



National Transportation Safety Board

Washington, D.C. 20594
Safety Recommendation

SP-20
Log I-086

Date: June 17, 1986

In reply refer to: I-86-4

Honorable Caspar W. Weinberger
Secretary
U.S. Department of Defense
Washington, D.C. 20310

On August 12, 1985, the Norfolk Naval Shipyard at Portsmouth, Virginia, loaded 5,000 gallons of corrosive hazardous waste into a single compartment, stainless steel cargo tank operated by Applied Technology Transportation, Inc. The hazardous waste, a pipe cleaning solution used on ships, was loaded into the cargo tank from a 20,000-gallon storage tank to be shipped to a waste disposal facility in Deepwater, New Jersey. 1/

U.S. Department of Defense (DOD) personnel began loading the hazardous waste into the 17-year-old cargo tank about 11 a.m. and finished about noon. The driver drove the tractor-semitrailer to a truckstop, weighed it, and began his trip about 1 p.m. He followed Interstate 95 (I-95) north and stopped at a weigh station and service area about 3 p.m. He walked around the vehicle and checked the tires; he saw no leak at that time. After entering the Washington, D.C. beltway about 4:30 p.m., a motorist signaled to the truckdriver that something was wrong with the semitrailer. The driver pulled the vehicle onto the right shoulder of the highway and inspected it. At that time, he found a liquid leak near the rear of the cargo tank, but he could not determine the precise location of the leak because the outside of the cargo tank was covered with insulation and a stainless steel jacket. (Examination of the cargo tank at a later date disclosed a crack 12 inches long immediately adjacent to a vertical weld in the rear head.)

The fire department closed the Washington, D.C. beltway to all northbound and southbound traffic from the junction of I-95 and Interstate 495 (I-495) near Springfield, Virginia, to the Van Dorn Street exit about 4 miles away. Several thousand vehicles were stranded on the closed section of highway during rush hour, and an estimated 34,000 vehicles were rerouted during the 9-hour period it was closed. The fire department also evacuated about 600 people from a mixed residential and business area located within a half-mile radius of the vehicle and ordered a Richmond, Fredricksburg and Potomac Railroad track closed to traffic.

The DOD had contracted Applied Technology, Inc., to dispose of the hazardous waste and by that contract assigned to it the responsibilities of a shipper to properly describe the material and to use a transportation container meeting U.S. Department of Transportation (DOT) regulations. Applied Technology, Inc., hired Applied Technology Transportation, Inc., to transport the load in a cargo tank leased from D. M. Equipment Leasing, Ltd., which had purchased the used cargo tank from a private salesman on

1/ For more detailed information, read Special Investigation Report--"Failure of Cargo Tank Transporting Hazardous Waste on the Washington, D.C. Beltway, Interstate 95, Fairfax County, Virginia, August 12, 1985" (NTSB/SIR-86/02).

March 27, 1985, specifically for transporting the hazardous waste solution for the Norfolk Naval Shipyard. All three companies are commonly owned.

The Safety Board found that while the description of the hazardous waste on the shipping paper exceeded DOT requirements by identifying the hazardous ingredients in the waste solution, relative quantities of those materials were not provided. Even a very low concentration of some of the hazardous materials contained in that shipment can be harmful. The lack of that information to help evaluate the severity of the threat posed to public safety and the lack of information about the condition of the cargo tank, which could not be inspected because of an insulated covering, caused the well-trained fire department to properly take a conservative approach and to evacuate the area for the worst-case scenario. It was not until 10 p.m., 5 hours after arriving on scene, that the fire department finally was provided the results of an analysis confirming that the concentrations of hazardous materials contained in that shipment were low. By then, however, on-scene personnel were preparing to transfer the load to another cargo tank, and the condition of the leaking cargo tank was still unknown. Therefore, the fire department continued its evacuation of the area until about midnight when the transfer was completed; the highway was reopened to traffic about 2 hours later, after the spilled solution was cleaned up. While the fire department would have closed the beltway until after the hazardous waste was transferred to another cargo tank even if they had initially known the concentrations of the hazardous ingredients, they may not have evacuated 600 persons from nearby areas.

The fire department also tried to get additional information about the leaking waste solution by calling telephone numbers for the Norfolk Naval Shipyard, as listed on the shipping paper, but because it was after 5 p.m., no one answered the telephone. The fire department later reached the Norfolk Naval Shipyard only after going through the Chemical Transportation Emergency Center (CHEMTREC). After the incident on August 12, 1985, the Norfolk Naval Shipyard began entering a 24-hour telephone number for its facility on shipping papers.

Norfolk Naval Shipyard personnel told Safety Board investigators that since the incident on August 12, 1985, relative amounts of ingredients contained in hazardous waste shipments are entered on shipping papers when that information is available; however, that information is not presently available for all shipments. The DOD should establish procedures to identify the relative amount of hazardous ingredients contained in waste shipments and enter that information on shipping papers to better inform emergency response personnel about the composition and hazards of the waste material being transported in case of an incident. They should also include action that can be taken to mitigate its hazards.

On August 1, 1984, the Safety Board investigated another accident in which local emergency response personnel also had difficulty contacting the DOD for help when one of its hazardous materials shipments was involved in an accident. A tractor-semitrailer transporting explosive Navy torpedoes overturned while traveling through Denver, Colorado. Shortly after arriving on scene, the Denver Fire Department identified two DOD emergency telephone numbers on the shipping papers and called those numbers for help; however, neither telephone was answered. The Board found that the lack of a readily identifiable means for local emergency response personnel to obtain technical information from the DOD about the hazards of the shipment contributed to difficulties in conducting the emergency response. As a result of its investigation, on November 15, 1985, the Board made Safety Recommendation I-85-21 to the DOD:

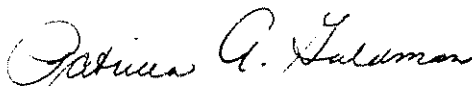
Establish an effective 24-hour communication system to provide local emergency response personnel immediate access to authoritative information and expertise on the threats presented by explosive and other high-hazard Department of Defense shipments involved in transportation accidents.

On January 22, 1986, the DOD advised the Safety Board that it is evaluating communication systems to provide 24-hour assistance to emergency response personnel, and the recommendation remains "Open--Acceptable Action." In the interim, toll-free telephone numbers have been established for Military Traffic Management Command class A and B explosive shipments, and other DOD shipping activities have been instructed to enter on shipping papers 24-hour duty telephone numbers for shippers and receivers on shipments of high explosive and other hazardous material.

Therefore, as a result of its investigation, the National Transportation Safety Board reiterates Safety Recommendation I-85-21 and further recommends that the Department of Defense:

Identify the relative amounts of hazardous ingredients contained in Department of Defense waste shipments and provide that information with the shipping papers to better inform emergency response personnel about the composition and hazards of the waste material being transported; include action that can be taken to mitigate the shipments' hazards. (Class II, Priority Action) (I-86-4)

GOLDMAN, Acting Chairman, and BURNETT, LAUBER, and NALL, Members, concurred in this recommendation.


By: Patricia A. Goldman
Acting Chairman