

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: April 22, 1977

Forwarded to:

Honorable Bruce M. Flohr
Deputy Administrator
Federal Railroad Administration
400 Seventh Street, S.W.
Washington, D.C. 20591

SAFETY RECOMMENDATION(S)

R-77-3 through 5

About 3:40 p.m., on August 2, 1976, 39 cars of Union Pacific Railroad freight train Extra 2800 East derailed near Hastings, Nebraska. No one was injured in the accident, but the damage was estimated to be about \$1,155,010. 1/

Investigation of the accident at Hastings found that the weight distribution within the train consist and the way crossties were replaced through a highway grade crossing contributed to the accident.

The disproportionate weight distribution and the relative effectiveness of brakes on light and heavy cars produced stresses within the train that overloaded the lateral restraint of the track in an unstable area, and the track failed. If the track had not been disturbed in the road crossing or if the engineer of Extra 2800 East had been forewarned to reduce the speed of his train through the area, the accident would probably have been prevented because the excessive lateral stresses probably would have not developed.

A UP Instruction Bulletin relating to track work imposes a limit on the number of adjacent crossties that can be replaced at any one time. It also requires that a slow order be imposed under certain conditions. However,

1/ For more detailed information on this accident read Railroad Accident Report, Union Pacific Railroad, Freight Train Derailment, Hastings, Nebraska, August 2, 1976, NTSB-RAR-77-1.

a subsequent message bulletin removed the limitations on crossties being replaced through a highway grade crossing. Therefore, the precautions normally observed when crossties are being replaced was not observed.

Another UP Instruction Bulletin restricts the height that track can be raised at one time. Even though the track foreman apparently violated the rule when he raised the track through the crossing more than 1 1/2 inches, it appears that this was an accepted company practice. The work performed through the crossing caused the track to be unstable and thus less able to withstand the lateral stresses imposed by the brake application of Extra 2800 East as it moved over the crossing.

New locomotive engineers should be observed closely so that they can benefit from older employees' knowledge and experience. Each train that moves over the railroad has different operating characteristics and responds differently to the locomotive controls.

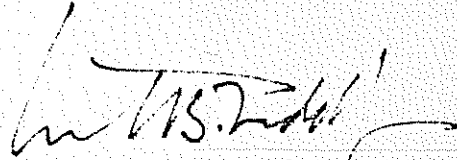
As a result of this investigation, the National Transportation Safety Board recommends that the Federal Railroad Administration:

Promulgate regulations to insure that the locations of heavily loaded freight cars in a train will not adversely affect the train's operation. (Class II, Priority Followup) (R-77-3)

Require that trains operated over unstable track be limited by a slow order, verbal contact by radio, or by flag protection to speeds that will reduce the possibility of track buckling from forces that exceed the restraining ability of the track. (Class II, Priority Followup) (R-77-4)

Require that locomotive engineers be instructed in the braking of trains for varied circumstances that may develop during a train's operation. (Class II, Priority Followup) (R-77-5)

TODD, Chairman, BAILEY, Vice Chairman, McADAMS and HOGUE, Members concurred in the above recommendations. HALEY, Member, did not participate.


BY: Webster B. Todd, Jr.
Chairman