

Log H-477



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: OCT 2 1986

In reply refer to: H-86-50

Governors of all States
(except California and Hawaii)
and the Mayor of the
District of Columbia

About 3:20 p.m. on May 31, 1985, a northbound Military Distributors of Virginia, Inc., (MDV) tractor-semitrailer collided with two southbound vehicles on a curve on U.S. 13, about 2.3 miles south of Snow Hill, North Carolina. The first collision on the two-lane, undivided highway was with a 1982 schoolbus operated by the Greene County (North Carolina) Board of Education. After this collision, the MDV vehicle continued northbound and struck a tractor-semitrailer loaded with grain, which had been following the schoolbus on the two-lane highway. During the collision with the grain truck, the MDV semitrailer separated from its tractor, continued northbound, and overturned onto its right side in the northbound lane. The rear of the grain truck's semitrailer remained on the highway and was struck by a passenger automobile. After the collisions, the MDV tractor, the grain truck's tractor, and the front of the grain truck's semitrailer caught fire. The weather was clear and the pavement was dry. The MDV truckdriver sustained fatal injuries. Of the 27 schoolbus passengers (ages 5 to 13 years), 15 sustained minor or moderate injuries, 10 sustained serious or severe injuries, and 2 received critical injuries. Six of the passengers died. The schoolbus driver, the grain truck driver, and the automobile driver and passenger sustained minor injuries. 1/

On June 30, 1976, while the MDV truckdriver was still a minor and a military dependent, he was treated at the Portsmouth, Virginia, Naval Regional Medical Center (NRMC). His NRMC medical records indicate that he reported that he had fallen down a flight of stairs and sustained a head injury about 2 months before the visit to the medical facility. He then had experienced a seizure during which he had bitten his tongue while he was unconscious. He also reported he had been experiencing muscle contractions which he could not control. The NRMC performed an electroencephalogram (EEG) which was judged to be abnormal, and he was diagnosed as having a seizure disorder. The medical examiner prescribed phenobarbital in 32-milligram doses to be taken three times daily, and recommended no motor vehicle driving for 6 months.

Tests performed on a blood sample obtained from the MDV truckdriver's body disclosed that the blood contained 3.0 milligrams per liter (mg/L) of phenobarbital, and 6.0 micrograms per liter of carboxylic acid metabolite of delta-9 tetrahydrocannabinol (THC). No other drugs or alcohol were detected in the blood. The medical examiner

1/ For more detailed information, read Highway Accident Report—"Multiple-Vehicle Collision and Fire, U.S. 13, near Snow Hill, North Carolina, May 31, 1985" (NTSB/HAR-86/02).

concluded that "The phenobarbital level in blood is clearly sub-therapeutic, . . . and an initiating seizure episode cannot be ruled out."

A "therapeutic" level of phenobarbital can be defined as a level sufficient to prevent seizures, and because the available evidence indicates that the truckdriver had been seizure-free since 1980, it could be argued that the reduced dosage was effective in preventing seizures in his case. However, all of the medical opinions available to the Safety Board indicate that a level of 3.0 mg/L of phenobarbital is well below the desired blood concentration generally accepted in practice as being therapeutic in preventing a seizure.

The "Plan for Nationwide Action on Epilepsy" by the U.S. Department of Health, Education and Welfare reports:

With epilepsy, as with other chronic conditions for which people must take medications regularly even though the need for and benefits from medication are not obvious, consistent use of medication is a significant problem. Its severity has been documented by blood level studies of anticonvulsant medications which show that at least one-third of the patients with epilepsy do not achieve seizure control because of their failure to take medication as directed. ^{2/}

The 27-year-old truckdriver had been employed by MDV since March 1981, first as a warehouseman, and then as a truckdriver starting in June 1983. Although he first worked in the MDV warehouse, when he applied for a job with MDV, he applied for a truckdriver position. His employment application, completed on March 5, 1981, contained the question "Do you have any physical condition which may limit your ability to perform the job applied for?" The truckdriver answered "no" to this question.

The truckdriver held a Virginia class A license authorizing the operation of large commercial vehicles. The license was originally issued on June 14, 1983, and the license application in use by Virginia at that time contained a question asking if the applicant had a visual, physical, or mental condition that impaired his ability to drive. The truckdriver answered "no" to this question. The truckdriver applied for renewal of this license on May 8, 1985. Virginia had revised its license application form, and this application contained the question "Have you ever had a seizure or blackout, or do you have a visual, mental, or physical condition which requires that you take medicine or use special equipment in order to drive?" The truckdriver answered "no" to this question and certified that the information given was true and correct by signing the application. Virginia renewed the license on May 10, 1985.

In another accident on April 4, 1985, a 15-passenger van owned by a children's day-care center and transporting 12 six- and seven-year-old children was traveling eastbound on Schaumburg Road in Schaumburg, Illinois. Witnesses reported that the van swerved to the left, crossed the 16-foot-wide median, and collided head-on with a vehicle traveling westbound on Schaumburg Road. The driver of the westbound vehicle and one of the children in the van were killed, six children sustained serious or critical injuries, and five children sustained minor or moderate injuries. There were three children occupying the bench seat in the van immediately behind the driver; one of these children reported that just before the collision the van driver "laid down," the second child reported that the driver "went on her right side," and the third child reported that the driver fainted.

^{2/} U.S. Department of Health, Education and Welfare. "Plan for Nationwide Action of Epilepsy," Volume 1, p. 134, publication no. 78-276, 1977.

