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NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

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Forwarded to:

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President and Chief Executive Officer
Association of American Railroads
American Railroads Building
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SAFETY RECOMMENDATION(S)

R-82-82 and -83

The Safety Board is currently investigating three railroad derailments involving hazardous materials in piggyback trailers or containers on a flat car (TOFC or COFC). During the investigation of these accidents, public officials and railroad personnel have had difficulty identifying the hazardous materials from waybills accompanying the derailed piggyback shipments. The Safety Board believes that persons responding to future derailments should be warned of this safety problem.

During the investigation of a January 7, 1982, derailment, investigating personnel found a waybill that improperly described the contents of a derailed TOFC trailer. About 9:50 p.m., P.s.t, 14 cars of a Southern Pacific Co. Blue Streak Merchandiser Fast Freight train derailed near Thermal, California. All derailed cars carried TOFC trailers. A law enforcement official arrived at the scene within minutes and upon finding five injured people in the wreckage called firefighters and ambulances to assist with rescue operations. The conductor told firefighters shortly after they arrived that the train carried no hazardous materials. About 40 minutes after the derailment, while reviewing the individual waybills for the derailed cars, the conductor discovered that a radioactive material shipment was being transported in one of the trailers in the derailment. The shipment was described on the waybill as follows:

4927450

RADIOACTIVE MATERIAL, SPECIAL FORM.
N.O.S FISSLE CLASS III
RADIOACTIVE MATRL NA 9182
PLACARDED RADIO ACTIVE

--IN CASE OF CHEMICAL EMERGENCY--
--CALL CHEMTREC. 1-800-424-9300--

1 T/L FAK INCLUDING 1 CARTON
URANIUM 1, 180 LBS SPECIAL FORM
NOS. AMERICIUM 241, GROUP 1, SOLID
STATE SPECIALTY 16-4, CURIE YELLOW
LABEL 6.7 TYPE B
SWLC"

The trailer was placarded with Yellow Radioactive III placards but because the trailer was damaged and laying on its side with other wreckage, the placards were not visible to officials. The officials also could not see the hazardous materials container in the wreckage. Because of the Fissile III, UN 9182 and the 4927450 Standard Transportation Commodity code on the waybill, local authorities were concerned that a large quantity of fissionable "uranium" might be in the wreckage. Therefore, they quickly instituted radiological protection procedures against the dangers posed by radioactive "uranium." They isolated about 65 persons who they thought might have been exposed to released radioactive uranium during earlier search and rescue operations. Hospital administrators sealed off a local hospital to guard against possible radioactive contamination carried into the hospital by the injured and by their rescuers. After experiencing great difficulty contacting the original shipper, railroad officials obtained accurate information about the shipment. About 4:00 a.m. when officials were informed that the shipment in question was actually a small amount of special encapsulated radioactive americium that was securely packaged and posed no danger, local authorities rescinded the radiological protection procedures.

In an accident on March 23, 1982, a Class B mercury-based pesticide released during the derailment fire was not identified on the waybill for the TOFC shipment. About 9:00 a.m. e.s.t., 22 cars of a 120-car Seaboard Coast Line train No. 109 derailed near Ludowici, Georgia, striking a locomotive and 4 cars of a worktrain on an adjacent track. Twenty-three trailers on flat cars were in the derailment. During the derailment, the worktrain locomotive fuel tanks were breached, escaping fuel ignited, and an intense fire ensued. The fire burned for 50 hours before it was extinguished and gave no indication that any hazardous materials might be involved. Also, the consist for train No. 109 gave no indication that a hazardous material was on the train. However, one trailer in the fire contained a 1,026-pound shipment of phenyl mercuric acetate (PMA), a Class B poison. The waybill for the trailer described the shipment as "1 Trailer Load F A K" and showed a 46 111 10 commodity code. FAK stands for "freight all kinds" and is commonly used to describe the contents of trailers or containers moving on rail flat cars. The 46 111 10 commodity code indicates a non-hazardous material trailer. Also, since the trailer was not placarded, personnel at the scene had no indication that a Class B poison was in the wreckage.

The railroad notified shippers of the damaged trailers following the accident. The freight forwarder who had loaded and shipped the trailer containing PMA subsequently notified the 32 shippers whose goods were in the wrecked trailer in the derailment. The PMA shipper learned of the derailment about 1:30 p.m. the next day--28 1/2 hours after the derailment. A shipper's representative was concerned about the hazards of the PMA and telephoned the carrier for information about its disposal. Information about the PMA reached personnel at the scene about 4: 00 p.m., 31 hours after the derailment. They determined that the trailer with the PMA was in the fire, and special hazardous materials emergency procedures were initiated. The carrier notified the necessary State and Federal regulatory agencies. Eight people were evacuated, and a Pesticide Emergency Response Team was activated. The carrier flew mercury respirators to the site, had exposed workers checked for possible mercury contamination, and initiated soil and water pollution controls. The clean-up was completed on April 12.

