



Publications

RAILROAD-MARINE ACCIDENT REPORT

Adopted: September 19, 1994

**DERAILMENT OF AMTRAK TRAIN NO. 2
ON THE CSXT BIG BAYOU CANOT BRIDGE
NEAR MOBILE, ALABAMA
SEPTEMBER 22, 1993**

NTSB Number: RAR-94/01

NTIS Number: PB94-916301

SYNOPSIS

On September 22, 1993, about 2:45 a.m., barges that were being pushed by the towboat MAUVILLA in dense fog struck and displaced the Big Bayou Canot railroad bridge near Mobile, Alabama. About 2:53 a.m., National Railroad Passenger Corporation (Amtrak) train 2, the Sunset Limited, en route from Los Angeles, California to Miami, Florida, with 220 persons on board, struck the displaced bridge and derailed. The three locomotive units, the baggage and dormitory cars, and two of the six passenger cars fell into the water. The fuel tanks on the locomotive units ruptured, and the locomotive units and the baggage and dormitory cars caught fire. Forty-two passengers and 5 crewmembers were killed; 103 passengers were injured. The towboat's four crewmembers were not injured.

The National Transportation Safety Board determines that the probable causes of Amtrak train 2's derailment were the displacement of the Big Bayou Canot railroad bridge when it was struck by the MAUVILLA and tow as a result of the MAUVILLA's pilot becoming lost and disoriented in the dense fog because of (1) the pilot's lack of radar navigation competency; (2) Warrior & Gulf Navigation Company's failure to ensure that its pilot was competent to use radar to navigate his tow during periods of reduced visibility; and (3) the U.S. Coast Guard's failure to establish higher standards for inland towing vessel operator licensing. Contributing to the accident was the lack of a national risk assessment program to determine bridge vulnerability to marine vessel collision.

Safety issues discussed in the accident report include towboat operator training and evaluation, bridge risk assessment, bridge identification, emergency response and evacuation procedures, and event recorder crashworthiness.

The Safety Board makes recommendations addressing these issues to the U.S. Department of Transportation; the U.S. Army Corps of Engineers; the U.S. Coast Guard; Amtrak; the Federal Emergency Management Agency; The American Waterways Operators, Inc.; the Warrior & Gulf Navigation Company; the Association of American Railroads; and the American Short Line Railroad Association.

The Safety board concludes that all bridges vulnerable to impact by commercial marine traffic should be required to have appropriate markings so that they can be identified promptly from land and water in the event of an accident or other emergency. The Safety Board believes that the Coast Guard should require such markings and periodically publish a list of them as part of a national bridge register. Such an inventory should be available to emergency response organizations and, following publication, should be included on navigation charts.

RECOMMENDATIONS

As a result of its investigation of this accident, the National Transportation Safety Board makes the following recommendations:

to the U.S. Department of Transportation:

Convene an intermodal task force that includes the Coast Guard, the Federal Railroad Administration, the Federal Highway Administration, and the U.S. Army Corps of Engineers to develop a standard methodology for determining the vulnerability of the Nation's highway and railroad bridges to collisions from marine vessels, to formulate a ranking system for identifying bridges at greatest risk, and to provide guidance on the effectiveness and appropriateness of protective measures. (Class II, Priority Action) (I-94-3)

Require that the Federal Railroad Administration and the Federal Highway Administration, for their respective modes, use the methodology developed by the intermodal task force to carry out a national risk assessment program for the Nation's railroad and highway bridges. (Class II, Priority Action) (I-94-4)

Require the modal operating administrations to develop and disseminate bulletins, notices, circulars, and other documents that call attention to the need for an employee reporting procedure concerning use of medication (over-the-counter and prescription) while on duty and that urge the transportation industry to develop and implement informational and educational programs related to this subject. (Class II, Priority Action) (1-94-5)

Consider the use of RACONS, radar reflectors, and other devices to make bridges more identifiable on radar. (Class II, Priority Action) (I-94-6)

to the U.S. Army Corps of Engineers:

Cooperate with the U.S. Department of Transportation in developing a standard methodology for determining the vulnerability of the Nation's highway and railroad bridges to collisions from marine vessels, formulating a ranking system to identify bridges at greatest risk, and providing guidance on the effectiveness and appropriateness of protective measures. (Class II, Priority Action) (I-94-7)

