



U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

FEB 16 2018

Joe Shi
A123 Systems, LLC
39000 Seven Mile Road
Livonia, MI 48152

Reference No. 17-0071

Dear Mr. Shi:

This letter is in response to your July 12, 2017, email requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) applicable to the transportation of low production runs of lithium batteries.

We have paraphrased and answered your questions as follows:

- Q1. You ask if the year for an annual low production run of lithium batteries corresponds to the calendar year (e.g., January 1 to December 31), or if it begins the date the manufacturer produces the first battery.
- A1. The low production run year begins the date the manufacturer produces the first battery.
- Q2. A manufacturer produces 150 batteries in a single run. You ask if the manufacturer may ship the first 100 batteries in accordance with the provisions in § 173.185(e) and the following 50 batteries under another authorized provision in § 173.185.
- A2. The answer is no. Section 173.185(e) applies only to production runs of not more than 100 lithium batteries. If an annual production run is greater than 100 batteries, the exceptions in § 173.185(e) do not apply.
- Q3. A manufacturer produces and assembles 150 batteries in a production run. The first 100 batteries are shipped upon assembly, and the following 50 batteries are stored in the warehouse. In the following year, the manufacturer produces 45 batteries of the same type. You ask if the 45 batteries produced in the second year may be considered a low production run and shipped under the provisions in § 173.185(e).
- A3. Since more than 100 batteries were produced in the first year, those batteries may not be transported in accordance with § 173.185(e). Prior to transport these batteries must be of the type proven to meet the criteria in part III, sub-section 38.3 of the UN Manual of Tests and Criteria as required by § 173.185(a). In the scenario

presented, the subsequent production run of the 45 batteries in the second year could utilize the provisions of § 173.185(e), although there is no need to do so.

Q4. Regarding the scenario in Q3, you ask if the 50 batteries from the first year that were stored in the warehouse may be shipped with the 45 batteries produced in the second year under the provisions in § 173.185(e).

A4. See A2 and A3.

Q5. A manufacturer produces over 100 batteries, but does not ship each one after assembly. You ask if the manufacturer may ship 100 batteries under the provisions in § 173.185(e) even if more than 100 batteries are produced during that year.

A5. The answer is no. See A2.

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

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Dodd, Alice (PHMSA)

From: Leary, Kevin (PHMSA)
Sent: Wednesday, July 12, 2017 2:32 PM
To: Dodd, Alice (PHMSA)
Subject: FW: Questions on low production of lithium ion batteries

Alice, please enter the below email into the interps DB for a response and assign to a specialist.

Thank you,

Kevin

From: Joe Shi [mailto:joeshi@a123systems.com]
Sent: Wednesday, July 12, 2017 1:36 PM
To: Leary, Kevin (PHMSA) <Kevin.Leary@dot.gov>
Subject: Questions on low production of lithium ion batteries

Kevin:

It was so nice to meet you last month in DC at PRBA's seminar.

I have some confusions on how to understand the Low Production term, which I would appreciate very much that you give me some guidance.

I have prepared the following scenarios, which we might encounter in our real life, so please help me out as much as you can. Your help and guidance is greatly appreciated!

Per CFR 173.185(e), the definition of Low Production Run (LPR):

Low production runs, i.e., annual production runs consisting of not more than 100 lithium cells or batteries.

1. Does the year count from 1/1 to 12/31 of the same year or it counts from the starting of the production at any date of the year until exactly the same date 1 year later, for example: 4/24/2016 to 4/24/2017?
2. Consider this scenario: we start the low production run; we ship each battery immediately after it is assembled. We keep doing this until we manufactured and shipped 100. The #101 and any batteries after that will NO longer belong to the low production run and we have to take actions accordingly, for example: finish and pass the UN38.3 tests before we ship batteries #101 and all after that. But the first 100 batteries that we have shipped can still be legally considered low production run because we do not know how many we would produce annually then. Is this understanding and practice, correct?
3. Consider this scenario: we start the low production run in year A; we mark each of our products sequentially, for example: A1, A2; we ship each battery immediately after it is assembled. We keep doing this until we manufactured and shipped 100. The #A101 and any batteries after that will NO longer belong to the low production run in year A. In year A we make total of 150 (from A1 to A150) but we only shipped 100 in year A. We kept the remaining A101 to A150 in our warehouse. Next year, the year B, we only produce 45 batteries, we number them B1 to B45. Question #3A: can the 45 batteries mfged in year B still can be claimed as low production given the fact that the same product already has an occasion to be manufactured more than 100 annually in year A, but it is produced less than 100 in year B?

Question #3B: If the answer to question #3A is yes, can the A101 to A150, which are in our warehouse, be treated together with B1 to B45 all as low production products because the total of A101 to A150 and B1 to B45 is still less than 100 for year B?

4. Consider this scenario: we start the low production run; we did not ship each battery immediately after it is assembled. Instead, we accumulated the batteries or some of the batteries in our warehouse after they are produced. After we produced 145 units, we suddenly realized that we have already passed the threshold of 100 for low production. Question: can we still come back to treat the first 100 units as low production knowing that we have already produced more than 100 total that year?

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