Log H-361

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

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Forwarded to:

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SAFETY RECOMMENDATION(S)

H-83-31 through -33 and H-83-38

About 4:30 a.m., c.d.t., on May 2, 1978, on U.S. Route 20 near Winthrop, Iowa, a tractor-cargo tank semitrailer failed to negotiate a curve, jackknifed, and rolled onto a railroad track; anhydrous ammonia leaked from the damaged cargo tank. The truckdriver was injured and two passengers in the cab were killed.

The driver held an Iowa driver license which contained a restriction prohibiting the driver from operating a truck tractor-semitrailer combination vehicle. From 1973 to 1979 (including the period between the accident and the completion of the investigation), the driver had 18 traffic convictions and 6 license suspensions, and from 1977 to 1979 he was involved in 4 traffic accidents. Six of the driver's violations occurred after the accident was investigated by the Safety Board, three of them for driving while his license was suspended or revoked.

The employing motor carrier had made the required investigations and inquiries and was in compliance with the driver qualification and recordskeeping requirements of the Federal Motor Carrier Safety Regulations. The investigations revealed that because the driver did not report all of his traffic convictions for the previous 3 years on his employment application, the motor carrier was unable to ascertain the driver's complete driving record.

About 5:30 a.m., p.s.t., on December 2, 1982, about 4 miles east of Los Banos, California, a truck tractor-semitrailer loaded with a military cargo of 18 surface-to-air missiles 1/ drifted off the right edge of State Route 152, struck and sheared a utility pole, overturned onto its right side, and came to rest about 120 feet from its exit point off the highway. While one bundle of nine missles broke loose and spilled onto the soft, muddy ground, the second bundle remained in place on the semitrailer. There was no explosion or fire. The truckdriver was injured; his co-driver escaped injury.

The truckdriver said in witness statements to investigators of the National Transportation Safety Board (NTSB) and the California Highway Patrol (CHP) that he had been drinking alcoholic beverages and had fallen asleep while driving. As a result of the

1/ The bill of lading indicated "rocket ammunition with explosive projectiles - Class A explosive."

accident, he was charged by the CHP and he pleaded guilty to "reckless driving with alcohol involvement." The Safety Board's examination of the motor vehicle driver records in almost all the States disclosed that the truckdriver had been convicted of 14 other traffic violations. 2/

The Safety Board has investigated 15 accidents (including the two previously cited) involving trucks transporting hazardous materials in bulk 3/ where truckdriver error or deficiency was a causal factor. These accidents involved overturns, jackknifings, and collisions with trains, and collectively resulted in 61 fatalities and 283 injuries, most of which were caused by the release of the hazardous materials involved. Although records were not available for all of the involved drivers and the motor vehicle driver's license records of every State were not checked, a review of the records located by the Safety Board disclosed 11 driver's license suspensions, 19 previous accidents, and 83 previous traffic convictions among the 15 drivers. The following are four examples of driver records (from among the 13 other drivers) involving convictions of traffic violations and accident histories):

Date of Accident	Location	Record
March 9, 1972	Lynchburg, Va.	The driver had licenses issued by two States. The records in those States listed involvement in 4 accidents, 6 traffic violations, and a suspension in a 4-year period.
December 15, 1972	Tazewell, Va.	Although known to have operated in at least 20 States over a 10-year period, the driver was found to have had a record of 12 convictions and 1 suspension in just the two States checked.
November 20, 1980	Houston, Tx.	The driver had been involved in 2 accidents, and had been convicted of 2 speeding violations and 1 other violation in a 20-month period.
November 25, 1980	Kenner, La.	The driver had been involved in 6 accidents and had been convicted of 4 speeding violations in 9 years.

2/ The violations included nine for speeding, one for driving while intoxicated, one for reckless driving, one for fleeing a police officer, one for running a red light, and one for having a fictitious license.

