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NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: January 10, 1978

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Forwarded to:

Mr. Richard A. Ward  
Director  
Oklahoma Department of Transportation  
200 N.E. 21st Street  
Oklahoma City, Oklahoma 73105  
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SAFETY RECOMMENDATION(S)

H-77-33 and 34

About 8:58 a.m., on December 15, 1976, Amtrak passenger train No. 15, operating on the Atchison, Topeka and Santa Fe, collided with an oil-laden tractor-cargo tank semitrailer at Kay-Noble County Line Road grade crossing near Marland, Oklahoma. The truckdriver and 2 train crewmembers were killed; 11 other persons on the train were injured. Property damage was estimated to be \$880,700. 1/

The investigation disclosed that the train was moving about 89.6 mph when it struck the cargo tank semitrailer and ignited its cargo of crude oil. The truck periodically used the crossing as part of the only available route to and from some nearby oil wells. Due to heavy ground fog, the driver probably could not have seen the train until it was only 6 seconds away from the crossing. The train's engineer sounded a proper crossing warning whistle signal, but this was probably masked by the sound of the truck's engine and did not appreciably add to the driver's warning time. There are no train-activated warning signals at the crossing.

Federal regulations (49 CFR 392.10) and Oklahoma law required the truckdriver to stop short of the crossing, ascertain that it was safe to proceed, and then move over the crossing in low gear. From the prescribed stopping point, the truck had to travel about 85 feet to clear the crossing. Based on various vehicle, load, and road factors, this would require about 23 seconds, whereas the train would travel the 2,300 feet of maximum available sight distance in 17 seconds. Even in good weather, the driver could not safely use the crossing without positive assurance that a train was not approaching.

1/ For more detailed information about this accident read: "Railroad/ Highway Accident Report -- Collision of an Amtrak/Atchison, Topeka and Santa Fe Railway Train and a Tractor-Cargo Tank Semitrailer, Marland, Oklahoma, December 15, 1976." (NTSB-RHR-77-3)

(2)

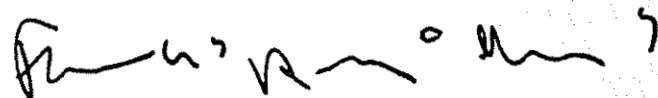
The criteria currently used by the Oklahoma Department of Highways do not include the potentially hazardous joint use of grade crossings by high-speed trains and trucks loaded with flammable oil and gas. There is no program to identify such crossings and evaluate the degree of hazard involved as opposed to the protection provided.

Therefore, the National Transportation Safety Board recommends that the State of Oklahoma Department of Transportation:

Initiate studies of those railroad/highway grade crossings in Oklahoma that are used by high-speed trains as well as vehicles transporting oil, gas, and other hazardous materials, to establish whether such joint use is safe in view of existing crossing characteristics and protection. (Class II, Priority Action) (H-77-33)

Enlarge its grade crossing safety criteria to include use by trucks carrying flammable oil and gas, and other hazardous materials. (Class II, Priority Action) (H-77-34)

BAILEY, Acting Chairman, McADAMS and KING, Members, concurred in the above recommendations. HOGUE, Member did not participate.

  
By: Kay Bailey  
Acting Chairman  
