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

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

APR 30 2001

Ms. Michelle Cannon
C&R Fleet Services, Inc.
353 O'Dell Road
Griffin, Georgia 30224

Ref. No. 00-0338

Dear Ms. Cannon:

This responds to your request for interpretation, dated December 4, 2000, concerning rejection criteria specified in the Hazardous Materials Regulations (HMR; 49 CFR Parts 171-180) for hoses on cargo tanks used for the transportation of liquefied compressed gases. Specifically, you ask if a hose that has sustained minor damage to the outer hose covering must be removed from service. You provided samples of two hoses to illustrate your question.

Section 180.416(g)(1) of the HMR establishes rejection criteria for hoses on cargo tanks used to transport liquefied compressed gases. Paragraph (g)(1)(i) requires a hose with damage to the hose cover that exposes the reinforcement to be removed from service. In the sample of the damaged hose you provided, hose reinforcement is accomplished by means of a nylon-type material interwoven in the hose assembly and extending to the outer edge of the rubber outer hose covering. The damage to the sample hose exposed the nylon reinforcement. In this case, the hose would need to be repaired and tested prior to use.

The second sample hose you provided has several layers of protection between the rubber outer hose covering and the nylon reinforcement. This type of hose may continue to be used with minor damage to the outer hose covering, provided the nylon reinforcement layer is not exposed. A hose that has sustained damage sufficient to penetrate the outer layers and expose the nylon reinforcement must be repaired and tested prior to use.

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

Gorsky
§180.416(g)(i)
Cargo Tank
00-0338

December 4, 2000

Hazardous Materials Division
Research and Special Programs Administration
Department of Transportation
Washington, DC 20590-001

C & R Fleet Services, Inc
353 O'Dell Road
Griffin, Georgia 30224

Subject: Request for Interpretation of Hazardous Material Regulation 180.412(g)(i)

Sir:

This letter is to request an interpretation of the rejection criteria for hoses involved in the transportation of liquefied compressed gases. Specifically, paragraph (g) (i) of section 180.412, "Damage to the hose cover that exposes the reinforcement."

Hoses used in the transfer of liquefied compressed gasses are made up of many layers of reinforced material. In the past, because of lack of specific pass fail criteria, the industry has assumed that minor damage to the outer covering that exposes only one or two of the reinforcement layers was not a failing condition because, the structural integrity of the hose is not compromised. In fact, in many instances, the hose will pass a pressure test to 120% MAWP with several layers of reinforcement exposed.

These hoses are exposed to a great deal of rubbing as the result of vibration during the transfer of product and frequently the first layer of reinforcement, only millimeters from the surface of the hose, may be exposed after only one or two uses. In this case, the structural integrity of the hose is not compromised but the literal interpretation of Sec 180.416 (g)(i) is that the hose is out of service and must be replaced.

Please advise us as to how much of the hose reinforcement may be exposed before the hose must be removed from service.

If you require additional information please feel free to call (770) 412-8211.

Thank You,

Gorsky, Susan

From: Shelton, Daniel <FHWA> [Daniel.Shelton@fhwa.dot.gov]
Sent: Tuesday, December 05, 2000 1:48 AM
To: Gorsky, Susan <RSPA>
Subject: Fwd: Request for Interpretation

ENCLOSURE Request for Ruling.doc

Susan, attached is a request for interpretation resulting from our discussions last week at a cargo tank seminar in Charlotte, North Carolina.

Based on the feedback from the participants, simply rubbing the hose through the first layer of rubber reinforcement does not compromise the integrity of the hose. These hoses are constructed of an inner linner, then a wire reinforcement and then up to twelve layers of rubber reinforcment on the outside.

If you need additional information contact me or Michelle at the company. She left her phone number and address.

Cannon

Thanks again.

Anthony Reid
RI – CT 7588