3/ Bulk denotes cargo tank load and other truck load quantities of liquid or dry hazardous materials (hereinafter, hazardous materials trucks.) "Hazardous materials," as used in this letter, are defined as those materials regulated by 49 CFR Sections 170-189.

The Safety Board also has investigated accidents in which the drivers had been involved in the process of loading or unloading their vehicles. The investigative data regarding drivers in all these accidents underscore the need for effective screening, training, and testing of drivers of hazardous materials trucks.

Researchers in the State of New York have accumulated data to support proposed legislation which would require drivers of hazardous materials trucks to have a specific certification to operate such trucks. Data were collected recently on 100 drivers of hazardous materials trucks -- 70 New York drivers and 30 out-of-state drivers -- who were stopped at road blocks set up in New York for the Institute for Traffic Safety Management and Research. A preliminary review of the data indicated that drivers of hazardous materials trucks had a higher average of traffic violation convictions and traffic accidents than a weighted sample of all truckdrivers. 4/ A review of the license records of the 70 New York truckdrivers indicated that 12 had received license suspensions, while others had records of convictions for driving while intoxicated, speeding, and other traffic related violations. One of the 12 drivers had a record of 10 license suspensions. The driving records of the out-of-state drivers of hazardous materials trucks indicated an average of convictions and accidents about twice 4/ that of the New York licensed drivers of hazardous materials trucks involved in the survey. The project manager indicated that the data "were not statistically valid because of the small sample size," but he believed they were suggestive of a safety problem involving truck drivers transporting hazardous materials.

The State of Califorina issued a report 5/ in 1982 which called for stricter requirements for drivers of cargo tank trucks and other trucks transporting hazardous materials. The report proposed that these drivers obtain a special certificate for operating these vehicles. The report also proposed a special driver's handbook, special licensing tests, collection of data, more training, and stricter monitoring of drivers of cargo tank trucks and other trucks transporting hazardous materials.

In a 1981 study 6/ of railroad/highway grade crossing accidents involving trucks transporting hazardous materials, the Safety Board found that, while some carriers are selective in hiring drivers for hazardous materials trucks, others are not. For example, one hazardous materials carrier required its drivers to have at least 2 years of accident-free driving on semitrailer units, no driver's license suspension within the last 3 years, and no convictions of a major chargeable offense, such as driving while intoxicated. The carrier would not consider for employment a driver who failed to meet these standards. Conversely, in a North Carolina accident investigated by the Safety Board, the driver had been employed by the carrier for only 16 months, during which time he had had two

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4/ Typically, over a 3-year period the average number of accidents and convictions for drivers were as follows:

	Accidents	Convictions
New York hazardous materials truckdrivers	0.74	1.4
Out-of-state hazardous materials truckdrivers	1.20	3.1
Other New York truckdrivers	0.65	1.3

5/ Furtado, Bart F., Saenz, P.L., and Eskin, G.G., "Administrative Review and Analysis and Recommendations for California's Heavy Vehicle Operator Licensing Program," State of California, Department of Motor Vehicles, Division of Driver Safety, and Licensing, April 1982.

6/ Special Study—"Railroad/Highway Grade Crossing Accidents Involving Trucks Transporting Bulk Hazardous Materials," September 1981 (NTSB-HZM-81-2)

speeding convictions, one exceeding the safe speed conviction, and a 2-month driver's license suspension. Furthermore, at the time of his employment, his driving record showed that he had a record of 11 motor vehicle traffic violation convictions, 1 license suspension, and 4 accidents, all occurring within a 6 1/2-year span.

In its study, the Safety Board also found that many of the drivers involved in accidents had worked for carriers less than 2 years. A review of the 1981 accident data collected by the Federal Highway Administration, Bureau of Motor Carrier Safety, indicated that 46.7 percent of all accidents involving hazardous materials involved drivers who had been with their carrier 2 years or less.