An April 2, 1982, accident involved an imported intermodal container carrying a hazardous material classed as an oxidizer which was not identified on the waybill. About 12:45 a.m., c.s.t., the 3 rear cars and caboose of a 46-car Consolidated Railroad Corporation (Conrail) train piggyback derailed near LaPorte, Indiana, disrupting railroad

communications. The second car ahead of the caboose carried three 20-foot containers en route from Japan to the Collector of Customs A/C SEAPAC at South Kearney, New Jersey. The containers had been loaded on the rail cars at Oakland, California. One derailed container carried 128 fiber drums, labeled trichloroisocyanuric acid, granular (T.I.C.A.-G.). Trichloroisocyanuric acid is the proper shipping name under international regulations for a material listed as trichloro-striazinetrione in DOT safety regulations 49 CFR 172.101. The shipment was not placarded and the waybill described the shipment as 3 CNTRS FAK 80'. The commodity code shown on the waybill was 46 111 10. The conductor was furnished a consist of hazardous materials in the train but the consist did not indicate the hazardous material in the container just ahead of the caboose.

The conductor first became aware of the hazardous material near the caboose 15 minutes after the derailment, when he walked through the derailment area, saw the material spread "all over the property," detected a chlorine-like odor, and noticed the hazardous material (oxidizer) labels on the drums in the damaged container. The conductor told a responding law enforcement officer that the train carried hazardous materials. They walked to the damaged container to determine the name of the contents from the package labels. About an hour after the derailment, firefighters with special protective equipment completed the assessment of the spill. Local authorities evacuated about 200 people and insisted on further information about the contents of the container. About 2:57 a.m., the Bureau of Explosives furnished the Sheriff's office specific precautionary handling instructions. About 3:11 a.m., Conrail's Chicago office phoned local officials for more information about the barrels that were spilled in the derailment. Local authorities established contact with the T.C.I.A.-G. manufacturer shown on the drum labels at 3:19 a.m. About 3:54 a.m., Conrail advised local officials that the shipper was SEAPAC, as shown on the waybill. The spill cleanup was safely completed by a contractor about 9 hours later.

The Safety Board's investigation of these accidents is continuing. In each accident, information adequately identifying the hazardous material for emergency response personnel or railroad personnel was not available from the waybills. Two waybills provided no indication that hazardous materials were present, and the third contained incorrect and misleading information. Personnel that were involved in the responses and clean-up are now aware of the possibility of erroneous TOFC and COFC waybills, and indicated that they will make an extra effort to identify the trailer or container contents adequately before they proceed with their emergency response or clean-up tasks in future derailments.

The Safety Board's investigation has found that these hazardous materials waybill errors are not unique in TOFC or COFC transportation. Federal Railroad Administration officials, CHEMTREC, and railroad representatives reported that incorrect waybills involving piggyback hazardous materials have been a continuing problem. The speed with which these shipments move through the transportation system, the tight deadlines for processing shipment documentation, the railroad's FAK pricing system under which this traffic moves, and the great variety of goods loaded in piggyback trailers and containers all increase the potential for railroad waybill errors. In addition, the number of railroad piggyback hazardous materials shipments is steadily increasing.

Although no one was injured by hazardous materials in the three accidents cited, persons responding to train derailments involving TOFC or COFC are likely to continue to be exposed to hazardous materials if waybill errors continue. DOT accident/incident records do not attempt to distinguish piggyback losses from losses in other types of

accidents and if the contents are not indicated, hazardous materials piggyback accidents would not necessarily be reported. Therefore, the magnitude of the losses cannot be clearly identified.

The Safety Board recognizes that most emergency response training emphasizes the use of waybills to acquire needed information at railroad accident sites. The Safety Board believes that emergency response personnel should be warned about the possibility of erroneous descriptions on railroad waybills for piggyback trailers or containers carrying hazardous materials. Railroad personnel directing wreck clearing operations also should be warned about these possible waybill errors and provided appropriate procedures to control the risks created. The Safety Board believes that these warnings should be issued without delay, before serious injury or environmental damage occurs.

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

> Advise its member railroads to warn employees who may be at the scene of accidents that "FAK" waybills may not properly identify or describe hazardous materials loaded in TOFC trailers and COFC containers. (Class I, Urgent Action) (R-82-82)
>
> Develop and disseminate among member railroads procedures designed to provide timely detection and accurate identification of hazardous materials carried in TOFC trailers or COFC containers during rescue, firefighting, or wreck clearing operations at railroad accidents. (Class II, Priority Action) (R-82-83)

The National Transportation Safety Board is an independent Federal agency with the statutory responsibility "...to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations." (P.L. 93-633). The Safety Board is vitally interested in any actions taken as a result of its safety recommendations. Therefore, we would appreciate a response from you regarding action taken or contemplated with respect to the recommendations in this letter.

BURNETT, Chairman, and McADAMS, BURSLEY, and ENGEN, Members, concurred in these recommendations. GOLDMAN, Vice Chairman, did not participate.

Jim Burnett

By: Jim Burnett
Chairman