

Enhancing Onsite Battery Evaluation Practices

Objective

To reduce maintenance costs and downtime by improving onsite battery evaluation practices. Enable teams to accurately assess battery state-of-health, isolate faults at the module or cell level, and make informed decisions about repair, reuse, or retirement.

Key Points

Operators are the first line of defense.

Maintenance teams rely on operators to detect and report performance issues, but this approach can delay root cause identification.

Not all degradation is equal.

Batteries must be evaluated to determine whether the issue is isolated to a single cell or module—or if a full pack replacement is warranted.

Onsite repair capability exists but is underused.

Cell-level replacement can now be done onsite, but inconsistent evaluation standards limit its application and impact.

Implementation

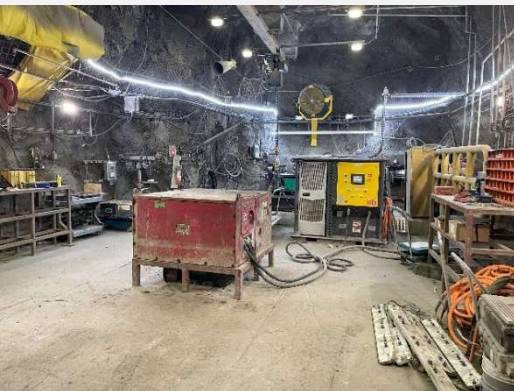
Maintenance staff are being trained to distinguish between localized cell or module failures versus systemic pack degradation—prioritizing actionable evaluations over blanket diagnostics.

A site-specific asset tracking spreadsheet now logs preventative maintenance (PM) activity, battery capacity trends, and observed faults, helping identify repeat issues, flag at-risk batteries, and guide end-of-life decisions.



“We have our own 'battery team' out of necessity, but it was a key enabler for the change management. Cross-training and skilling were critical”

Maintenance Superintendent



Progress to Date

The battery maintenance bay has been active since day one, with over a decade of refinement behind its practices. Technicians now rely heavily on laptops and BMS tools to guide diagnostics and track battery performance.

While the in-house team remains highly capable, ongoing questions persist about the long-term balance between internal ownership and increased OEM support through service contracts or embedded roles.