



U.S. Department of Transportation
**Pipeline and Hazardous Materials
Safety Administration**

1200 New Jersey Ave, S.E.
Washington, D.C. 20590

APR 30 2009

Mr. Andrew Romach
Regulatory Compliance Manager
URS Corporation
1600 Perimeter Park Drive
Morrisville, NC 27560

Ref. No.: 09-0066

Dear Mr. Romach:

This is in response to your February 20, 2009 letter requesting clarification of requirements in the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to design-type testing of lithium ion batteries. The specific requirements you address are contained in Section 38.3 of the United Nations Manual of Tests and Criteria and are implemented through the provisions of § 173.185 of the HMR. Specifically, you ask if your configuration constitutes a single lithium ion battery pack or separate lithium ion battery packs.

With your letter, you enclose a drawing and describe the configuration of a piece of equipment containing two 9-cell lithium ion battery packs. Each battery pack contains 6.4 grams equivalent lithium content, and each battery pack is equipped with its own safety devices designed to control voltage and current. The battery packs are connected in parallel through a printed circuit board located in a plastic tray. Based on the diagram and information provided, this instrument appears to contain two separate battery packs. You should be aware that effective October 1, 2009, the lithium ion batteries described in your letter must be of a type proven to meet the applicable requirements in the UN Manual of Tests and Criteria (see HM-224C, HM-224E, published August 9, 2007 (72 FR 44929)).

I hope this information is helpful. If you have further questions, please do not hesitate to contact this office.

Sincerely,

Charles E. Betts
Chief, Standards Development
Office of Hazardous Materials Standards



February 20, 2009

Leary
§ 113.185
Battery
09-0066

Mr. Ed Mazzullo, Director
Office of Hazardous Material Standards
Research and Special Programs Administration
U.S. Department of Transportation
400 7th Street, SW
Washington, DC 20590-0001
FAX: (202) 366-3012

Dear Mr. Mazzullo:

I am writing to you to request written clarification about a lithium ion battery configuration. (See schematic attached on following page.) In discussions with Kevin Leary of your staff who reviewed the configuration with the DOT Engineering group, he concluded that the configuration is two separate batteries. I am writing to you for your written confirmation that this lithium ion battery configuration would be considered two separate batteries.

As shown in the attached schematic, each independent battery pack contains nine lithium-ion cells wired in a 3S3P configuration. Each pack contains its own "safety board" to prevent over and under voltage and overcurrent. The equivalent lithium content of each pack is 6.4 grams (9 cells x 2.4 Ahr x 0.3). The packs are then connected to a pc board located in a plastic battery tray. Traces on the pc board will connect the two packs in parallel before they are connected to the instrument.

Please confirm that the above-described lithium-ion battery configuration as illustrated in the attached schematic would be considered two separate batteries.

I appreciate your written clarification of this regulatory question.

Sincerely,

Andrew N. Romach
Regulatory Manager
URS Corporation

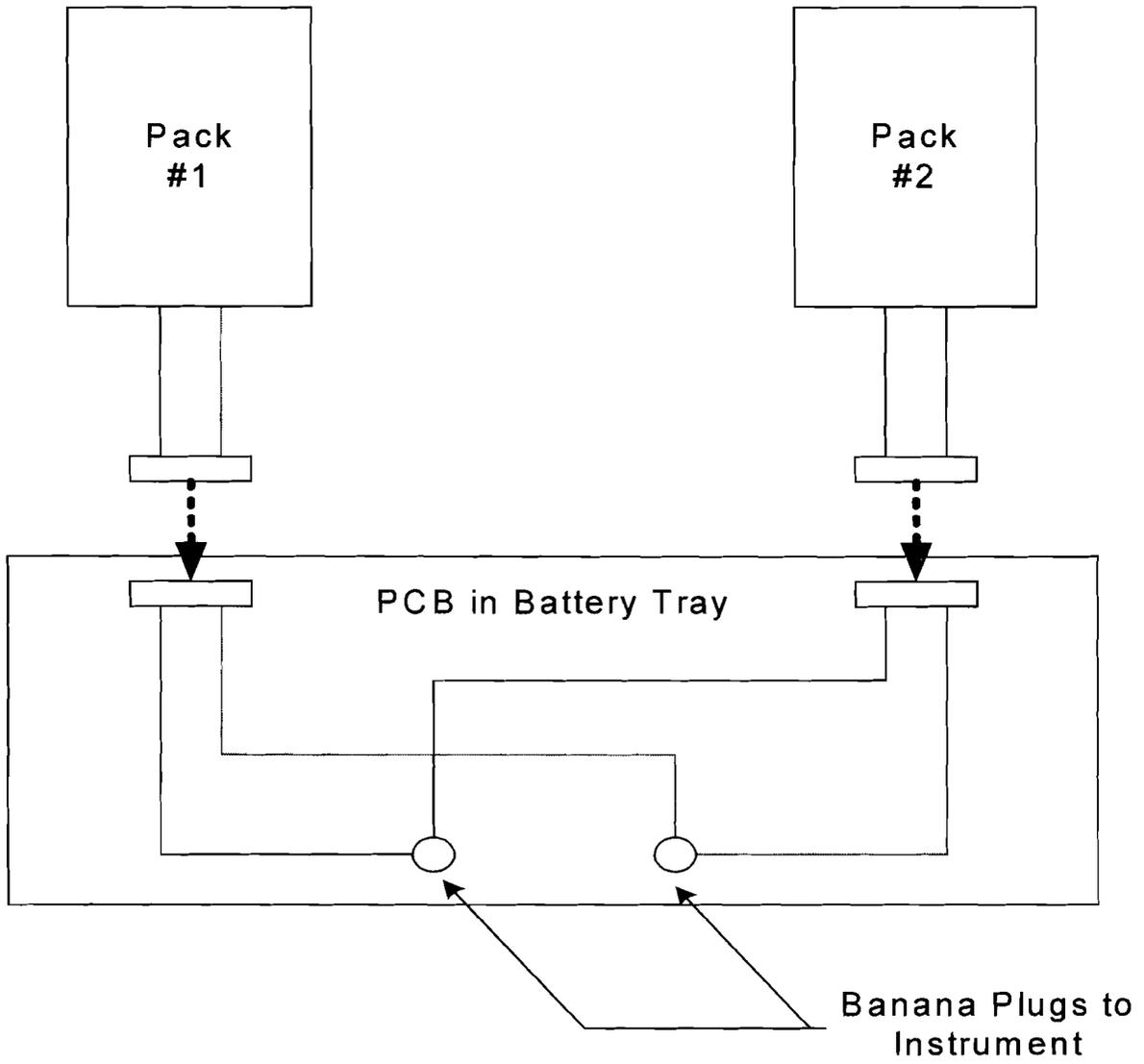


Figure 1. Lithium-ion battery Schematic