



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, D.C. 20590

Mr. Kevin Unger
Lockheed Martin MST
1801 State Route 17C
Mail Drop 0574
Owego, NY 13827

JAN 28 2014

Reference No.: 13-0213

Dear Mr. Unger:

This is in response to your November 11, 2013 email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). The specific requirements you address are contained in Section 38.3.2.1 of the United Nations (UN) Manual of Tests and Criteria and are implemented through the provisions of 49 CFR 173.185. Specifically you ask if adding wire leads from the anode and cathode of a single cell battery would constitute a change to the cell design that would require the battery design to be retested in accordance with the UN Manual of Tests and Criteria.

The criteria by which a lithium battery is considered to be a new type and require retesting are found in § 38.3.2.1 of the UN Manual of Tests and Criteria. One of the criteria that would require testing is when a cell or battery differs from the type tested by "a change that would lead to a failure of any of the tests." The type of change that might be considered to differ from a tested type, such that it might lead to failure of any of the test results, may include, but is not limited to: 1) a change in the material of the anode, cathode, the separator or electrolyte; 2) a change of protective devices, including hardware and software; 3) a change of safety design in cells or batteries, such as a venting valve; 4) a change in the number of component cells; or 5) a change in connecting mode of component cells. A manufacturer of lithium batteries should take these types of changes into account when determining whether or not a cell or battery is a new type and requires retesting.

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

Sincerely,

Duane Pfund
International Standards Coordinator
Standards and Rulemaking Division

Drakeford, Carolyn (PHMSA)

Leary
\$173,185
\$172,102 SP188

From: INFOCNTR (PHMSA)
Sent: Wednesday, November 13, 2013 9:27 AM
To: Drakeford, Carolyn (PHMSA)
Subject: FW: 49 CFR parts 171 through 180 and UN Certification of Test 38.3 Rev 5

Lithium Batteries
13-0213

Importance: High

Hi Carolyn,

This caller requested we submit this e-mail as a formal letter of interpretation.

Thanks,
Victoria

From: Unger, Kevin [<mailto:kevin.unger@lmco.com>]
Sent: Monday, November 11, 2013 11:01 AM
To: INFOCNTR (PHMSA)
Subject: 49 CFR parts 171 through 180 and UN Certification of Test 38.3 Rev 5
Importance: High

Left vm by MC on 11/12/13 at 1:48

If a manufacturer of primary lithium batteries tests and certifies their single cell to UN 38.3 criteria, but also offers the same cell with permanently attached wire leads from the cathode and anode to a variety of different connector configurations, do they need to test and certify each different configuration? Doesn't the Manual of Tests for Rev 5 of UN 38.3 indicate and require that "any material" modification that could affect the testing results must itself be tested? I have several battery manufacturer's claiming they don't need to test the alternate configurations on a single tested cell even though they are adding permanent wires and a connector to the "system" that adds variability and risk, especially for shorting, to the reliability of the package. Can they use the cell data and only test the wiring configuration to meet certification of the different options?

Regards,

Kevin

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