The Safety Board believes that if employees' driver license records and levels of operational experience were reviewed more carefully and more stringent standards were established for licensing and employment, the number of truck accidents involving hazardous materials resulting from errors by drivers could be decreased. Conceptually, the National Driver Register (NDR), if completely functional, would provide the necessary screening mechanism for preventing some problem drivers from being licensed or employed to operate hazardous material trucks. However, the NDR will highlight only serious traffic offenses, suspensions, or revocations. An interstate driver with, for example, 20 speeding convictions spread over 10 States, may not be highlighted by the NDR as a problem driver. However, a search of the register would indicate the large number of violations.

It has been shown that tank trucks, which are used extensively to transport liquid hazardous materials, have high accident rates, 7/ and are frequently involved in overturn accidents. 8/ Therefore, tank truck drivers of hazardous materials in particular should be required to demonstrate their knowledge and skill in operating cargo tank vehicles as well as their capability to respond to an emergency involving hazardous materials carried in their vehicles.

The Safety Board believes that the States should require truckdrivers transporting hazardous materials to have a special class of license or an endorsement on their license allowing them to transport hazardous materials. At a minimum, to qualify for such a special license or endorsement, drivers should undergo road testing and examinations to demonstrate their knowledge and skills concerning (1) rules of the road pertaining to transportation of hazardous materials, (2) proficiency in the operation and handling characteristics of hazardous material trucks, (3) emergency response procedures, and (4) loading and unloading procedures when such operations are a part of their responsibilities.

The Safety Board also believes that there is a need to collect data for use in determining the minimum level of operational experience for a special license or certification, as well as for determining the number of traffic accidents, traffic violation convictions, and license suspensions that should disqualify drivers who apply for a special class of license or certification to transport hazardous materials. Obviously, a cooperative effort involving the States and other organizations is needed. The Safety Board believes the American Association of Motor Vehicle Administrators is a logical central point to advocate and coordinate this data collection program within the States,

7/ Vallette, G.R. McGee, Sanders, J.H., Enger, D.J., "The Effect of Truck Size and Weight on Accident Experience and Traffic Operations, Volume III: Accident Experience of Large Trucks," FHWA/RD-80/137, July 1981.

8/ Kynaston, E., Heath, W.M., "California Tank Truck Accident Survey," California Highway Patrol, December 1981.

to conduct a study to develop recommended specific criteria for licensing or certifying drivers of trucks transporting hazardous materials, and to encourage the States to implement a uniform licensing or certification program for these drivers which includes the reciprocal sharing of driving record data.

Therefore, the National Transportation Safety Board recommends that the American Association of Motor Vehicle Administrators, with the assistance of appropriate industry groups:

> Coordinate a program among the States to collect accident, traffic conviction, license suspension, and operational experience data regarding truckdrivers transporting hazardous materials. (Class III, Longer--Term Action) (H-83-38)
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> Develop recommended criteria for use by the States in requiring and issuing a special license or an endorsement on a commercial truckdriver license to operate trucks transporting hazardous materials. Parameters should include, but not be limited to: the minimum qualification level of operational experience and disqualifying factors, such as the number of traffic accidents, number and type of traffic violation convictions, and number of driver license suspensions. (Class III, Longer--Term Action) (H-83-31)
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> Develop specific recommended criteria for licensing tests for drivers of hazardous material trucks to enhance the safe transportation of hazardous materials, covering proficiency in: the operation of hazardous material trucks, loading and unloading practices for hazardous materials, and initial emergency response procedures in case of an accident. (Class III, Longer--Term Action) (H-83-32)
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> Encourage the States to implement uniform programs for specifically licensing or certifying truckdrivers to transport hazardous materials and to share driving record data regarding these drivers. (Class III, Longer--Term Action) (H-83-33)

BURNETT, Chairman, GOLDMAN, Vice Chairman, and McADAMS, BURSLEY, and ENGEN, Members, concurred in this recommendation.

By: Jim Burnett
Chairman