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

1200 New Jersey Avenue, SE
Washington, DC 20590

November 7, 2022

Mr. Jim Powell
President
Transportation Development Group, LLC
190 W. Continental Road
Suite 216-401
Green Valley, AZ 85614

Reference No. 22-0102

Dear Mr. Powell:

This letter is in response to your September 23, 2022, email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to a lithium battery contained in equipment. Specifically, you state that your client ships a portable headset for hearing tests that is packed in a hard-shell impact resistant Pelican™ case. You also state that the portable headset is powered by a lithium polymer cell that is less than 20 Watt-hours (Wh) and—to prevent accidental activation of the equipment—the device uses a power management integrated circuit placed in "factory shipping mode" which prevents any electrical current from being drawn from the cell except for a very small electrical current of 0.23 microamps (µA)[1]. You further note that pressing the power button while in "factory shipping mode" has no effect on the device, and the portable headset can only be turned on and activated if a USB charging cable is connected. Therefore, you ask whether the packing method of the portable headset—as described—would comply with the requirements of § 173.185(b)(2)(iii) to prevent accidental activation of the equipment.

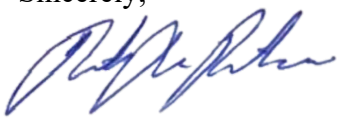
Additionally, you state the portable headset also contains a real-time clock that is powered by a small, non-rechargeable coin cell battery with a lithium content that is less than 0.1 grams. When the portable headset is shipped in "factory shipping mode," the real-time clock draws a small electrical current of 0.67 µA to keep track of time. You ask whether this would satisfy the requirements of § 173.185(b)(2)(iii) as well.

[1] µA is a unit of electric current, equal to one millionth of an ampere.

Based on the information you have provided; it is the opinion of this Office that the manner of packing as described for both scenarios would comply with the requirements of § 173.185(b)(2)(iii) for prevention of accidental activation of the equipment.

I hope this information is helpful. Please contact us if we can be of further assistance.

Sincerely,



Dirk Der Kinderen
Chief, Standards Development Branch
Standards and Rulemaking Division

Baker
22-0102

From: INFOCNTR (PHMSA)
To: Dodd, Alice (PHMSA); Hazmat Interps
Subject: FW: Interpretation Request Sept 23. 2022 173.185(b)(2)(iii)
Date: Friday, October 7, 2022 11:53:25 AM
Attachments: PHMSA_Interpretation_Request_02_Creare.pdf

Hi Alice and team,
Please see the attached interp request. Thanks.
Best,
Rachel (HMIC)

From: Jim Powell <jim@dgtraining.com>
Sent: Friday, September 23, 2022 6:34 PM
To: INFOCNTR (PHMSA) <INFOCNTR.INFOCNTR@dot.gov>; INFOCNTR (PHMSA) <INFOCNTR.INFOCNTR@dot.gov>
Cc: Eric Yuan <eyuan@creare.com>; Josey Dentzer <josey@dgtraining.com>; Jim Powell <jim@dgtraining.com>
Subject: Interpretation Request Sept 23. 2022 173.185(b)(2)(iii)

Attached is an interpretation request. Please acknowledge receipt of this at DOT PHMSA.

Thank you

Jim Powell
1-808-280-6047

Transportation Development Group LLC
190 W. Continental Rd Ste 216-401
Green Valley, AZ 85614
1-808-280-6047 Direct | 1-800-949-4834

September 23, 2022

Pipeline Standards and Rulemaking
U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration
1200 New Jersey Avenue, SE
Washington, DC 20590

Email pdf to infocntr@dot.gov Phone: 202-366-8553

Interpretation request – Lithium Batteries, 49 CFR 173.185(b)(2)(iii)

Our client ships a portable headset used for hearing tests, which is packed in a hard-shell, impact-resistant Pelican case. The headset is powered by a lithium-polymer cell (<=20W) that is contained in the equipment.

Our question is whether the following means of protection satisfies the requirements of 49 CFR 173.185(b)(2)(iii), which states that lithium cells contained in equipment must be "packaged in a manner to prevent accidental activation of the equipment."

Brief Description of the Electronics

To prevent accidental activation, the device uses a Power Management IC (PMIC) that is placed in factory shipping mode. In this shipping mode, the device is prevented from turning on until the user connects a USB charging cable. Pressing the power button in shipping mode has no effect on the device. Though the battery is still electrically connected to headset electronics, the PMIC blocks any current from bring drawn, save for a small leakage current (0.23 uA).

As the PMIC blocks the device from turning on, we believe that the device satisfies the 49 CFR requirements for preventing activation during shipment.

Follow-on Question: Protection for Small Coin (Button) Cells

The headset also contains a real-time clock that is powered by a small, non-rechargeable coin cell (lithium content <= 0.1gm). When the headset is placed in shipping mode, the real-time clock draws a small amount of current (0.67uA) to keep track of time. Is this sufficient to satisfy the 49 CFR requirement to prevent accidental activation of the equipment?

Thank you in advance for your guidance, and please do not hesitate to reach out with any questions.

Sincerely,

Jim Powell, DGSA, CDGP
President
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