U.S. Department
of Transportation

**Pipeline and Hazardous
Materials Safety
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

FEB 12 2020

Mr. Jared Bower
Robatel Technologies
5115 Bernard Drive, Suite 304
Roanoke, VA 24018

Reference No. 19-0132

Dear Mr. Bower:

This letter is in response to your November 18, 2019, letter requesting clarification of the Hazardous Materials Regulations (HMR; 49 CFR Parts 171–180) applicable to testing requirements for packages of Class 7 (radioactive) materials. You explain that it is not possible or practicable to assess the free drop test specified in § 173.465(c) in certain orientations of your Type A package due to its size and securement to the trailer during transportation. You note that the only possibility of impact to the top surface or lid of the package is if the entire package falls off the trailer, which you believe would be considered an accident condition. Specifically, you ask whether it is necessary to assess the free drop test specified for Type A packages in § 173.465(c) in certain packaging orientations that are not likely to occur under normal conditions of transport.

The answer is yes. Testing, or other demonstration of compliance in accordance with § 173.461(a), must be done to prove the package meets the requirements of §§ 173.412 and 173.465 regardless of whether you believe the package orientations are impossible or not likely to occur under normal conditions of transport.

If you are unable to demonstrate compliance with the testing requirements, you may apply for a special permit by submitting an application to the Associate Administrator for Hazardous Materials Safety in conformance with the requirements prescribed in 49 CFR Part 107, Subpart B. You may obtain information on the special permit application process from our website at https://www.phmsa.dot.gov/approvals-and-permits/hazmat/hazardous-materials-approvals-and-permits-overview, or by calling PHMSA's Approvals and Permits Division at (202) 366-4511.

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

Sincerely,

T. Glenn Foster

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

Ballengee
19-0132
§173.465(c)

ROBATEL technologies

18 November 2019

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

Subject: Regulatory Clarification for 49 CFR 173.465(c), Free Drop Test

Dear Mr. Kelley,

Robatel currently holds U.S. NRC Certificate of Compliance No. 9365 for the model no. RT-100 package. This is a Type B cylindrical transportation package which sits upright on a dedicated transportation trailer as shown in Figure 1 in the enclosure.

In 2019, Robatel reviewed the DOT regulatory requirements and determined that the RT-100 meets all of requirements for Type A shipments. This applies when the package is shipped in the same configuration as a Type B shipment.

Recently, our customer requested that we consider the possibility of shipping Type A waste without installation of the upper impact limiter. For reference, this configuration is shown as an example in Figure 2 in the enclosure. In this configuration, additional justification would be required to ensure compliance with the free drop test specified in 49 CFR 173.465(c), which states that *"the specimen must drop onto the target so as to suffer maximum damage to the safety features being tested"*, and *"the height of the drop measured from the lowest point of the specimen to the upper surface of the target may not be less than 0.3m for a package with mass >15,000 kg"*.

5115 Bernard Drive, Suite 304
Roanoke, VA, USA 24018
1-540-989-2878
www.robateltech.com

ROBATEL technologies

However, a drop of 0.3m in certain orientations of the RT-100 during transportation is not possible or practical under normal conditions of transport due to the size of the package and since the package is secured to the trailer during transportation. The only possibility of impact to the top surface or lid of the package is if the package falls off the trailer. We believe that this scenario would be considered an accident condition and is not applicable for assessing packages for Type A shipments.

Is it acceptable to ignore certain orientations of the package when assessing the free drop test, if these orientations are not possible under normal conditions of transport?

For reference, the IAEA considered this scenario in SSG-26 Section 722.6:

"During the revision process leading to the 1996 Edition of the Transport Regulations, it was agreed that all possible drop test orientations need not be considered when conducting the drop test for normal conditions of transport. Provided that it is not possible under 'normal' conditions for the package to be dropped in certain orientations, these orientations could be ignored in assessing the worst damage. It was envisaged that this relaxation would only be allowed for large dimension and large aspect ratio packages. In addition, this relief would require documented justification by the package designer. Package designs requiring approval by the competent authority should be tested in the most damaging drop test attitudes, irrespective of package size or aspect ratio."

We understand that IAEA advisory material is not incorporated by reference into the 49 CFR.

Thank you in advance for your consideration of this request. Please let us know if any additional information is needed.

5115 Bernard Drive, Suite 304
Roanoke, VA, USA 24018
1-540-989-2878
www.robateltech.com

ROBATEL technologies

Sincerely,

Jared Bower
Engineering Manager
Robatel Technologies

Enclosure [1]

5115 Bernard Drive, Suite 304
Roanoke, VA, USA 24018
1-540-989-2878
www.robateltech.com

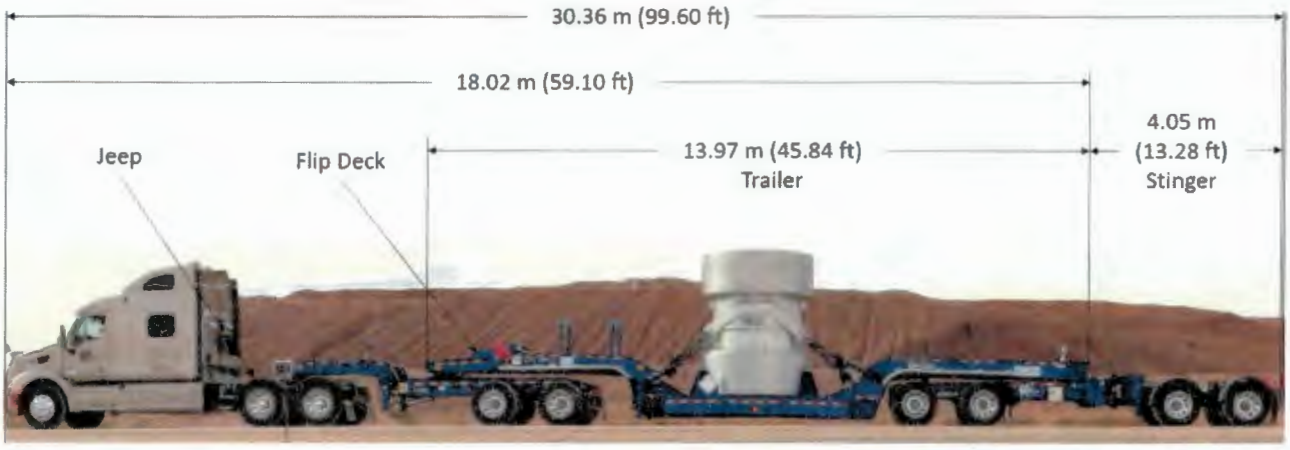

Figure 1. RT-100 Package Configuration for Type B Shipment

Figure 2. RT-100 Package Configuration without the Upper Impact Limiter Installed (for example)

5115 Bernard Drive, Suite 304
Roanoke, VA, USA 24018
1-540-989-2878
www.robateltech.com