



U.S. Department  
of Transportation  
**Research and  
Special Programs  
Administration**

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

**JUN 13 2003**

Mr. Chris J. Teas, PE  
Riddick Engineering Corporation  
Consultants  
2300 Cottdale Drive  
Suite 200  
Little Rock, Arkansas 72202

Ref. No.: 03-0093

Dear Mr. Teas:

This responds to your letter regarding requirements for an internal self-closing stop valve on a DOT 407 cargo tank under the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180). Specifically, you asked whether a "swing check valve" as shown in the enclosed diagram would be acceptable to meet the "internal self-closing stop valve" provisions in §178.345-11(b).

Each specification DOT 407 cargo tank must conform to the general design and construction requirements in §178.345 in addition to the specific provisions contained in §178.347. Each cargo tank (e.g., DOT 407) loading/unloading outlet must be equipped with an internal self-closing stop valve or with an external self-closing stop valve located as close as practicable to the cargo tank wall.

An internal self-closing stop valve is a self-closing stop valve designed so that the self-stored energy source is located inside the cargo tank or cargo tank sump, or within the welded flange, and the valve seat is located within the cargo tank or within one inch of the external face of the welded flange or sump of the cargo tank. The regulations do not prohibit a design of the type, such as the "swing check valve," shown in the enclosed diagram if it meets all of the requirements for an "internal self-closing stop valve," specified in §178.345-11(b). You did not provide sufficient information in your letter or a detailed drawing of the components of the "swing check valve" for us to determine if it complies with the requirements in §178.345-11(b).

If we can be of further assistance, please contact us.

Sincerely,

Delmer F. Billings  
Chief, Standards Division  
Office of Hazardous Materials Standards



030093

178.347

RIDDICK ENGINEERING CORPORATION

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Engrum  
§ 178.347-11 (b)  
Cargo Tank  
DB-0093.

EDGAR K. RIDDICK JR., PE  
FOUNDER  
1923-1997

March 28, 2003

EDGAR K. RIDDICK III, PE  
PRESIDENT

Mr. Edward Mazzullo  
Director, Office of HAZMAT Standards  
USDOT/RSPA (DHM-10)  
400 7<sup>th</sup> Street Southwest  
Washington DC, 20590-0001

CHRIS J. TEAS, PE  
VICE PRESIDENT

Re: Formal interpretation request

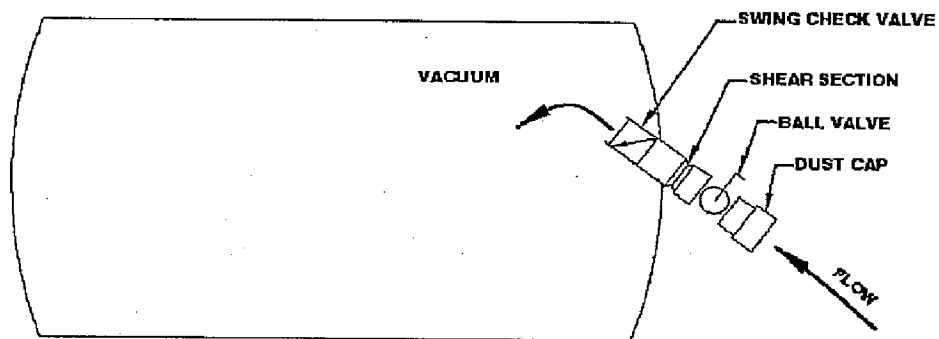
Code Needing Interpretation: Title 49, SUBTITLE B, CHAPTER I, SUBCHAPTER C,  
Part 178.347-11 (b) Tank outlets.

Cargo Tank Description: Cargo tank to be designed and manufactured is as follows:

1. DOT 407 vacuum cargo tank vehicle.
2. 1500 gallon, stainless steel
3. Used to clean up various hazardous spills.
4. Customer: US Government.
5. Besides this interpretation, all other regulation requirements are in direct compliance.

Questions:

1. This section states, "Each cargo tank loading/unloading outlet must be equipped with an internal self-closing stop-valve...". By definition from section §178.345-1 (c), this type valve must be shut by self stored energy within the tank. Therefore, it is my professional opinion that a swing check valve (as shown below) will meet the intent of this regulation. Please confirm my interpretation.



Sincerely,

Chris J. Teas, PE, DOT CT10023