

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

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Forwarded to:

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1920 L Street, N.W.
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SAFETY RECOMMENDATION(S)

I-78-14 through 16

During its investigations of several recent tank car derailments, the National Transportation Safety Board found that assistance provided to local public safety officials during wreckage-clearing operations involving hazardous materials needs to be improved. Safety procedures are needed for wreckage removal, product transfer, and rerailling of damaged hazardous materials cars.

During an emergency, public safety officials and railroad personnel often must combine their efforts to stabilize the emergency. Past accidents have demonstrated that several days may pass before the wreckage can be cleared. During this period, both railroad and public safety officials must make many decisions until the last remaining hazardous material car has been rerailed and the contents removed from the area. Because hazardous materials can be released during the wreckage-clearing operations, public safety officials should monitor and maintain protective control measures in the affected area. To do so, they must understand their role in guarding against risks associated with the wreckage-clearing operation and must understand the expectations of all persons who play a role in stabilizing the emergency.

Because of the large number of hazardous materials being shipped, the circumstances under which they can be released, and the varying levels of emergency-response capability in local communities, it is unreasonable to expect all local firefighters and railroad personnel to be aware in advance of what specific public-protection measures should be taken without additional technical support.

For example, when a train derailed in Pensacola, Florida, on November 9, 1977, the Pensacola fire chief took charge within minutes and, with the assistance of a local team of chemical specialists, quickly stabilized the emergency. Using water to back flush the damaged ammonia tanks, the fire chief reduced the quantity of ammonia which could have escaped into the community. While the fire chief enforced protective control measures, such as a 4,000-ft. evacuation and water protection on the scene, wreckage-clearing operations began the day following the derailment. The railroad's activities during the next 4 days were limited to assisting a subcontractor in salvaging railroad property.

However, since railroad personnel were involved solely with wreckage removal, they were not aware of the need to coordinate with the public safety official-in-charge as to what actions to take if an additional breach or release should occur during rerailling. During the most critical stages of rerailling, public safety officials were uncertain about the ability of the damaged tanks to retain product, about time to enable the community to respond to an alert, about the size of the evacuation zone, and whether additional assistance would be required from the local chemical assistance team. As for protective equipment, the railroad personnel had only enough breathing equipment for themselves; and no additional units were available for the local emergency rescue personnel or potential victims if a release occurred.

After the damaged cars were rerailed, the railroad moved some of them a few miles away onto a track in Santa Rosa County and began to transfer the cargo into other equipment. The railroad had not notified any county officials of their plans. Some ammonia escaped during the transfer operations; and a deputy sheriff, sent out to investigate a resident's complaint of ammonia odors, was slightly injured when he unknowingly approached the transfer site.

Procedures for unloading tank cars are contained in 49 CFR 174.50, 174.67, and 174.204(a)(2); but they do not require any type of coordination with civil authorities regarding emergency control. In many hazardous materials derailments, a need exists to off-load or transfer product. Decisions by railroad wreckage-clearing personnel need to be communicated to public safety authorities before undertaking these operations.

Following a derailment at Waverly, Tennessee, in February 1978, communications among all operating personnel were effective. However, the risks involved in the wreckage-clearing operations were not understood by these personnel. They thought the protective measures they were taking were adequate. The tragic outcome, despite the coordination and expertise available, indicates a need for improving the risk identification procedures during wreckage-clearing operations.

This need was recognized during wreckage-clearing operations at the Youngstown, Florida, derailment site in February 1978. Following the arrival of emergency personnel at that accident site, special risk identification procedures and precautions were improvised, based on the Waverly and Pensacola experiences. Access was tightly controlled, specialists were well organized, a Bureau of Explosives' expert and chlorine experts were brought to the scene to assess the dangers, and the area was evacuated. The wreckage was cleared without additional injuries.

Following the latter two derailments, the Bureau of Explosives of the Association of American Railroads developed special procedures to identify clues of potential hazardous materials releases during wreckage-clearing activities. Additional procedures to control the dangers and communicate them to firefighters are also being developed by the Bureau. Completion, implementation, and subsequent refinement of these procedures should be encouraged to reduce the vulnerability of the public, firefighters, wreckage-clearing personnel, and others to hazardous materials releases.

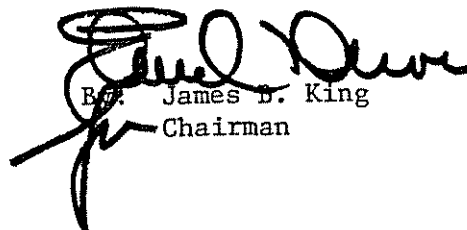
Therefore, the National Transportation Safety Board recommends that the Association of American Railroads:

Complete development and documentation of safety procedures for identifying and assessing hazardous materials dangers, and for coordinating wreckage-clearing operations with local public safety officials. (Class I, Urgent Action)(I-78-14)

Disseminate these safety procedures, as soon as they are documented, to railroad personnel, wreckage-clearing contractor personnel, special emergency response team personnel, and public safety officials in the communities through which railroads operate. (Class I, Urgent Action)(I-78-15)

Establish a procedure for regular reviews of selected railroad wreckage-clearing operations so that these safety procedures can be upgraded promptly as new safety concerns are identified. (Class II, Priority Action)(I-78-16)

KING, Chairman, McADAMS, HOGUE, and DRIVER, Members, concurred in the above recommendations.


B. J. James B. King
Chairman