R-360A AT-4

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: June 19, 1981

Forwarded to:

Honorable Robert W. Blanchette
Administrator
Federal Railroad Administration
Washington, D.C. 20590

SAFETY RECOMMENDATION(S)

R-81-75

In 1977 the Federal Railroad Administration (FRA) developed safety regulations which were issued by the Materials Transportation Bureau (MTB) under Docket HM-144 to eliminate unreasonable risks of catastrophic release of hazardous materials from Specification 112 and 114 "jumbo" tank cars in railroad accidents. These risks were considered so serious that, in response to the April 1978 National Transportation Safety Board Public Hearing on Derailments and Hazardous Materials and resulting safety recommendations, FRA and MTB (now part of the Research and Special Programs Administration) amended the regulations on an emergency basis to substantially accelerate the retrofit of required safety equipment on existing 112 and 114 tank cars. For cars used to transport flammable gases, the accelerated schedule established a 2 1/2-year retrofit period ending December 31, 1980, for the installation of tank head puncture resistance and thermal protection systems.

FRA staff has indicated that safety equipment was installed on nearly 18,000 Specification 112 and 114 tank cars during the retrofit period. This is a major accomplishment which affords the public a substantially greater degree of safety. However, it was discovered recently that 112 tank cars transporting certain flammable gases (anhydrous methylamines) were not clearly identified as being subject to tank head and thermal protection requirements as a result of errors in HM-144 regulatory provisions. These errors affected approximately 66 Specification 112 tank cars which are used by one shipper, du Pont, to transport anhydrous methylamines, and which were not equipped with tank head and thermal protection by the end of 1980. Consequently, the Department of Transportation established a retrofit period for these tank cars in a recent rulemaking action developed by FRA. The new deadline for retrofit of tank head and thermal protection for these cars is July 1, 1982 -- 18 months after the date by which FRA originally intended to have the retrofit program fully completed.

The Safety Board is concerned that the decision to permit the continued operation of unretrofitted Specification 112 tank cars carrying flammable gases for an extended period appears to have been made without consideration of the need for compensating interim safety precautions to adequately control the previously identified unreasonable risks to the public of catastrophic accidents. In subsequent staff contacts with the shipper involved and the FRA, Safety Board representatives raised questions about efforts to expedite the retrofit of safety equipment, whether

railroads had been alerted to the status of unretrofitted cars and the cars distinctively marked to minimize the potential for improper handling during switching operations, and whether actions had been taken to assure that accurate information about the thermal protection status of the tank cars would be available to firefighters and other emergency response personnel in the event of an accident. We understand that certain actions have now been taken in these areas. Du Pont has indicated that its retrofit program is being accelerated in an effort to complete all of the tank cars by the end of the 1981--6 months earlier than the deadline established by MTB. FRA staff has indicated that the railroads and the Chemical Manufacturers Association's Chemical Transportation Emergency Center (CHEMTREC) have been notified of the status of the unretrofitted tank cars and that arrangements have been made to update this information periodically as the retrofit progresses.

The prompt action taken by FRA staff to address these questions without the need for formal safety recommendations should help to expeditiously reduce the immediate potential for errors which could lead to a tragic accident or increase the harmful consequences of an accident. However, the adequacy of these precautions should be ascertained and any additional interim safety precautions which may be necessary to adequately control the risks to the public should be implemented immediately. For example, distinctive markings might be applied to the unretrofitted tank cars to make their status conspicuous to railroad employees and emergency response personnel and speed restrictions for trains containing unretrofitted tank cars might be established to minimize crash forces in the event of a derailment.

Therefore, the National Transportation Safety Board recommends that the Federal Railroad Administration:

> Immediately ascertain, in conjunction with the Research and Special Programs Administration, the adequacy of industry-adopted interim safety precautions for transportation of anhydrous methylamines in Specification 112A tank cars and institute any additional interim safety precautions which may be necessary to adequately control the risks to the public pending installation of tank head puncture resistance and thermal protection systems. In the identification of possible interim safety precautions consideration should be given to measures such as application of distinctive markings to the unretrofitted tank cars to make their status conspicuous to railroad employees and emergency response personnel, restrictions on the speeds of trains containing unretrofitted tank cars to minimize crash forces in the event of a derailment, and other precautions which may be appropriate. (Class I, Urgent Action) (R-81-75)

KING, Chairman, DRIVER, Vice Chairman, McADAMS, GOLDMAN, and BURSLEY, Members, concurred in this recommendation.

By: James B. King
Chairman