

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: October 6, 1981

Forwarded to:

Honorable Howard Dugoff
Administrator
Research and Special Programs Administration
400 7th Street S.W.
Washington, D.C. 20590

SAFETY RECOMMENDATION(S)

R-81-97 and -98

At 4 a.m., P.d.t., on May 22, 1981, Southern Pacific Transportation Company's (SP) westbound Extra 9164 derailed 39 cars at Surf, California, while moving successively through a 2° curve, a short length of tangent track, and a 1° curve on a 1-percent descending grade. The derailed cars struck and derailed 20 cars of eastbound SP Extra 8874, which was standing on a side track south of the main track, and the locomotive, 3 cars, and the caboose of SP Lompoc Local Extra 1507, which was standing on a side track north of the main track. One employee was injured seriously, and 13 other employees and 3 transients were treated and released at hospitals. Damage was estimated at \$1,552,522. ^{1/}

During the derailment, an "empty" DOT 112A 400W tank car, which had last contained hydrogen fluoride, struck the locomotive of Extra 1507, and a gash about 36 inches long was cut in the side of the tank. Because of the gash, gas from an unknown residual amount of hydrogen fluoride in the tank car, under approximately 16 psi (at 70° F), escaped and formed a gas cloud. None of the crewmembers or three transients, reported to have been riding on Extra 9164 West, was seriously injured by the escaping gas.

The determination that a tank car is "empty" is based on the railroad's Uniform Freight Classification Tariff Rule 35, Section 7, which permits not more than 3 percent by weight or up to 1/3 of the quantity shown on billing documents for the last revenue-paying shipment of a tank car's contents to be left in the car when it is unloaded. This procedure maintains pressurization so that contaminants will not enter the car. The tariff is used to describe the classification of freight on which transportation charges will be based. The shipper determines whether the car is offered to the carrier as an "empty" or a "load." Freight charges usually are not imposed for "empty" cars moving under Rule 35, Section 7.

Title 49 CFR 174.25(c) requires that unless a waybill accompanies an "empty" tank car identifying the last contents of the car, the information must be shown on the consist or wheel report. In addition, 49 CFR 172 requires that an "empty" tank car placard be applied to "empty" tank cars that last contained hazardous materials unless all previous contents have been cleaned out of the car. Title 49 CFR 173

^{1/} For more detailed information, read Railroad Accident Report--"Derailment of Southern Pacific Transportation Company Freight Train Extra 9164 West, Surf, California, May 22, 1981" (NTSB-RAR-81-8).

requires that cars transporting hydrogen fluoride be marked with the commodity name in 4-inch-high letters on the sides of the car. The tank car in the Surf accident was marked and placarded as required by regulations. The car came to rest against the engine of Extra 1507 with the end placard and markings visible from south of the yard office.

In some instances, "empty" tank cars that last contained hazardous or corrosive materials are identified on a consist as "dangerous." The conductor of Extra 8874 East said that the consist of Extra 9164 West did not provide adequate information about hazardous materials cars and "empty" tank cars to enable their being quickly identified. The Safety Board discussed the problem posed by "empty" tank cars in its report of a 1970 accident at Soundview, Connecticut. ^{2/} At Surf, the contents of the "empty" hazardous materials tank car injured 17 persons. The exact quantity of the hydrogen fluoride in the car could not be determined from documents furnished to the railroad. Despite the stenciling of the product name on the car and the "empty" placards, the carrier and others had no way of assessing the danger posed by the "empty" car in the accident without knowledge of the amount of product left in the car.

The International Association of Fire Chiefs (IAFC) has petitioned the Materials Transportation Bureau (MTB) for the removal of all references to "empty" placards in 49 CFR Parts 172 and 174 because the IAFC believes the placards are misleading. The U.S. Department of Transportation (DOT) has issued an Advance Notice of Proposed Rulemaking (Docket HM-180) regarding such placards. The Safety Board believes that the petition of the IAFC to amend the safety regulations to provide more adequate safety information is timely and has merit.

Therefore, as a result of its investigation of this accident, the Safety Board recommends that the Materials Transportation Bureau of the Research and Special Programs Administration:

Amend 49 CFR 171.8 to define in specific quantities the maximum quantity of a hazardous material that may be moved in a tank car placarded under 49 CFR 172.525 and offered for transportation by a shipper as an "empty" tank car under DOT regulations. (Class II, Priority Action) (R-81-97)

Amend 49 CFR 174.25(c) to require that shippers show on shipping papers the approximate weight of a hazardous material contained in a tank car offered by the shipper to a carrier as an "empty" tank car for movement under Rule 35 of the Uniform Freight Classification Tariff. (Class II, Priority Action) (R-81-98)

KING, Chairman, DRIVER, Vice Chairman, and BURSLEY, Member, concurred in these recommendations. McADAMS and GOLDMAN, Members, did not participate.



for By: James B. King
Chairman

^{2/} Railroad Accident Report--"Penn Central Transportation Company Freight Train Derailment Passenger Train Collision with Hazardous Material Car, Soundview, Connecticut, October 8, 1970" (NTSB-RAR-72-1).