

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

Notice of Safety Advisory 2006-04

AGENCY: Federal Railroad Administration (FRA), Department of Transportation (DOT)

ACTION: Notice of Safety Advisory 2006-04; Tank Cars with Stub Sills

SUMMARY: FRA is issuing Safety Advisory 2006-04 recommending that owners of tank cars equipped with the ACF Industries, Incorporated (ACF) 200 stub sill design, inspect and enhance the underframes in accordance with the procedures contained in ACF's Maintenance Bulletin TC-200. Owners should contact ACF (see below) for a copy of Maintenance Bulletin TC-200 and for clarification of procedures and any additional information.

FOR FURTHER INFORMATION CONTACT:

Albert R. Taber or Thomas A. Phemister, Railroad Safety Specialists (Hazardous Materials), Hazardous Materials Division, Office of Safety Assurance and Compliance, Federal Railroad Administration, U.S. Department of Transportation, 1120 Vermont Avenue, NW., Washington, DC 20590-0001 (telephone: (202) 493-6254 or (202) 493-6050; e-mail: al.taber@dot.gov or tom.phemister@dot.gov).

SUPPLEMENTARY INFORMATION:

Background

Since 1990, FRA, in conjunction with Transport Canada, has documented approximately eleven known defects on tank cars built with the ACF 200 stub sill design (ACF-200 tank cars). These defects included tank head cracks, pad to tank cracks, sill web cracks, and tank car buckling

that in some instances led to hazardous materials incidents. In addition, the Association of American Railroads (AAR) Stub Sill (SS-3) inspection data related to ACF-200 tank cars shows significant percentages of longitudinal weld cracks located in the pad to sill area, and parent metal cracks in the pad. These cracks present a possible source of the loss of tank integrity which could lead to unintended releases of hazardous materials from ACF-200 tank cars.

On November 15, 2005, FRA representatives met with officials representing the original builder of the ACF-200 tank cars to discuss the evolution of the design, areas of concern, and proper modifications/enhancements to the sill of ACF-200 tank cars to ensure structural integrity while transporting hazardous materials by rail. At this meeting, FRA learned that the safety concerns with the ACF-200 stub sill design are fatigue related which could be addressed through periodic inspection and modification of the tank cars at certain intervals determined by mileage and re-qualification inspection and maintenance dates. Specifically, FRA learned that the fatigue-related safety concerns with the ACF-200 stub sill design can be eliminated by modifying the underframe of the tank car in accordance with ACF's Maintenance Bulletin TC-200 (ACF Style 200 Stub Sill Underframe Enhancement, issued in May 1994) and installing the P470 angle application head brace. Once the P470 Angle Application has been installed (popularly known as the "ladder fix"), the underframe of the tank car is transformed into what is known as the ACF-270 stub sill design. According to ACF, this program of retrofitting ACF-200 tank cars to the ACF-270 design, began nearly a decade ago and has progressed through the fleet, resulting in the majority of the affected cars having already been retrofitted to the ACF-270 design.

FRA is aware that most interested parties agree with ACF and FRA that a retrofit program is the best course of action. Through meetings with, primarily, small fleet owners, FRA has

learned that many car owners have completed, or are making substantial progress on, their ACF-200 tank car retrofit programs. FRA recognizes the importance of good engineering practice and sill design in conjunction with a reliable maintenance plan. For ACF-200 tank cars, FRA agrees with ACF that the program established by Maintenance Bulletin TC-200, augmented by the P470 Angle Application, represents good engineering practice and a material safety enhancement. This Safety Advisory recommends that owners of unmodified ACF-200 tank cars bring these cars into conformity with Maintenance Bulletin TC-200 and the P470 Angle Application at the earliest practicable date.

RECOMMENDED ACTION: Based on the need to achieve the maximum level of safety possible in the railroad tank car transportation industry and to enhance the public's confidence in that level of safety, FRA makes the following recommendations:

1. ACF-200 tank car owners should enter into discussions with the car builder and decide the best course of action with regard to inspection of and modifications to tank cars built with the ACF-200 stub sill design and not yet retrofitted to the ACF-270 design. Copies of the ACF Maintenance Bulletin TC-200 and the P470 Angle Application are available from –

Director of Customer Service
American Railcar Industries
100 Clark Street
St. Charles, MO 63301-2075
www.americanrailcar.com

2. ACF-200 tank car owners should modify ACF-200 tank cars to the ACF-270 design at the earliest of any of the following events:
 - A tank car is due for re-qualification under 49 CFR 180.509;

- A tank car is recalled under an AAR Maintenance Advisory requiring modification in the draft sill area;
 - A tank car has been in service for 150,000 miles; or
 - A tank car requires general repairs and the repairs consume (or are expected to consume) at least 36 hours.
3. First priority in modifying unretrofitted ACF-200 tank cars to the ACF-270 design should go to cars in the general service fleet and, then, to the pressure car fleet.

FRA policy is that the owner of the car's reporting marks is the owner of the car and primarily responsible for maintaining the car in a safe and compliant condition. However, for purposes of this Safety Advisory, FRA would expect cooperation from the entity who controls the usage of the car in day to day operations, from the lessee/shipper, and from the title holder of the car. Although FRA does not see the need for further regulatory or enforcement action at this time, FRA will continue to monitor the status of ACF-200 tank cars in the hazardous materials industry and will take any necessary regulatory or enforcement action to ensure the highest level of safety on the nation's railroads.

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Jo Strang

Associate Administrator for Safety