U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety Administration**

400 Seventh Street, S.W.
Washington, D.C. 20590

SEP 20 2006

Ref. No.: 05-0278

Mr. Bruce McLees
Sr. Quality Engineer
Quallion LLC
Sylmar Biomedical Park
12744 San Fernando Road
Sylmar, CA 91342-3728

Dear Mr. McLees:

This is in response to your November 2, 2005 letter concerning requirements under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) for design-type testing of lithium-ion batteries. Please accept my apology for our delay in responding and any inconvenience this may have caused. In your letter you specifically request clarification concerning the tests applicable for your prototype lithium-ion batteries and cells. You state that you have been working on a variety of battery packs with 5 to 120 cells in a battery pack. The specific requirements you address are contained in Section 38.3.2.1 of the United Nations Manual of Tests and Criteria and are implemented through the provisions of § 173.185 of the HMR. Your questions are paraphrased and answered below:

Q1: Is testing of every lithium-ion battery pack configuration required or would the successful testing of the cells to the UN Manual of Tests and Criteria be sufficient?

A1: Except for single cell batteries, each new lithium cell and battery design type is subject to the tests in the UN Manual of Tests and Criteria, even if the cells that make up the battery have been tested. A cell or battery is deemed to be "a new design type" if the change in mass to the cathode, anode or electrolyte is more than 0.1 grams or 20 percent, whichever is greater, or the change would materially affect the test results.

Q2: Are there alternate shipping or packaging methods such as ground or special courier that could be used that would not require testing of each lithium-ion battery pack configuration?

A2: The answer is no. There are no exceptions from the testing requirements in § 173.185(e) based on the mode of transportation or type of packaging used.

Q3: May these prototype lithium-ion batteries be shipped by ground transportation as Class 9 for testing purposes under § 173.185(j) of the HMR?

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A3: The answer is no. According to your letter your batteries are not being shipped for testing purposes and therefore the exception in § 173.185(j) does not apply. Currently, there are no applicable exceptions for prototype lithium batteries and cells under the HMR similar to Special Provision 310 in the UN Recommendations. Cells and batteries and equipment containing or packed with cells and batteries which do not comply with the provisions in § 173.185 may be transported only if they are approved by the Associate Administration.

I hope this information is helpful. Please contact us if you require additional assistance.

Sincerely,

John A. Gale
Chief, Standards Development
Office of Hazardous Materials Standards

Pollack
~~Peterford~~
§173.185
Batteries
05-0278

QUALLION®

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November 2, 2005

Mr. Edward T. Mazzullo
Director, Office of Hazardous Materials Standards
U.S. DOT/PHMSA (PHH-10)
400 7th Street S.W.
Washington, D.C. 20590-0001
Phone (800) 467-4922
fax (202) 366-3012

Re: Request for interpretation of DOT regulation 49 CFR 173.185.

Dear Sir:

Quallion is a manufacturer of custom lithium ion batteries. Since our business is developing unique battery solutions for our customer we tend to have a large variety of low volume cells and battery packs. Recently we have been working on a variety of battery packs for our customers with 5 to 120 cells in a pack. The total shipments for any one pack configuration may be only 100 packs. The UN Manual of Tests and Criteria indicate that 24 packs would be necessary for the test sequence. This is a high percentage of our expected shipments and the cost may prevent us from participating in this market. The questions posed below will help us better understand our options.

1. Is testing of every pack configuration required or would the successful testing of the cells to the UN Manual of Tests and Criteria be sufficient?
2. Are there alternate shipping or packaging methods such as ground or special courier that could be used that would not require the testing of each pack configuration?
3. Would these limited prototype production runs fall under the classification that allows for ground transportation as class 9 for testing purposes (173.185(j))?

Your timely assistance in the matter is greatly appreciated. Please call, e-mail or fax if you have any questions.

Sincerely,

Bruce McLees
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cc: Robert Licha