

NAATBatt Recycling Committee – 12Jul17 Meeting Minutes

San Francisco, CA. Prepared by Peter Karlson, Committee Secretary.

Action Items by Topic

Pri.	Item	Deliverable	Action Items
Logistics			
Med	Transportation regulations	Understanding of current regulations and potential to influence in the interest of cost and sustainability	<ul style="list-style-type: none"> • Provide a summary of 49 CFR 173.185 sections d and f to the committee, then we can decide if there is something to take back to the department of transportation that the group sees as potentially moving us towards our goals. [Todd Coy]
Hi	Damaged battery transport	Create proposal for NAATBatt involvement in facilitating industry collaboration on damaged battery evaluation and packaging	<ul style="list-style-type: none"> • Internally re-assess our process for having people assess batteries in case of damage then follow up with OEM discussions [OEMs] • Reach out to insurance industry for possible participation in committee [Todd Coy / John Kincaide] • Bring information on damaged battery SAE committee to NAATBatt recycling committee. [Don Karmer] • Provide information that National Alternative Fuels Training Consortium, have on determination of damaged battery assessment and handling. [Pat Hayes]
Hi	Design for Disassembly/Recycling guidelines	Generate guidelines on battery characteristics that aid and inhibit recyclability and dismantlability	<ul style="list-style-type: none"> • Provide information on California study looking at dismantling and recycling site to committee [Mark Caffarey] • Recyclers provide high level guidelines on what aids and inhibits recyclability and dismantlability. [Recyclers]
Med	Logistics network efficiency	Propose NAATBatt role in industry collaboration required to optimize logistics	<ul style="list-style-type: none"> • Prepare a very high level bullet point list of items to consider. Goal is to encourage more participation in the battery logistics area. [John Kincaide / Todd Coy]
Identification			
Med	Methods to identify batteries in recycling stream (chemistry, energy, etc.)	Identify opportunities to improve labelling and hence recycling stream safety and cost	<ul style="list-style-type: none"> • Committee to look at sufficiency of the SAE J2936 labelling. [Committee]

Recycling Technology			
Hi	Identify barriers to value-positive, sustainable Li Ion battery recycling in North America	Determine actions that NAATBatt can take to address these barriers and promote commercialization of value-positive, sustainable Li Ion recycling in North America	<ul style="list-style-type: none"> RFP Subcommittee: <ul style="list-style-type: none"> Interested members: Pablo Valencia, Peter Karlson, John Kincaide, Dave Mauer, Renata Arsenault, Mark Caffarey, Todd Coy, Carlos Helou. Split SOW into two pieces – one looking at value-positive recycling technologies, the other at logistical questions. [Peter Karlson]
Other (Propose these be covered later or in other forums/committees)			
	Education of public on handling/recycling of batteries		
	Battery disassembly location optimization	Create decision tree/best practices to optimize location of battery disassembly	There may be intermediary locations outside of recycling facility, for disassembly/optimization

Attendees:

July 12, 2017 Meeting Participants			
First Name	Last Name	Company	E-mail
Renata	Arsenault	Ford	rarsena4@ford.com
Mark	Caffarey	Umicore USA	Mark.Caffarey@am.umicore.com
Steve	Christensen	Responsible Battery Coalition	steve@responsiblebattery.org
Todd	Coy	Kinsbursky Bros./Retriev	tcoy@kinsbursky.com
Ellington	Ellis	Global Battery Solution	ellingtonellis@gmail.com
Ryan	Franks	CSA Group	Ryan.Franks@csagroup.org
Tom	Gage	EV Grid	tgage@evgrid.com
Linda	Gaines	Argonne National Laboratory	lgaines@anl.gov
James	Greenberger	NAATBatt International	jgreenberger@naatbatt.org
Carlos	Helou	Tronox	Carlos.Helou@tronox.com
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Peter	Karlson	General Motors	peter.karlson@gm.com
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Jarod	Kelly	Argonne National Laboratory	jkelly@anl.gov
George	Kerchner	The Rechargeable Battery Association	GKerchner@wileyrein.com
John	Kincaide	WeRecycleBatteries.com	john.kincaide@wecyclebatteries.com
David	Klanecky	Albemarle	David.Klanecky@albemarle.com
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Ajay	Kochhar	Li-Cycle	ajay.kochhar@li-cycle.com
Adam	Lack	BASF Venture Capital America Inc.	adam.lack@basf.com
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Brad	Moore	Beckett Energy Systems	bmoore@beckettcorp.com
Bill	Muston	Oncor	William.Muston@oncor.com
Adam	Nygaard	Duke Energy	Adam.Nygaard@duke-energy.com
Teague	Ostrander	Recycling Coordinators	teague.ostrander@rci-int.com

Colin	Pelletier	RSR Technologies	CPelletier@rsrtechnologies.com
John	Platt	Snell & Wilmer	jhplatt@swlaw.com
Jennifer	Sierra	Global Battery Solution	
Steve	Sloop	Onto Technology	ssloop@onto-technology.com
Shane	Thomson	Battery Solutions	shane@batterysolutions.com
Pablo	Valencia	General Motors	pablo.valencia@gm.com
John	Warner	Enerdel	john.warner@enerdel.onmicrosoft.com

