

ASHE Battery Safety Committee — Charter

- 1) Purpose The ASHE Battery Safety Committee is established to identify, assess, and mitigate risks associated with battery technologies in healthcare environments; develop practical, risk-based recommended practices for hospitals; and propose aligned changes to codes and standards (e.g., NFPA 800) where regulation would improve consistency among Authorities Having Jurisdiction (AHJs) without creating undue burden or limiting patient care.
- 2) Scope
 - a) In Scope
 - i) Battery chemistries and systems used in health care settings (e.g., lithium-ion, lead-acid/VRLA, NiMH), including those in clinical devices, IT/telecom/UPS systems, building systems, micro-mobility devices, and patient/staff consumer devices when present in facilities.
 - ii) Storage, charging, use, transport, and end-of-life handling within hospitals and associated outpatient facilities.
 - iii) Event data collection, root-cause analysis (RCA), and trend identification (thermal events, off-gassing, smoke/odor, fire, explosion, electrolyte leaks, etc.).
 - iv) Development of recommended practices spanning facility design, operations, training, and emergency response.
 - v) Alignment review with NFPA 800 and other relevant standards and proposing targeted, balanced changes where regulation will improve safety and AHJ consistency without unnecessary operational burden.
 - vi) Consideration of healthcare’s operational realities: 24/7 occupancy, trained staff, rapid human detection of “hot” odors, and sprinkler protection.
 - b) Out of Scope
 - i) Product design/manufacturing standards (unless informing facility risk).
 - ii) Procurement decisions for specific brands/vendors.
 - iii) Activities outside healthcare facility environments.
- 3) Guiding Principles:
 - a) Patient Care First: Recommendations must preserve continuity and quality of patient care.

- b) Risk-Based and Proportional: Controls scale with hazard level, energy density, quantity, and context of use.
 - c) Practical and Implementable: Solutions should be feasible for hospitals of varied size and resources.
 - d) Leverage Existing Safeguards: Recognize effectiveness of trained staff, early odor/smoke recognition, detection systems, and sprinkler protection.
 - e) Consistency for AHJs: Where regulation is advisable, propose clear, concise code language to reduce interpretation variance.
 - f) Data-Driven: Ground conclusions in incident data, RCAs, testing, and field experience.
 - g) Technology-Neutral: Focus on hazards and controls, not specific vendors.
 - h) Avoid Unnecessary Burden: No requirements that materially hinder care or operations without commensurate safety benefit.
 - i) Transparency and Collaboration: Engage stakeholders across clinical, facilities, safety, IT, manufacturers, insurers, and AHJs.
- 4) Objectives and Deliverables Phase 1 —
- a) Hazard Identification & Analysis
 - i) Compile and analyze incident/event reports (internal hospital reports, insurer data, ECRI/MAUDE where applicable, fire service reports, OEM advisories, claims data, loss control reports).
 - ii) Classify hazards by setting, device/system, battery chemistry, charging modality, environment, and mitigations present (sprinklers, detection, separation).
 - iii) Conduct structured RCAs on representative events; identify triggers (mechanical damage, charging faults, counterfeit cells, poor ventilation, overcurrent, enclosure failures).
 - b) Deliverables: Hazard Taxonomy; Event Analysis Report; RCA Findings Summary.

Phase 1 — Recommended Practices

- a) Develop tiered recommended practices (baseline, enhanced, high-hazard) for:
 - i) Risk assessment and inventory (chemistry, quantity, watt-hour rating, state of charge, location).

- ii) Storage and charging controls (location, separation/spacing, ventilation, temperature management, rated enclosures/cabinets, charging equipment specs, state-of-charge limits where appropriate).
 - iii) Operations (standard work, supervision, housekeeping, PM/inspection, acceptance testing, signage/labeling).
 - iv) Emergency preparedness (odor/smoke response, isolation/evacuation zones, battery fire tactics, post-incident handling, re-ignition risk).
 - v) Design measures (compartmentation, detection, sprinklers, power management, fault annunciation, egress considerations).
 - vi) Governance (policies for personal e-bikes/scooters, contractor tools, vendor equipment; control of charging in patient areas).
- b) Deliverables: ASHE Recommended Practices for Battery Safety in Healthcare (RP-BSH); Quick Reference Checklists; Training Outline.

