

Log H-477B



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: OCT 2 1986

In reply refer to: H-86-53

James H. Sammons, M.D.
Executive Vice President
American Medical Association
535 North Dearborn Street
Chicago, Illinois 60610

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.

^{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).

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 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 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

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

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. 3/

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. 4/

This position represents a change from the AMA's 1973 guide, 5/ which directed the reader to consult DOT's standards for interstate truck and bus drivers, but did not discuss recommendations for commercial vehicle drivers engaged in intrastate commerce. The Safety Board commends the AMA for its revised guide to physicians and encourages it to make the widest distribution possible, when published, to advise physicians and patients alike regarding the medical conditions affecting safe driving.

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

4/ 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.

5/ The American Medical Association, "Physician's Guide for Determining Driver Limitation," 1973.

As a result of its investigation of this accident, the National Transportation Safety Board recommends to the American Medical Association:

Inform your membership of the facts and circumstances of the accident on May 31, 1985, near Snow Hill, North Carolina, and urge physicians to emphasize to their patients with diagnosed seizure disorders to refrain from driving any vehicle until their seizure disorder is controlled, and to inform their patients of the Federal rule which prohibits the operation of a commercial vehicle in interstate commerce by a driver with a seizure disorder. (Class II, Priority Action) (H-86-53)

Also, as a result of its investigation, the Safety Board made Safety Recommendations H-86-50 to all States (except California and Hawaii) and the District of Columbia, 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-86-54 through -56 to the National Highway Traffic Safety Administration, and H-86-57 to Thomas Built Buses, L. P.

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-86-53 in your reply.

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


By: Jim Burnett
Chairman