# POWER AHEAD GROUP

Sodium-Ion Battery Energy Storage System ("BESS") Purpose-Built for AI Data Center Infrastructure

## THE LITHIUM PROBLEM IN YOUR FACILITY

### Fire Risk

Lithium thermal runaway is a code-level liability. NFPA 855 requirements may significantly impact site footprint and deployment economics.

### Short Lifespan

Lithium systems require replacement every 10–15 years. In a 30-year Data Center ("DC") lifecycle, that is 1–2 complete replacements – each with downtime and CAPEX risk.

### Hidden TCO

Liquid cooling, fire suppression systems, and insurance premiums add 20–35% to the true lifetime cost of lithium BESS deployments.

## THE PAG MEGASIB SOLUTION

### No Thermal Runaway

NFPP zero-oxygen chemistry eliminates thermal runaway at cell level. Mitigates fire suppression overhead. Full NFPA 855 compliance without footprint penalties.

### 30-Year Design Life

Install once. Matches your DC's 30-year lifecycle – thus no mid-contract replacement cycles, no unplanned CAPEX, no downtime.

### PAG Proprietary HVAC Thermal Management

PAG's proprietary HVAC thermal management architecture requires no liquid cooling loops, eliminates leak risk, and removes separate cooling CAPEX -> dramatically lowers O&M costs over the full facility lifecycle.

## MEGASIB (HIGH LEVEL) TECHNICAL SPECIFICATIONS

| Cell Format | Design Life | Cycle Life | Cooling System |
|---|---|---|---|
| 120 mm × 420 mm Ultra-Large Cylindrical | 30 Years | 12,000+ Cycles | PAG Proprietary HVAC Thermal Management (Air-Cooled, No Liquid) |

## HEAD-TO-HEAD: PAG MegaSIB vs. Lithium BESS

| Parameter | PAG MegaSIB (Na-Ion) | Typical Lithium Ion BESS |
|---|---|---|
| **Design Life** | 30 Years | 10–15 Years |
| **Thermal Runaway / Fire Risk** | None — NFPP chemistry | Yes — requires suppression systems |
| **Cooling Requirement** | Air-cooled (HVAC only) | Liquid cooling required |
| **NFPA 855 Compliance Cost** | Standard — no spacing penalty | High — 15–25% floor area penalty |
| **Replacements per DC Lifecycle** | Zero | 1–2 replacements over a 30-Year Facility Lifecycle |
| **UL Certifications** | UL 1973 (cell) + UL 9540A (system) | Varies — often incomplete |
| **ESG / Carbon Profile** | Non-toxic, no cobalt/nickel | Cobalt mining, toxic disposal |
| **Insurance Premium Impact** | Low — no fire hazard | High — thermal runaway liability |

## CERTIFICATIONS & COMPLIANCE ROADMAP

| UL 1973 | UL 9540A | UL 9540 | NFPA 855 / 70 |
|---|---|---|---|
| Cell-level certification: UL 1973 Certified | Cell-level certification: UL 9540A Certified | System-level ESS: Full roadmap by Sept 2026 | NEC + fire code compliant: Full analysis available |

**COMMERCIAL DEPLOYMENT STAGE:** PAG's MegaSIB platform is at the commercial deployment stage. Cell-level UL 1973 and UL 9540A certifications are in place. Full UL 9540 system-level certification roadmap targeted for completion in September 2026. Technical documentation and certification packages available upon request.

## REQUEST A TECHNICAL BRIEFING

**What We Offer:**

20-minute technical overview call
Full certification package (UL 1973 + UL 9540A)
TCO comparison model for your facility size
Site-specific deployment feasibility review

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