



U.S. Department
of Transportation

**Research and
Special Programs
Administration**

MAR 12 2001

400 Seventh Street, S.W.
Washington, D.C. 20590

Mr. Noel McKim
Vice President of Engineering
Proco Inc.
700 Proco Trail
Kingsville, Texas 78363

Ref. No. 01-0041

Dear Mr. McKim:

This responds to your letter, dated February 7, 2001, requesting a clarification of cargo tank specification requirements in the Hazardous Materials Regulations (HMR, 49 CFR Parts 171-180). Specifically, you ask about a design modification to equip a cargo tank with a rotating agitation system.

Your letter describes a retaining design for a rotating agitation system. The system consists of a 1½" thick mounting flange welded to the center of the tank head and sealed with a Teflon gasket. A rotating shaft runs through the flanges and is sealed with a Teflon gasket and steel packing gland.

The HMR do not specifically prohibit a design modification of the type you describe; however, this office does not certify design modifications. From the drawing you enclosed with your letter, it appears that the teflon gasket is part of the tank wall. As defined in § 178.320(a), "cargo tank wall" means those parts of the cargo tank that make up the primary lading retention structure. Thus, under § 178.345-9(h), if a non-metallic seal or packing gland is utilized, it must be as strong and heat resistant as the material used for construction of the cargo tank. To assure that the requirements of § 178.345-9(h) are met, the design modification you propose must be approved by a Design Certifying Engineer (see § 178.320(b)).

I hope this information is helpful. If you have further questions, please do not hesitate to contact this office.

Sincerely,

Thomas G. Allan
Senior Transportation Regulations Specialist
Office of Hazardous Materials Standards



010041

178.320

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February 7, 2001

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Dear Edward Mazullo:

I respectfully request a clarification of the Hazardous Materials Regulations 49 CFR 178.345-9(h) and 178.320. Attached you will find a drawing of a retaining system for a rotating agitating system. This system consists of a 1 1/2" thick mounting flange welded to center of the tank head and sealed with a Teflon gasket. A rotating shaft runs through the flanges, and is sealed with a Teflon packing, and steel packing gland.

The clarification we are requesting deals with the following excerpt from the Hazardous Materials Regulations.

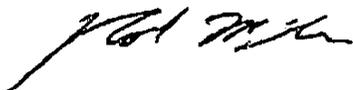
Sec. 178.345-9 Pumps, piping, hoses and connections.

(h) Use of a nonmetallic pipe, valve or connection that is not as strong and heat resistant as the cargo tank material is authorized only if such attachment is located outboard of the lading retention system.

It is our opinion that the packing gland would be classified as a gasket seal, since tightening the bolts on the steel packing gland would stop any product leaks in the same manner as a flange leak is contained. Since the Teflon packing temperature range exceeds the cargo tank's rating of 200 degrees Fahrenheit temperature is not a concern, and the fact that the packing gland, and bearing retaining flange are constructed of steel keeps the steel shaft from moving or compressing the packing.

We would very much appreciate you interpretation of this problem, and would like to thank you in advance for your time and effort.

Sincerely,



Noel McKim
Vice President of Engineering

Gorsky
§ 178.345-9(h)
§ 178.320
Cargo Tank
01-0041