According to medical records, the 24-year-old van driver, who sustained serious injuries in the accident, had a medical history showing that she suffered from "blankouts," and was under the care of a neurologist who prescribed dilantin to control the disorder. The van driver's mother stated that the driver had not been taking her medication for about 1 week before the accident.

The driver of the van had been issued an Illinois class A license on August 23, 1979, which was reissued on December 14, 1982. The license application contained the question "Do you have any disability which might cause you to suffer from periods of temporary loss of consciousness? (If answered 'yes,' a statement will be required from your physician and a medical agreement form must be filed.)" The driver answered "no" to this question.

The employment application used by the day-care center where the driver was employed contained a question that asked the applicant "Do you have any physical defect, disease, or disability?" The van driver answered "no" to this question on her employment application dated July 17, 1984. 3/

On February 23, 1986, an automobile collided head-on with a van occupied by the driver and 14 other persons on U.S. 192 about 1 1/2 miles west of Deer Park, Florida. Witnesses stated that before the collision, the automobile was traveling westbound in the eastbound lane of the two-lane, undivided highway. After the collision, the van overturned onto its right side and caught fire. Seven occupants of the van died from thermal burns and smoke inhalation, and the remaining eight occupants of the van sustained minor to serious injuries.

Medical records showed that the 27-year-old driver of the automobile, who was killed in the accident, had experienced seizures since 1976, and dilantin had been prescribed to control his seizure disorder. Toxicological tests performed after the accident indicated there was no discernible level of dilantin in the automobile driver's blood. The automobile driver had been issued a Florida driver's license in 1979. The license application asked if the driver ever suffered from epilepsy, fainting, or dizzy spells. The driver answered "no" to this question. 4/

In its 1976 report concerning epilepsy and commercial vehicle driving, the U.S. Department of Transportation (DOT) Bureau of Motor Carrier Safety reported that the number of accidents caused by a driver having a seizure while driving is difficult to determine. The time spent driving a private motor vehicle constitutes only a small fraction of an individual's time and in only a minority of cases will a relapse occur while driving. Commercial vehicle drivers, who spend many continuous hours a day driving heavy vehicles under stressful conditions, experience physical and emotional stresses and strains that far exceed those of passenger car operators. Thus, physical requirements must be more strict for professional drivers. Emotional stress, fatigue, and exhaustion from overwork can increase the individual's tendency toward seizures and negate or exaggerate the effects of medication prescribed to control seizures. 5/

3/ NTSB Docket No. CHI-85-H-0R18.

4/ NTSB Docket No. HY-480-86.

5/ U.S. Department of Transportation, Bureau of Motor Carrier Safety, "Epilepsy and Commercial Motor Vehicle Driving," 1976, Revised 1978, p. 17.

The MDV truckdriver, by reason of his established medical history and clinical diagnosis of epilepsy, was not physically qualified under DOT rules to operate commercial vehicles in interstate commerce. In September 1984, in a written test on DOT rules administered by his employer, he correctly answered a question concerning the DOT prohibition against using epileptic drivers. The evidence indicates, and the Safety Board concludes, that the MDV truckdriver knew of the Federal rule that prohibits epileptics from driving interstate commercial vehicles.

The American Medical Association (AMA) has recently completed a guide for physicians titled "Medical Conditions Affecting Drivers," which lists physiological and psychological disorders and discusses their significance to motor vehicle operator safety. This document, which was recently approved by the AMA's Council on Scientific Affairs, contains the following recommendations concerning alterations of consciousness:

No patient having epilepsy or narcolepsy should be considered to be medically qualified in Class I or Class II Categories.

The AMA defines Class I and Class II drivers as operators of passenger-carrying vehicles such as school, charter, city, intrastate and interstate buses, airport limousines and buses, and van pools having primary drivers; emergency equipment such as ambulances, fire engines and rescue vehicles; large, heavy articulated trucks and vehicles; and trucks transporting hazardous materials such as fuel chemicals, explosives and radioactive substances.

The AMA definition also includes operators of taxi cabs, large non-passenger-carrying vehicles; trucks, including single vehicles weighing more than 24,000 pounds and such vehicles towing trailers weighing less than 10,000 pounds. 6/

The Safety Board concludes that the State licensing of drivers with diagnosed seizure disorders to operate large commercial vehicles poses an unnecessary hazard to the general public.

As a result of its investigation of this accident, the National Transportation Safety Board recommends to all States (except California and Hawaii) and the District of Columbia:

Prohibit the issuance of licenses for the operation of large commercial trucks and vehicles capable of transporting more than 10 passengers to persons with diagnosed seizure disorders. (Class II, Priority Action) (H-86-50)

Also, as a result of its investigation, the Safety Board made Safety Recommendations H-86-51 and -52 to all States (except California, Connecticut, Delaware, Illinois, Indiana, Nevada, New Jersey, Oregon, and Pennsylvania) and the District of Columbia, H-86-53 to the American Medical Association, H-86-54 through -56 to the National Highway Traffic Safety Administration, and H-86-57 to Thomas Built Buses, L. P.

6/ Doege, T.C. and Engelberg, A.C. Eds., "Medical Conditions Affecting Drivers," American Medical Association, 535 North Dearborn Street, Chicago, Illinois, to be published in 1986.

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" (Public Law 93-633). The Safety Board is vitally interested in any actions taken as a result of its safety recommendations and would appreciate a response from you regarding action taken or contemplated with respect to the recommendation in this letter. Please refer to Safety Recommendation H-86-50 in your reply.

BURNETT, Chairman, GOLDMAN, Vice Chairman, and LAUBER, Member, concurred in this recommendation. NALL, Member, did not participate.


By: Jim Burnett
Chairman

