



Recycling Committee: Exchange and Tracking Subcommittee

Meeting Minutes

Call to order

A meeting of the NAATBatt Exchange & Tracking Subcommittee was held virtually, **Tuesday, November 12th**.

Attendees included:

Laura Wagner - Ford
Jim Greenberger – NAATBatt
Brittany Westlake – Electric Power Research Institute
Jennifer Diggins – Albemarle
Kris Hunter – Global Battery Solutions
Jennifer Sierra – Global Battery Solutions
Joe Bush – Battery Resourcers
Linda Gaines – Argonne National Labs
Meghan Vidal – UL (guest)
Matt Davidson – Everledger
John Kincaide – WeRecycleBatteries (Committee Co-chair)
Lauren Roman – Everledger (Committee Co-chair)

Approval of minutes

Lauren reviewed edits to October minutes and action items. Regarding last month's action items, she has composed a list of questions about data sharing for committee members representing Ford, GM and FCA and will send ASAP for discussion next meeting.

Move for approval: John Kincaide

Approved: Jim Greenberger

Revision to Mission Statement

The mission statement was slightly revised as follows:

Mission: To identify and trace *electric vehicle and stationary* batteries *and key components* throughout lifecycles to maximize safety and efficiency for cost effective and sustainable second life and recycling.

Reports

Certification of second life batteries

Meghan Vidal, Business Development Exec for UL, joined the call to discuss the processes for UL 1973 (stationary/energy storage battery certification) and UL 1974 (process for repurposing EVBs for energy storage). UL is one of a number of Nationally Recognized Testing Laboratories in the US. Meghan explained how these certifications work:

UL 1973: "Traditional" UL product safety standard for energy storage batteries

- OEM will come to UL with the product design for safety analysis
 - UL performs a construction review
 - A test plan is created, testing conducted, and a "File" created for the product
 - File remains within the asset after testing
 - Battery Manufacturer has an initial plant inspection (IPI)
 - If approved, the UL mark will go onto the product

UL 1974: "Process" standard, certifying the process used to repurpose a battery for energy storage

- UL inspects grading, sorting; evaluating through visual inspection
 - UL audits the internal process of these internal processes
 - Needs to ensure safety of the process taken by repurposing plants
 - Batteries still need to go through 1973 certification for the 'new' energy storage battery

Questions for Meghan:

What if you have brand x in a stationary module and repurpose them in another energy storage battery? Do you have to redo both certifications?

Meghan explained that if it went through the UL 1974 process, it will validate the stability enabling it to be used

- If you modify a product after certification, UL needs to understand those modifications in order to analyze the significance in terms of decertification
 - Might have a field evaluation
 - Ensures it sticks to the 1974 process
 - If the application is strikingly similar; the 1974 process is likely viable

What happens with those files and certifications?

Meghan: Information is completely proprietary to the OEM.

What is the cost for certification?

Meghan: About \$30-\$50k per model is likely right. It's a resource intensive process

Are there legal requirements that require a UL cert?

Meghan: There are different codes within the US such as a national electrical code. There is also an international building code. Any product that is in either business or a home will need to have been listed by a National Registered Testing Laboratory. UL is one. Fire codes and the National Electric Code (US) requires testing by a NRTL. These are OSHA accredited.

What's the variance tolerance for the 1973 product certification? How much of a change can I make and still use the same certification?

Meghan: Any time you increase the energy density of a product, that's an issue. Best to track the variations carefully. We don't want to have manufacturers modify a product, even slightly, if it renders it unsafe. Ideally you should wait and modify multiple features at once. Overall the tolerance for variation is rather low since most changes can affect the safety of a given product.

Resources:

ul.com/energy; ul.com/batteries

White Paper

It was agreed that a brief white paper would help communicate to industry stakeholders the importance and urgency of an exchange and tracking platform (or platforms). It can also serve to provide structure for work in this committee. Jim Greenberger said that NAATBatt would be happy to distribute. John Kincaide offered to syndicate as well.

Action item: John and Lauren offered to start a high-level outline for a white paper and put it in Google docs so members can contribute.

Committee Members Needed

It was agreed that having representatives from NAATBatt's BMS technology companies join the committee would be very valuable. Both Novation and new member Titan ES will be invited.

Action Item (complete): Both have been added to the subcommittee distribution list.

Adjournment

Date of minutes approval:

Motion for approval:

Second: