U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue SE
Washington, DC 20590

OCT 2 1 2015

Mr. Max Vanderby
Director of Production Engineering
National Steel Car Limited
600 Kenilworth Ave. North
P.O. Box 2450
Hamilton, Ontario L8N 3J4

Ref. No.: 15-0133

Dear Mr. Vanderby:

This responds to your June 25, 2015 letter and subsequent phone call with a member of my staff regarding tank car head puncture resistance and tank car specifications under the Hazardous Materials Regulations (49 CFR Parts 171-180). Your questions are paraphrased and answered below.

Q1. You ask if a tank car built with a 9/16 in thick shell of TC128 material with ½ in full head shields is compliant with § 179.16(c)(1) and does not require the full scale testing outlined in § 179.16(a)?

A1. Yes, assuming the head shield is shaped to the contour of the tank and the head shield steel has a tensile strength greater than 379.21 N/mm^2 (55,000 psi), the tank car meets the requirements of § 179.16(c)(1) and does not require the full scale testing outlined in § 179.16(a).

Q2. Would the car mentioned in Q1 above have to undergo physical testing to demonstrate compliance with the impact test requirements for head shield attachments in Section 5.3 of the AAR Specifications for Tank Cars given in § 179.16(c)(2)? Or is there alternative compliance by other than testing methods to demonstrate compliance with this impact test?

A2. As required by § 179.16(c)(2) and section 5.3.1.2 of the AAR Specifications for Tank Cars new and untried designs of head shield attachments must meet the design and test requirements of the full-head protection (shields) impact test requirements in Section 5.3 of the AAR Specifications for Tank Cars.

Q3. Would this car then be a DOT117J100W1 due to the addition of full head shields and thermal protection?

A3. Yes, for a DOT Specification 117 tank car built on or after October 1, 2015 in conformance with § 179.202. The marking requirements for tank cars are found in § 179.22. Section 179.22(c) states that "each tank car that requires a tank-head puncture-resistance system, a thermal protection system, and a metal jacket must have the letter "J" substituted for the letter "A" or "S" in the specification marking".

I hope this answers your inquiry. If you need additional assistance, please contact the Standards and Rulemaking Division at (202) 366-8553.

Sincerely,

Ben Supko
Senior Regulations Officer
Standards and Rulemaking Division

Webb
179.16
Tank Cars
15-0133

Goodall, Shante CTR (PHMSA)

From: Betts, Charles (PHMSA)
Sent: Friday, June 26, 2015 3:40 PM
To: Hazmat Interps
Attachments: PHMSA letter Tank Head Puncture Resist mav June 25-15.pdf

Please assign this as a HIGH PRIORITY to a specialist for response.

Thanks,
Charles

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NATIONAL STEEL CAR

June 25, 2015

Charles Betts
Director, Standards and Rulemaking
U.S. Department of Transportation
Pipeline and Hazardous Materials Safety Administration
East Building, 2nd Floor
1200 New Jersey Ave., SE
Washington, DC 20590

Re: DOT 117 Tank Car Puncture Head Resistance, interpretation of 49 CFR § 179-16

Dear Mr. Charles Betts,

National Steel Car would like to request from PHMSA clarification to Specification 49 CFR § 179.16 regarding the standard for Tank Car head puncture resistance. The FRA interprets any Tank Car built with a 9/16 in thick shell of TC128 material with 1/2 in full head shields is compliant with 49 CFR § (1) (c) (not requiring full scale testing outlined in 49 CFR § 179.16 (a) (1 – 3)); therefore, the car is a DOT117J100W1 due to the addition of full head shields and thermal protection.

We appreciate if you could confirm the interpretation of this specification.

Sincerely:

Max Vanderby
Director of Production Engineering
NATIONAL STEEL CAR LIMITED

cc: Ken Dorsey, Karl Alexy, Jamal Hematian, Ken Black