical advisory firm focused on energy storage and solar technologies. Camelot has provided owner's engineering, technical due diligence, market advisory, and related services on over 8 GW of projects across the U.S. market.

