



U.S. Department
of Transportation

Pipeline and Hazardous
Materials Safety
Administration

1200 New Jersey Avenue, SE
Washington, DC 20590

JUN 19 2017

Mr. Mark Marson
Nissan Group of North America
983 Nissan Drive
Bin 1D
Smyrna, TN 37167

Reference No. 17-0019

Dear Mr. Marson:

This letter is in response to your February 9, 2017, email and subsequent phone conversations requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to transporting lithium ion batteries. Specifically, you describe a packaging concept consisting of a lithium ion battery assembly encased in a steel outer casing, which is then banded to a steel pallet with dunnage welded and screwed to it to prevent shifting of the battery.

We have paraphrased and answered your questions as follows:

- Q1. You ask if the packaging concept described above meets the requirements in § 173.185(b)(5) for lithium ion batteries exceeding 12 kilograms.
- A1. The answer is yes. Section 173.185(b)(5) allows for various methods to ship large batteries with strong, impact resistant outer casings. Using a pallet is one possible method. In addition, the battery assembly must be secured to prevent inadvertent movement (i.e., the straps and dunnage), and the terminals may not support the weight of superimposed elements.
- Q2. You ask if the packaging concept described above would meet the definition of a strong outer package.
- A2. The answer is no. Strong outer packaging is defined as "the outermost enclosure that provides protection against the unintentional release of its contents." The pallet used in your packaging concept does not completely enclose the battery assembly. Therefore, it is not a strong outer packaging.
- Q3. You ask if the packaging concept described above must meet United Nations performance packaging requirements, specifically testing requirements.

A3. The answer is no. Shipping under § 173.185(b)(5) excepts the shipment from the specification packaging requirements of § 173.185(b)(3)(ii) and (b)(3)(iii), provided all other requirements of § 173.185(b) are met.

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

Sincerely,

A handwritten signature in cursive script, appearing to read "T. Glenn Foster".

T. Glenn Foster
Chief, Regulatory Review and Reinvention Branch
Standards and Rulemaking Division

Worship
§173.185
Batteries
17-0019

Dodd, Alice (PHMSA)

From: INFOCNTR (PHMSA)
Sent: Monday, February 13, 2017 4:33 PM
To: Hazmat Interps
Subject: FW: Letter of Interpretation Request - Lithium battery packaging requirement

Hi Shante/Alice,

Please submit this as a letter of interpretation. Mr. Marson spoke with Eamonn and Jodi.

Please let me know if you have any questions.

Thanks,
Jordan

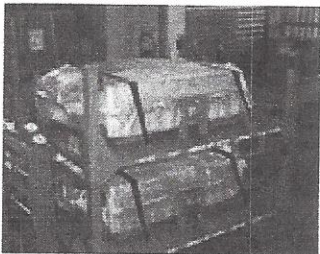
From: Marson, Mark [mailto:Mark.Marson@Nissan-Usa.com]
Sent: Thursday, February 09, 2017 6:37 PM
To: INFOCNTR (PHMSA) <INFOCNTR.INFOCNTR@dot.gov>
Subject: Letter of Interpretation Request - Lithium battery packaging requirement

Hello,

I am working on a project which will require the shipment of a lithium ion battery assembly for our electric vehicle.

The battery assembly itself consists of a steel shell that is completely sealed, and weighs approximately 983 lbs. All of the lithium battery cells are enclosed and sealed within this steel outer casing.

Our plan is to ship this battery pack on a steel pallet that will have specific dunnage details welded/screwed into the pallet which will support the battery and prevent movement from side to side. The battery pack will also be banded in 4 locations to further prevent shifting due to impacts/vibration/etc. Other than a polyethylene bag to cover the battery, the rack would not "enclose" the battery itself. Below is a photo of our rack concept.



Can you confirm that this packaging concept meets requirements detailed in CFR 49, section 173.185, (b) Packaging, paragraph (5); specifically that this meets the definition of a 'strong outer packaging'? Also, can you confirm that this is not required to meet the UN performance packaging requirements (testing) as defined in this paragraph?

Thank you in advance for your time and guidance.

Regards,

Mark Marson
Sr. Packaging Engineer
Logistics Engineering & Strategy

Nissan Group of North America
Phone: +1 615-223-3751

**NISSAN GROUP
OF NORTH AMERICA**

