



U.S. Department
of Transportation

**Research and
Special Programs
Administration**

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

MAR 19 1998

Mr. Roy N. Clark
Baltimore Cargo Tank Services, Inc.
1836-B Chesapeake Avenue
Baltimore, MD 21226

Dear Mr. Clark:

This is in response to your letter requesting clarification of requirements specified in 49 CFR 180.413(d)(1) concerning modifications of a cargo tank motor vehicle. Specifically, you ask if the use of a Design Certifying Engineer (DCE) is required to certify an MC 306 AL cargo tank when double bulkheads and void spaces are added. You also asked what type of documentation would be required.

By definition in §178.320(a), the modified cargo tank would be a new design type by virtue of the fact that your proposed changes would require different engineering drawings and calculations from the original design, see §178.320(a)(3) under "Design type." While it is true that the addition of heads to create double bulkheads, where the original design provided only single bulkheads, could be expected to reduce the loads imposed on the cargo tank and, thus, would not adversely affect structural integrity, other effects, such as changes in the distribution of forces, also should be evaluated by the DCE.

The Hazardous Materials Regulations prescribes the type of information that must be included in the DCE's certification but not any particular type of form. The person doing the modification and a Registered Inspector must certify that the cargo tank conforms with § 180.413 and the applicable specification by issuing a supplemental manufacturer's certificate. Once the DCE has approved the modification according to § 180.413, the approval would be applicable to other cargo tanks that are substantially the same as the initial modified cargo tank.

In your letter, you also asked about a possible change to the wording of § 178.345-3(f)(3) to require that any pad used for welding an appurtenance to a cargo tank must be equipped with an opening for drainage purposes. We will consider your comments for possible inclusion in a future rulemaking action.

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

Sincerely,

A handwritten signature in cursive script that reads "Hattie L. Mitchell". The signature is written in black ink and is positioned to the right of the word "Sincerely,".

Hattie L. Mitchell, Chief
Regulatory Review and Reinvention
Office of Hazardous Materials Standards

*1 Karim
file: 180.413
SQ 333,*

Baltimore Cargo Tank Services, Inc.

phone 1836-B Chesapeake Avenue fax
(410) 355-7035 Baltimore, Maryland 21226 (410) 355-6989

June 16, 1997

*called
5/14/97
2 weeks*

Associate Administrator of Hazardous Materials Safety
Research and Special Programs Administration
400 7th Street SW
Washington D.C. 20590
ATTN: Office of Hazardous Material Standards

RE: Request for interpretation or clarification in 49 CFR 180.413 (d)(1). Request for rewording in or definition in 49 CFR 178.45...

Ms.,

Baltimore Cargo Tank Services, Inc. is a commercial cargo tank service facility registered with the DOT to inspect, test, repair and modify MC/DOT specification cargo tanks.

QUESTION 1:

Several months ago (3-1997) I was asked by one of our customers if we could (would) change some of their existing late model (1994 and 1995) MC 306 AL cargo tanks so that there will be double bulkheads and a void space between the two rearmost compartments. This customer's more recently purchased tanks were built with these double bulkheads and void spaces.

Most of the people in the cargo tank industry (manufacturers, Design Certifying Engineers, government officials and representatives from other repair shops) with whom I have discussed this matter, referred me to 49 CFR 180.413 (d)(1) and said that I would need a Design Certifying Engineer to make and sign engineering papers (calculations, drawings, etc.) for this modification.

In a telephone conversation (4-1997) with Danny Swift (FHWA/OMC) and Ron Kirkpatrick (RSPA), this modification was discussed and it was determined that: this modification could be made; a Design Certifying Engineer would be needed; the tank could be "recertified" as an MC 306 AL.

In trying to finalize (find a suitable Design Certifying Engineer and to establish a working relationship between him, the manufacturer, my customer and myself) the preliminaries for this modification so that I can give my customer an accurate estimate, a strong and valid point was raised by several people.

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49 CFR 180.413 (d)(1) states that the approval of a Design Certifying Engineer is required if the modification will result in a "design type" change. This modification will change the tank from it's original construction, but is within the manufacturer's "design type" for this tank.

It is my understanding that most manufacturers do not do full blown engineering papers for each tank produced if it is made within one of their already engineered designs.

Though this modification is more involved, it does not change this tank's "design type" anymore than adding an auxiliary fill, clean out opening or extra emergency valve would.

Is a Design Certifying Engineer needed for the modification?

What documentation is required when a modification must be "approved by a Design Certifying Engineer"?

QUESTION 2

The use, description and requirements for pads attached to the cargo tank shell are in 49 CFR 178.345-3 (f)(3). This section only pertains to appurtenances.

We have experienced tanks built with pads that do not have weep holes or gaps for draining when the attachments to these pads provides structural support for the cargo tank. Examples of these attachments are frame members, outriggers, cross members and bolsters.

A pad, irregardless of it's use, should have an opening for drainage.

Can wording to this affect be added to 49 CFR 178.345 somewhere?

When I presented these points to Danny Swift last week, he suggested that I request in writing to you for some guidance.

Thank you,

Roy N. Clark
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