



National Transportation Safety Board

Washington, D.C. 20594
Safety Recommendation

Log B (201)

Date: February 12, 1990

In reply refer to: R-89-83

Mr. Travis P. Dungan
Administrator
Research and Special Programs Administration
400 7th Street, S.W.
Washington, D. C. 20590

About 4:30 a.m. mountain standard time on February 2, 1989, freight cars from Montana Rail Link Inc. (MRL) westbound train 1-121-28 (train 121) rolled eastward down a mountain grade and struck a stopped helper locomotive consist, Helper 1, in Helena, Montana. The locomotive consist of train 121 included three helper units (Helper 2) and three road units positioned at the head end of a 49-car train. The crewmembers of train 121 had uncoupled the locomotive units from the train to rearrange the locomotive consist while stopped on a mountain grade. In the collision and derailment, 15 cars from train 121 derailed, including 3 tank cars containing hydrogen peroxide, isopropyl alcohol, and acetone. Hazardous material released in the accident later resulted in a fire and explosions. About 3,500 residents of Helena were evacuated. Two crewmembers of Helper 1 were only slightly injured. The estimated damage (including clean-up and lading) as a result of this accident exceeded \$6 million.¹

The National Transportation Safety Board determined that the probable cause of this accident was the failure of the crew of train 1-121-28 to properly secure their train by placing the train brakes in emergency and applying hand brakes when it was left standing unattended on a mountain grade. Contributing to the accident was the decision of the engineer of Helper 2 to rearrange the locomotive consist and leave the train unattended on the mountain grade, and the effects of the extreme cold weather on the airbrake system of the train and the crewmembers. Also contributing was the failure of the operating management of the Montana Rail Link to adequately assess the qualifications and training of employees placed in train service.

¹ For more detailed information, read Railroad Accident Report-- "Collision and Derailment of Montana Rail Link Freight Train with Locomotive Units, and Hazardous Materials Release at Helena, Montana, February 2, 1989." (NTSB/RAR-89/05)

Contributing to the severity of the accident was the release and ignition of hazardous materials.

The preparation, review, accuracy, and issuance of the DOT Emergency Response Guidebook (ERG) is the responsibility of the Research and Special Programs Administration (RSPA). The ERG is important to emergency responders during the initial on-scene decisionmaking process because it provides guidance for emergency action such as evacuation limits and potential hazards such as health hazards, fire, and explosion capabilities of a released hazardous material. The ERG is used by police and fire departments throughout the country, including the Helena police and fire departments. These agencies depend on the ERG to be complete and accurate for the hazardous materials listed.

A RSPA representative acknowledged at the Safety Board's public hearing that it was an oversight that RSPA had not recommended an evacuation distance for hydrogen peroxide in the ERG. The RSPA official stated that RSPA uses committees composed of representatives from industry, interested associations, and other government agencies to review and draft revisions to the ERG. Generally every 2 years a revised printing is issued. Corrections or errata sheets between printings are not issued. The RSPA official explained that given the wide distribution of the ERG it would be difficult to distribute corrections; consequently, RSPA does not plan to issue corrections or updates between printings.

However, RSPA has taken the position that corrections or errata sheets between printings are not issued because they cannot identify all the users of the ERG. RSPA acknowledged an oversight error of not including an evacuation distance for hydrogen peroxide in the 1987 publication of the ERG. Although RSPA is now taking action to develop an evacuation distance in the scheduled publication of the next edition of the USDOT ERG in 1990 and will also include a review of all commodities to correct any other oversights from prior publications of the ERG, the Safety Board believes that it is necessary for RSPA to change its position and develop procedures to update and correct errors in the ERG between printings in a prompt manner to assist the response efforts of emergency personnel in managing hazardous materials accidents.

Therefore, the National Transportation Safety Board recommends that the Research and Special Programs Administration:

Develop procedures to update and correct, in a timely manner, errors in the Emergency Response Guidebook.
(Class II, Priority Action) (R-89-83)

Also as a result of its investigation of this accident, the Safety Board issued Safety Recommendations R-89-68 through R-89-77 to Montana Rail Link, Inc., R-89-78 and R-89-79 to the Burlington Northern Railroad Company, R-89-80 to the Secretary of the U.S. Department of Transportation, R-89-81 and R-89-82 to the Federal Railroad Administration, R-89-84 through R-89-87 to the City of Helena, R-89-88 to the State of Montana, R-89-89 to the Lewis and Clark County Disaster and Emergency Services, and R-89-90 through R-89-92 to the Association of American Railroads.

As a result of its investigation of this accident, the Safety Board

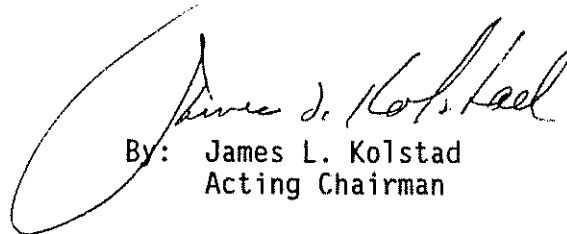
also reiterated the following Safety Recommendations to the Research and Special Programs Administration, the Association of American Railroads, and the Federal Railroad Administration, respectively:

In consultation with the Federal Railroad Administration and the Association of American Railroads, conduct a full testing and evaluation program to develop a head shield to protect DOT specification aluminum tank car ends from puncture and mandate installation of the head shield at an early date. (Class II, Priority Action) (R-85-61)

In consultation with the Federal Railroad Administration and the Research and Special Programs Administration, conduct a full testing and evaluation program to develop a head shield to protect DOT specification aluminum tank car ends from puncture and mandate installation of the head shield at an early date. (Class II, Priority Action)(R-85-63)

In consultation with the Research and Special Programs Administration and the Association of American Railroads, conduct a full testing and evaluation program to develop a head shield to protect DOT specification aluminum tank car ends from puncture and mandate installation of the head shield at an early date. (Class II, Priority Action) (R-85-64)

KOLSTAD, Acting Chairman, and BURNETT, LAUBER, NALL, and DICKINSON, Members, concurred in these recommendations.


By: James L. Kolstad
Acting Chairman