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NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: November 29, 1982

Forwarded to:

Mr. Thomas D. Larson, P.E.
Secretary of Transportation
Commonwealth of Pennsylvania
Department of Transportation
Harrisburg, Pennsylvania 17120

SAFETY RECOMMENDATION(S)

H-82-58

About 9:45 a.m., e.s.t., on January 2, 1982, eastbound Southeastern Pennsylvania Transportation Authority (SEPTA) passenger train No. 114, consisting of a single rail diesel self-propelled passenger car (RDC), struck a southbound Atlantic Richfield Company (ARCO) tractor/cargo-tank semi-trailer (truck) carrying gasoline at the Second Street Pike crossing at Southampton, Pennsylvania. The tractor and trailer overturned, erupted in fire, and crushed the rear of an automobile standing south of the crossing in the northbound lane of Second Street Pike. Five persons sustained minor injuries. The train operator sustained second- and third-degree burns over 80 percent of his body and died 2 weeks later as a result of his injuries. Damage was estimated at \$452,900. 1/

While signal failures are not frequent events, the catastrophic risk should a train filled with passengers impact a hazardous material truck is enormous. Ideally, trucks carrying hazardous materials should be isolated from passenger trains. Southampton has this capability. At the accident vicinity, an alternative hazardous material route could be considered. A southbound route would use the overpass on Street Road, if going eastbound, to turn onto Knowles Avenue (southwest bound) and then turn at Second Street Pike (southbound). This route would avoid the railroad grade crossing. However, to use this route, adjustments to the acute angle intersection at Street Road and Knowles Avenue would be necessary. The Safety Board believes that if a specific route, such as Street Road, had been available for trucks carrying bulk hazardous materials, the January 2, 1982 accident would not have occurred.

The need for a hazardous material route in Southampton is increased because of the fuel oil storage terminal which is located adjacent to Knowles Avenue, and distributes diesel fuel Nos. 1 and 2 using 2 tractor-trailers (7,500 gallon-capacity) and 10 local delivery trucks (3,000- to 4,000-gallon capacity). Additionally, 5 other oil companies regularly make deliveries from the terminal. The terminal's operations manager informed Safety Board investigators that their drivers avoid the congestion on Second Street Pike by using the Street Road overpass. However, to turn right off Street Road onto Knowles Avenue, longer trucks must turn to the outside of the traffic island, rather than use the designated turning lane before the island because that roadway is too restrictive for the vehicle swing. Standard truck turning templates were overlaid by the Safety Board on the plans provided by the Pennsylvania Department of Transportation

1/ For more detailed information, read "Railroad/Highway Accident Report—Collision of Southeastern Pennsylvania Transportation Authority Commuter Train with a Gasoline Truck, Southampton, Pennsylvania, January 2~~4~~, 1982" (NTSB-RHR-82-3).

for the restrictive intersection. It appears that, if minor changes in the geometry of the turning lanes were made, the ramp would accommodate large fuel trucks.

Therefore, as a result of its investigation, the National Transportation Safety Board recommends that the Commonwealth of Pennsylvania, Department of Transportation:

Work jointly with the Upper Southampton Township to consider the establishment of hazardous material routes through Southampton with the necessary geometric changes that would eliminate the need for hazardous material trucks to cross the rail-highway grade crossing on Second Street Pike. (Class II, Priority Action) (H-82-58)

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 recommendation. Therefore, we would appreciate a response from you regarding action taken or contemplated with respect to the recommendation in this letter.

BURNETT, Chairman, GOLDMAN, Vice Chairman, and McADAMS and EGEN, Members, concurred in this recommendation. BURSLEY, Member, did not participate.


By: Jim Burnett
Chairman