Detailed Meeting Minutes (Decisions in GREEN, Action items in RED) (Note that action items are duplicates of those in above summary)

- 1) Welcome by Committee Chair and Vice Chairs
- 2) Review of NAATBatt Antitrust Policy – see document sent out previously by Jim Greenberger
- 3) Approval of Minutes of May 12, 2017 meeting
 - a) Motion made by John Kincaid, seconded by Carlos Helou and approved by the committee
- 4) Review and Discussion of Proposed Committee Mission Statement
 - a) Mission statement reviewed by Todd Coy:

To identify and promote the best methods for safely and responsibly recycling advanced automotive lithium-ion battery packs in the United States and Canada in a manner that will extract the maximum possible value from the batteries and provide a useful template for the recycling of industrial and stationary lithium-ion energy storage systems.

- b) Pablo Valencia – suggests that there needs to be a positive net value to the batteries so that regulation is not needed to be sustainable. Proposes to replace “maximum value” with “positive value”.
 - c) Renata Arsenault – suggests that maximum value captures positive value as well
 - d) Carlos Helou – agrees with Pablo Valencia, need to have the goal of a positive business case
 - e) Bill Muston with Encore – Proposes that value be explicitly “economic value”
 - f) Committee decision is to replace “maximum possible” with “positive economic”
 - i) Motion made by John Kincaid, Carlos Helou seconds. None opposed.
- 5) Roll call completed. Please send an email to Jim Greenberger if you joined via phone with your contact information.
- 6) Report on Status of May 12 Action Items:
 - a) Summary of 49 CFR 173.185 (Todd Coy)
 - i) Sections d and f are the most pertinent in terms of capturing large format batteries from various sources
 - ii) Todd Coy will prepare a summary of these two sections only and provide this to the team (Todd Coy)
 - b) Outreach to insurance industry (Todd Coy)
 - i) Todd has attempted to reach out to large insurance consortium but has not received any feedback from the insurance industry.
 - ii) John Kincaide and Todd Coy to work on getting responses (Todd Coy / John Kincaide)
 - c) Report on SAE committee work on damaged batteries (Don Karner)
 - i) Focus is on redefining the scope of what the committee’s function will be.

- ii) Spent time with NHTSA and DOT to understand what their concerns are – primarily assessing risk of a battery pack that is damaged. Looking at an appropriate scope to cover that.
 - iii) Focus is on moving it to a competent evaluation facility to make a determination on the material.
 - iv) Focus is much more at the front end of how an assessment gets done on a battery in the field to minimize the risk that there will be an unanticipated thermal event. If damaged, how to handle it and get it to a competent facility.
 - v) Mark Cafferty – wonders how you define a competent facility that can evaluate a battery.
 - vi) Pablo V – distinguish between competent person and competent facility. Initial assessment is made by a competent individual. If identified as a damaged battery where do you take it to? Is a wrecking yard acceptable? Is it an OEM facility?
- d) Report on National Alternative Fuels Training Consortium training on handling damaged batteries (Pat Hayes)
- i) 6500 batteries were found in storage in Calgary with no way to trace their origin
 - ii) One of their members has custody of them, and wants to do the right thing with them
 - iii) Partnering with sustainability consortium, and still trying to determine what to do with these batteries
 - iv) **Action Item – Information on determination of damaged battery assessment and handling (Pat Hayes)**
- e) Information on California study looking at dismantling and recycling (Mark Caffarey)
- i) Mark provided an article to Todd Coy on the thought process behind end of life batteries in California. Todd will email to the members.
- f) Executive summary list of items for logistics companies to be aware of during transportation of batteries (Keith Loch and John Kincaide)
- i) Pablo Valencia – from the OEM standpoint we have our logistics covered, but is hearing that perhaps other transportation sources are in need of a high level summary of what they need to consider when shipping.
 - ii) 172.704 in 49 CFR is the training requirements for moving batteries
 - iii) Todd Coy – emergency response phone number is not well understood what should be there.
 - iv) **Prepare a very high level bullet point list of items to consider. Goal is to encourage more participation in the battery logistics area. (John Kincaide / Todd Coy)**
- g) RFP concerning recycling technology for lithium-ion packs (Pablo Valencia and Peter Karlson)
- 7) Review and discussion of proposed RFP for Survey of Lithium-Ion Recycling Technology
- a) Reviewed drafted SOW (Statement of Work)
 - b) **Team decided to split into two SOW's into Recycling Technology, and Logistics (Peter Karlson)**
- 8) Discussion of Logistics Issues Concerning Transport and Handling of Used Automotive Li-Ion Battery Packs
- a) Assessment of Damage
 - i) No discussion
 - b) Shipping Requirements for Damaged and Undamaged Battery Packs

- i) No discussion
- c) Disassembly of Battery Packs
 - i) No discussion
- d) Battery Pack Registry
 - i) No discussion
- 9) New Business/Other Business
 - a) No discussion