Promote, in cooperation with the U.S. Coast Guard, the development and application of low-cost electronic charting navigation devices for inland rivers. (Class II, Priority Action) (M-94-30)

to the U.S. Coast Guard:

Amend 46 CFR 4 and 16 to specify the time limits, not to exceed 8 hours, within which employers must conduct postaccident alcohol testing. (Class II, Priority Action) (M-94-31)

In consultation with the inland towing industry, develop radar training course curricula standards for river towboat operations that emphasize navigational use of radar on rivers and inland waters. (Class II, Priority Action) (M-94-32)

Upgrade licensing standards to require that persons licensed as Operators of Uninspected Towing Vessels hold valid river-inland waters radar observer certification if they stand navigation watch on radar-equipped towing vessels and to require that employers provide more specific evidence of training. (Class II, Priority Action) (M-94-33)

Require that all uninspected towing vessels carry appropriate navigational devices, including charts, in the wheelhouse. (Class II, Priority Action) (M-94-34)

Promote, in cooperation with the U.S. Army Corps of Engineers, the development and application of low-cost electronic charting navigation devices for inland rivers. (Class II, Priority Action) (M-94-35)

Require that radar be installed on board all uninspected towing vessels except those that operate within very limited areas. (Class II, Priority Action) (M-94-36)

Require that all bridges vulnerable to impact by commercial marine traffic bear unique, readily visible markings so that waterway and bridge users are better able to identify bridges involved in an accident when they report such accidents to emergency responders. (Class II, Priority Action) (M-94-37)

Periodically publish a list of bridge identification markings in a national register of bridges. (Class II, Priority Action) (M-94-38)

to the National Railroad Passenger Corporation (Amtrak):

Develop and implement a uniform system to effectively apprise passengers of information pertaining to safety features. (Class II, Priority Action) (R-94-6)

Develop and implement procedures to provide adequate passenger and crew lists to local authorities with minimum delay in emergencies. (Class II, Priority Action) (R-94-7)

Equip cars with portable lighting for use by passengers in an emergency. (Class II, Priority Action) (R-94-8)

to the Federal Emergency Management Agency:

Encourage local authorities to conduct emergency drills that simulate transportation accidents involving railroad operations. (Class II, Priority Action) (I-94-8)

to The American Waterways Operators, Inc.:

Recommend that member companies equip their tugs and towboats with suitable navigation devices, including charts. (Class II, Priority Action) (M-94-39)

Assist the Coast Guard in developing a curriculum for a training course on river radar navigation. (Class II, Priority Action) (M-94-40)

Recommend that member companies incorporate into towboat operator evaluations a practical method of assessing proficiency in navigation, including the use of radar. (Class II, Priority Action)

(M-94-41)

to the Warrior & Gulf Navigation Company:

Require that company towboat operators complete a recognized training course on river radar navigation after the curriculum for such a course has been developed. (Class II, Priority Action) (M-94-42)

Establish a training protocol that requires company towboat operators to demonstrate proficiency in use of radar, compasses, and charts and incorporate into towboat operator evaluations a practical method of assessing proficiency in river navigation techniques. including use of radar. (Class II, Priority Action) (M-94-43)

Equip all company towboats with a suitable compass, a complete, up-to-date set of navigation charts for the waters over which the vessel is intended to operate. and other appropriate navigational devices. (Class II, Priority Action) (M-94-44)

Establish procedures that encourage towboat operators to inform management when they are taking medication, to determine whether such medication may affect performance of their duties, and to arrange for a qualified relief, if necessary. (Class II, Priority, Action) (M-94-45)

to the Association of American Railroads:

Immediately begin to collect data on vessel collisions with railroad bridges from your members and, if appropriate, take steps to increase protection for bridges identified as vulnerable. (Class II, Priority Action) (R-94-9)

Cooperate with the U.S. Department of Transportation in developing a national risk assessment program for railroad bridges. (Class II, Priority Action) (R-94-10)

to the American Short Line Railroad Association:

Immediately begin to collect data on vessel collisions with railroad bridges from your members and, if appropriate, take steps to increase protection for bridges identified as vulnerable. (Class II, Priority Action) (R-94-1 1)

Cooperate with the U.S. Department of Transportation in developing a national risk assessment program for railroad bridges. (Class II, Priority Action) (R-94-12)