Energy Storage Incentive Peer Review Documentation Checklist

Required Documentation:

The following documentation should be provided by project developers for comprehensive peer review.

- ☐ Narrative or cover letter clearly describing scope of proposed project including, but not limited to:
  - Address and size (footprint) of the proposed installation
  - BESS manufacturer name, product name, and model number
  - Type of chemistry (NMC, LFP, etc.)
  - Capacity of project (both kW or MW and kWh or MWH)
  - Brief summary or bullets detailing Authority Having Jurisdiction (AHJ), emergency services, and community engagement at time of application
  - Any partnerships relevant to project safety, e.g. hazard mitigation support, subcontractors, peer reviewers (if applicable), etc.
  - Intended use of proposed installation
- ☐ Non-ministerial permits or related documentation received from Authority Having Jurisdiction (AHJ)
- ☐ All project documentation that will be submitted to AHJ
- ☐ All project drawings (BESS, fire alarm, electrical, etc.)
  - Location and layout diagrams of the room or area where BESS will be installed
    - Provide details of all nearby exposures in the drawings
    - Show distances between the BESS and the following exposures:
      - » Lot lines;
      - » Public streets, fire apparatus access road, public walkways and other public ways;
      - » Any vehicle parking;
      - » Any building/structure with indications of entrances, doors, openable windows, access hatches, or ventilation intakes;
      - » Any egress features from a building or outdoor area;
      - » Any hazardous materials or combustible materials storage facility or area;
      - » Any storage facility or area for high-piled combustible materials or other combustible items;
      - » Overhead power lines or other aboveground electrical installation, measured from the boundary of the utility easement or, if there is no easement, from the vertical plane of the installation at its widest point;
      - » Any public utility or transportation infrastructure;
      - » Any equipment (including other BESS);
  - Container layout drawing
  - Container/enclosure HVAC design
  - Diagram of EMS design and communication
  - Fire suppression/alarm system design
  - Electrical design drawings (60% drawings)
  - Civil drawings (60% drawings)
  - Drawings must Include environmental conditions (temperature range, humidity range, site elevation)

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- ☐ All BESS and fire protection system datasheets
  - BESS specifications sheet
  - Cell specifications and performance data
  - BMS specifications and performance data
  - Summary of BESS fire safety features (detection, alarms, fire suppression, sequence of operations of system response to thermal runaway event)
  - Summary of BESS thermal management systems
  - Summary of BESS explosion control or mitigation strategy
- ☐ O&M manual, BMS manual, Installation manual
- ☐ Communications architecture (SCADA interface, communication protocols, data connectivity requirements)
- ☐ Equipment Listings and certifications for the proposed model in the relevant categories (UL 9540 equipment listing and full report for the whole system, UL 1973 / IEC 62619 / UN38.3 certification for li-ion batteries, UL 1741 certification for inverter, appropriate indoor/outdoor NEMA or IP rating for enclosures)
- ☐ Full UL 9540A large-scale fire test reports (cell-level, module-level, and unit-level tests reports. Installation level test reports will be required for BESS which have not met unit-level performance criteria.)
- ☐ Site-specific Hazard Mitigation Analysis (HMA) that includes analysis of at least the following failure modes:
  - Thermal runaway or mechanical failure in a single BESS unit
  - Failure of an energy storage system that is not covered by the product listing Failure Modes and Effects Analysis (FMEA)
  - Failure of a required protection system
    - E.g., HVAC, exhaust ventilation, smoke or fire detection, fire suppression, or gas detection
- ☐ Site-specific Emergency Response Plan (ERP)
- ☐ Site-specific Safety Training including but not limited to
  - Plans for safety training
  - Safety training materials
  - Site map complete with hazard identification
- ☐ Deflagration analysis substantiating design of explosion control system(s)
- ☐ Substantiation of explosion control design, including UL 9540 Report, completed under the most current edition of the Standard, indicating compliance with Section 24.5 and one, or more of the following additional documents:
  - Deflagration Hazard Analysis based on applicable UL 9540A test results and data, demonstrating that the flammable gas concentration remains below 25% of LFL. This may be completed by the manufacturer or a suitable third-party engineer.
  - Technical report substantiating compliance with either NFPA 68 or NFPA 69 requirements. This report should provide sufficient detail for Peer Reviewer to reasonably validate the conclusions reached in granting the UL 9540 Listing and developer may submit manufacturer documentation used in the UL 9540 Listing process, if desired.
- ☐ Commissioning and decommissioning plans (should include details on emergency decommissioning in addition to details about hazard support personnel)
- ☐ Central Station, 24/7 Network Operations Center (NOC), and video monitoring contracts