



U.S. Department  
of Transportation

Pipeline and Hazardous  
Materials Safety  
Administration

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

MAR 12 2014

Ms. Carolina Mederos  
Patton Boggs LLP  
2550 M Street, NW  
Washington, DC 20037

Ref. No.: 14-0037

Dear Ms. Mederos:

This responds to your February 12, 2014 letter and previous conversations with members of my staff requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to the configuration of wet batteries on a pallet. In your letter, you propose two non-specification packaging configurations for highway transport and ask whether they comply with the provisions of the HMR as provided in § 173.159(d), that authorize the use of non-specification packagings for batteries packed without other materials. Your configurations are paraphrased below:

#### Configuration #1

Batteries are placed on the bottom layer of a pallet. Battery terminals are protected with non-conductive caps or tape in compliance with § 173.159(a)(2) of the HMR. The batteries are not in a box or a slip cover; therefore, this configuration is not utilizing the non-specification packagings authorized by § 173.159(d)(3)-(7). Strong corrugated cardboard or rigid plastic is placed on top of this bottom layer of batteries and then shrink-wrapped with the batteries. If the batteries do not fill the entire pallet area, empty cardboard or plastic boxes are used to fill that space to ensure the batteries are securely cushioned and packed to prevent shifting. The empty boxes could include inert packing material. On top of the shrink-wrapped battery layer we may place a shrink-wrapped layer of other items, hazmat or non-hazmat, with all hazmat items properly packaged according to the appropriate HMR packaging provision. All layers are shrink-wrapped together to ensure the entire load is secure. Each layer is capable of supporting the weight of the layer or layers on top.

#### Configuration #2

This configuration involves the use of two pallets. Batteries are placed on a pallet and shrink-wrapped to the pallet to secure the batteries from movement. Battery terminals are protected with non-conductive caps or tape in compliance with § 173.159(a)(2) of the HMR. No materials other than the batteries are placed on the pallet, regardless of whether the batteries fill up the entire pallet area. The batteries are not in a box or a slip cover; therefore, this configuration is not utilizing the non-specification packagings authorized by § 173.159(d)(3)-

(7). This pallet of batteries is placed on top of another pallet, which may hold one or more layers of non-battery items, hazmat and non-hazmat, with all hazmat items properly packaged according to the appropriate HMR packaging provisions. The two pallets are shrink-wrapped together to ensure the entire load is secure.

Based on the information and diagram provided in your letter, Configuration #2 would meet the conditions and requirements of § 173.159(d)(1) for highway transport provided all requirements of § 173.159(a) were also met. In accordance with § 173.159(d)(1), the electric storage batteries may be firmly secured to skids or pallets capable of withstanding the shocks normally incident to transportation. The height of the completed unit must not exceed 1 ½ times the width of the skid or pallet. The unit must be capable of withstanding, without damage, a superimposed weight equal to two times the weight of the unit or, if the weight of the unit exceeds 907 kg (2,000 pounds), a superimposed weight of 1814 kg (4,000 pounds). Battery terminals must not be relied upon to support any part of the superimposed weight and must not short out if a conductive material is placed in direct contact with them.

Furthermore, as specified in paragraph § 173.159(a), electric storage batteries and any battery or battery-powered device must be prepared and packaged for highway transport in a manner to prevent: (1) a dangerous evolution of heat; (2) short circuits; and (3) damage to terminals.

I trust this satisfies your inquiry. Please contact us if we can be of further assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "Charles E. Betts", written in a cursive style.

Charles E. Betts  
Director, Standards and Rulemaking Division

Nickels  
§ 173.159.  
Batteries  
14-0037

February 12, 2014

**BY ELECTRONIC MAIL**

Mr. T. Glenn Foster  
Chief, Regulatory Review and Reinvention Branch  
Standards and Rulemaking Division  
Office of Hazardous Materials Standards  
Pipeline and Hazardous Materials Safety Administration  
1200 New Jersey Avenue, SE – East Building  
Washington, DC 20590-9898

Dear Mr. Foster:

We want to express our gratitude for the cooperation and assistance offered by you and your colleagues over the past several weeks in our effort to obtain clear and practical guidance on transporting batteries on a pallet, from a distributor to retail outlets, in compliance with HMR 173.159. At our last meeting, we discussed two non-specification packaging scenarios. We would appreciate your views on whether these scenarios comply with HMR 173.159(d).

Scenario #1

Batteries are securely placed on the bottom layer of a pallet on a truck. Battery terminals are protected with non-conductive caps or tape in compliance with HMR 173.159. The batteries are not in a box or a slip cover. Either strong corrugated cardboard or rigid plastic is placed on top of this bottom layer of batteries and then shrink-wrapped with the batteries. If the batteries do not fill the entire space of this layer, empty cardboard or plastic boxes are used to fill that space to ensure the batteries are securely cushioned and packed to prevent shifting. (See enclosed diagram.) The empty boxes could include inert packing material. On top of the shrink-wrapped battery layer or layers may be a shrink-wrapped layer of other items, hazmat and non-hazmat, with all hazmat items properly packaged according to the appropriate HMR packaging provision. All layers are shrink-wrapped together to ensure the entire load is secure. Each layer is capable of supporting the weight of the layer or layers on top.

# PATTON BOGGS<sup>LLP</sup>

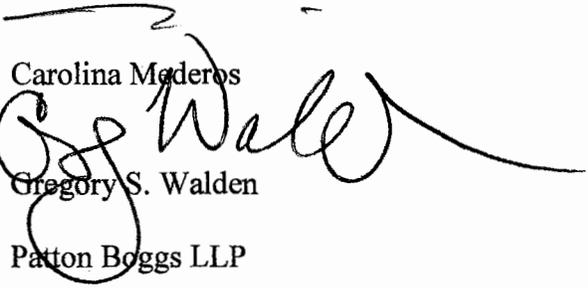
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## Scenario #2

This scenario includes two pallets. Batteries are placed on a pallet and shrink-wrapped to the pallet to secure the batteries from movement. Battery terminals are protected with non-conductive caps or tape in compliance with HMR 173.159. No materials other than the batteries are placed on the pallet, whether or not the batteries fill up the pallet area. The batteries are not in a box or a slip cover. This pallet of batteries is placed on top of another pallet, which may hold one or more layers of non-battery items, hazmat and non-hazmat, with all hazmat items properly packaged according to the appropriate HMR packaging provisions. The two pallets are shrink-wrapped together to ensure the entire load is secure.

Thank you for your consideration.

Sincerely,

  
Carolina Mederos

Gregory S. Walden

Patton Boggs LLP

Enclosure