Phase 3 — Codes & Standards Alignment

- 1) Review NFPA 800 and other applicable standards (e.g., NFPA 70/NEC for electrical/charging, NFPA 1/101 where relevant, IFC/IMC) for consistency with RP-BSH.
 - a) Identify gaps where minimal, clear regulatory language would align AHJ expectations and support safety outcomes.
 - b) Draft proposed changes with substantiation and burden analysis (cost/benefit, impact on operations and patient care, alternative methods).
- 2) Deliverables: NFPA 800 Alignment Report; Proposed Code Change Package(s) with Technical Justification and Impact Statement.

Phase 4 — Adoption & Outreach

- 1) Develop implementation guidance (templates for policies/SOPs, model risk assessment form, commissioning/PM checklists).
- 2) Create stakeholder communications (facility leadership brief, clinical staff one-pager, AHJ engagement guide).
- 3) Define metrics and feedback loop (leading/lagging indicators, near-miss reporting, annual review cycle).
- 4) Deliverables: Implementation Toolkit; Communications Pack; Metrics & Continuous Improvement Plan.

Membership and Roles

- 1) Chair (appointed by ASHE): Provides leadership, sets agendas, ensures alignment with ASHE strategy and this Charter.
- 2) Vice Chair: Supports Chair; leads work when Chair unavailable.
- 3) Secretary: Records minutes, maintains action log, manages document control.
- 4) Voting Members (balanced representation):
 - a) Health system facility leaders (small, medium, large systems)
 - b) Clinical operations/biomedical engineering
 - c) Safety/risk management (EHS/industrial hygiene)
 - d) Electrical/IT/telecom/UPS engineering
 - e) Fire protection (sprinklers/detection) and emergency management
 - f) Codes/standards experts (NFPA, IFC/IBC familiarity)
 - g) Insurer/loss control representative
 - h) Manufacturer/OEM advisory liaisons (non-voting unless designated)
 - i) AHJ/Fire service liaison (non-voting advisory)
 - j) Accrediting Organization
 - k) Supply Chain Representative
- 5) ASHE Staff Liaison(s): Project management, member support, publication coordination.

Technical Working Groups (TWGs):

Time-bound subgroups (e.g., “Clinical Devices & Chargers,” “UPS & Energy Storage,” “Storage/Charging Rooms,” “Consumer/Micro-mobility”).

Decision-Making

- 1) Strive for consensus. If consensus is not achievable in reasonable time, decisions pass with a supermajority (e.g., 2/3 of voting members present).
- 2) Minority perspectives will be documented with rationale.
Conflicts of interest disclosed and managed; members with material COIs may be recused from specific votes.
- 6) Estimated Meetings and Cadence
 - a) Full Committee: Monthly (60–90 minutes) during Phases 1–3; quarterly thereafter.
 - b) TWGs: Biweekly or as needed.
 - c) Quorum: ≥50% of voting members.
 - d) Minutes: Issued within 7 business days; action items tracked to closure.

Work Plan and Target Timeline

- 1) Month 0–1: Kickoff; finalize work plan; confirm TWGs; approve data request templates.
Month 1–4: Data collection and analysis; preliminary hazard taxonomy; initial RCA set.
Month 4–7: Draft Recommended Practices and checklists; pilot with volunteer hospitals.
Month 7–9: NFPA 800 alignment review; develop proposed code changes with substantiation.
Month 9–10: Public/peer review of RP-BSH; revise based on feedback.
Month 10–12: Publish RP-BSH and toolkit; submit code proposals as applicable; launch outreach.

Data Sources and Methods

- 1) Anonymous hospital incident reports, near-miss reports, and maintenance logs.
- 2) Insurer/loss control data (aggregated).
- 3) Public databases and advisories (e.g., OEM safety notices).
- 4) Literature reviews, testing reports (where available).
- 5) Burden and feasibility assessment for each major recommendation (cost, space, staff time, workflow impact).
- 6) Accreditation Organization Data
- 7) CMS reports on battery safety