



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

1200 New Jersey Avenue, SE
Washington, DC 20590

July 17, 2020

Marvin A. Sudduth
Dangerous Goods Advisor
FedEx Logistics
5025 Tuggle Road
Memphis, TN 38118

Reference No. 20-0008

Dear Mr. Sudduth:

This letter is in response to your January 19, 2020, letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to lithium ion coin cell batteries. You state FedEx Logistics will initiate a shipment monitoring system using a lithium ion battery-powered sensor device. The device will contain one lithium ion coin cell battery and will be transported in commerce via air and ground transportation. It is your understanding that based on the size of the lithium ion coin cell battery and the exceptions provided in the HMR for a battery that size, the number of batteries that can be shipped in a package is unlimited. You also provide shipping scenarios FedEx Logistics might utilize for the transportation of these devices.

We have paraphrased and answered your questions as follows:

Q1. You ask whether a lithium ion battery-powered sensor device containing a coin (button) cell battery can be offered for transportation under the exceptions found in § 173.185(c) of the HMR in an unlimited quantity per package for air and ground transportation.

A1. Please be advised this answer is in *two parts* (emphasis added).

- For ground transportation, a package containing only lithium button cell batteries installed in equipment, including the sensor device described in your letter, that comply with the requirements of § 173.185(c) is not subject to the hazard communication requirements in subparts C through H of part 172 of the HMR or the UN performance packaging requirements in § 173.185(b)(3)(ii) and (iii). This applies regardless of the number of sensor devices contained in the package. Further, the package is not subject to the marking requirements described in § 173.185(c)(1)(iii) provided the package does not exceed 5 kg net weight of lithium cells.
- The answer is *no* for air transportation. For air transportation, a package with lithium cells contained in equipment is limited to the minimum number of cells required to power

the piece of equipment, plus two spare sets¹, and the total net quantity (mass) of the lithium cells or batteries in the completed package must not exceed 5 kg. (See 49 CFR § 173.185(c)(4) and (5)).

Q2. You ask whether a lithium ion battery-powered sensor device containing button cell batteries can be offered for transportation under the exceptions found in § 173.185(c) above a certain aggregate number in a package (e.g., you offer the scenario of 500 sensor devices in a package). That is, you ask whether there is a threshold aggregate quantity in a package such that the HMR requires shipment as fully regulated via air and ground transportation.

A2. See answer A1.

Please note that the size limit for a lithium ion cell shipped under the exceptions for smaller cells or batteries in § 173.185(c) is 20 Wh. Furthermore, even though lithium ion cells contained in equipment are excepted from certain requirements in the HMR, they are still considered a hazardous material (i.e., a dangerous good).

Moreover, all applicable FAA requirements must be complied with, including those in 14 CFR, § 91.21 that address operation of portable electronic devices aboard aircraft. Information and guidance to assist with compliance of this requirement can be found in Advisory Circular (AC) 91.21-1D, titled “Use of Portable Electronic Devices Aboard Aircraft.” For additional information regarding the FAA requirements or if you seek an interpretation on whether your particular device meets electronic transmission requirements contained in 14 CFR § 91.21 you may contact the FAA at the following address:

Federal Aviation Administration
Office of the Chief Counsel
Regulations Division
800 Independence Avenue SW
Washington, DC 20591

As well, there may be additional security requirements issued by the Transportation Security Administration pertaining to the transportation safety requirements for this device.

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

¹ A “set” of cells or batteries is the number of individual cells or batteries that are required to power each piece of equipment.



January 19, 2015

Mr. Shane Kelly
Director
Standards and Rulemaking Division
U.S. DOT/PHMSA (PHH-10)
1200 New Jersey Avenue, SE East Building, 2nd Floor
Washington, DC 20590

Re: Request for Letter of Interpretation Regarding Coin Cell Lithium Battery Exception Shipping Limitations

Dear Mr. Kelly,

The purpose of this communication is to request a Letter of Interpretation regarding the exceptions to the regulations for the shipping of coin cell lithium, ion batteries offered for air and ground transportation.

The regulatory references driving this question are as follows:
(HMR; 49 CFR Parts 171-180), provisions of Special Provision (SP) 188 of § 172.102(c) (1).

Situational Summary

FedEx Logistics in conjunction with FedEx Services is in the process of initiating a shipment monitoring process involving lithium battery powered sensor devices.

The devices in question are to be powered by coin cell sized lithium batteries.

Because of the size of these batteries the batteries are granted exceptions from certain marking, labeling, packaging and documentation per the aforementioned reference above

FedEx Services is operating with the understanding that the coin cell sized batteries coupled with the exceptions granted that the number of items shipped in a single package is virtually unlimited.

Request for Letter of Interpretation Regarding Coin Cell Lithium Battery Exception Shipping Limitations-continued

The shipping scenarios that FedEx is wanting to use based on the exceptions is shown below

1. 1 TRON ID Node contains one Li-Ion button cell battery. This node contained within one shipment:
 - a. is regulated
 - b. is classified as exempt DG. Is this not the same as “is not classified as a DG”?
 - c. does not require a Li-Ion placard label if equal or less then 100wh and less than 2 batteries per package. Here we are working under the “button cell” IATA reg. So there is no labeling required for any quantity of button cells. Correct?
 - d. does not require any special handling.

2. 100 TRON ID Nodes contained within one shipment (package), yes pkg and shipment used synonymously here...
 - a. is regulated
 - b. is classified as exempt DG. See 1b above.
 - c. does not require a Li-Ion placard label (if less than 100wh,if less than 2 batteries per package, the total weight is below the 5Kg limit) See 1c above here. And we will be under the 5kg limit anyways.
 - d. does not require any special handling.

3. 500 or more TRON ID Nodes within one shipment: (package) See 2 above.
 - a. Is fully regulated
 - b. is classified as DG. This is only if the total weight of the package goes over 5Kgs, correct?
 - c. does require a Li-Ion placard label as there are more than 2 batteries per package ,the total weight is above the 5kg limit) A label is not required on button cells regardless of quantity unless it exceeds the 5kg limit, correct?
 - d. does require special handling

In my role as a Dangerous Goods Compliance Advisor, I felt obligated to disagree with the assessment on scenarios (2 & 3) as I felt it pushed the boundaries of the published exception scenario for the total numbers of items to be shipped in one package.

**Request for Letter of Interpretation Regarding Coin Cell Lithium Battery Exception Shipping
Limitations-continued**

What we are looking for if clarification on the following:

Whether coin cell batteries can be offered into transportation under exception provisions in an unlimited amount per package for air and ground transportation?

Or

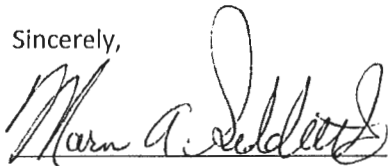
Would coin cell batteries offered under exception provisions past a certain aggregate number still exhibit enough of a risk to be considered dangerous and consequently would need to be shipped as fully regulated items for air and ground transportation?

FedEx Logistics in conjunction with FedEx Services is looking to initiate new service enhancements using lithium battery powered data logging equipment.

Getting a response back to this inquiry as soon as humanly possible would help us to achieve these goals.

I look forward to your response in this matter.

Sincerely,



Marvin A. Sudduth
Dangerous Goods Advisor



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