

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

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R-299

ISSUED: October 24, 1980

Forwarded to:

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President and Chief Executive Officer
Western Pacific Railroad Company
526 Mission Street
San Francisco, California 94105

SAFETY RECOMMENDATION(S)

R-80-41 through -46

About 6:55 p.m., on April 9, 1980, Western Pacific Railroad (WP) freight train Extra UP 3734 West (Sealand 6) had its caboose, three helper locomotive units behind the caboose, and seven freight cars derailed at the Industrial Parkway overpass at Hayward, California. Of the nine crewmembers, two were killed and two were injured. Three locomotive units and the caboose were destroyed. Damage was estimated at \$1,382,000. ^{1/}

The investigation disclosed that the Sealand 6 stalled on the grade east of Altamont, California, because two of its three locomotive units became ineffective. Train RBW-9 pushed the Sealand 6 to Altamont, where the assistant superintendent decided to continue the arrangement west of Altamont with the RBW-9's three 3,000-horsepower locomotive units coupled behind the Sealand 6's caboose. When the caboose reached the Industrial Parkway overpass at Hayward, it derailed, separated from the rest of the train, and fell 30 feet from the overpass onto the highway. The helper locomotive also derailed, and the middle unit fell on and crushed the caboose, killing the two crewmembers inside. After the locomotive fuel tanks ruptured, the leaking fuel was ignited by fallen powerlines. The resulting fire engulfed the width of the parkway and threatened the adjacent overpass of the Bay Area Rapid Transit District (BART).

When the Sealand 6 had been 100 miles east of Altamont, the train dispatcher was told that two of its three locomotive units were low on fuel. Later, at Stockton, California, the engineer and a diesel mechanic determined that one unit had only 350 gallons of fuel and the fuel gauge on the other unit indicated the tank was virtually empty. This information was given to the train dispatcher, the chief train dispatcher, the yardmaster, and, ultimately, the director of train operations. However, nothing was done to alleviate the problem. The yardmaster ordered the engineer to leave for Oakland, California, as soon as the dispatcher gave his train a proceed signal, and the engineer complied. Subsequently, the Sealand 6 was held at Tracy, California, to meet an eastbound train. Although the eastbound train consisted of four locomotive units and light tonnage, no one ordered an exchange of power. The RBW-9 was to follow the Sealand 6 to Oakland with three fully-serviced locomotive units and only eight cars, and no one held the Sealand 6 at Tracy so that the trains could exchange power.

^{1/} For more detailed information, read "Railroad Accident Report--Derailment of Western Pacific Railroad Company Freight Train Extra UP 3734 West (Sealand 6), Hayward, California, April 9, 1980" (NTSB-RAR-80-10).

The Sealand 6 could have reached Oakland from Altamont unassisted, except perhaps through the "sags" at Hayward, and there help could have been provided by the Fremont yard crew as had been done in the past. However, when the Sealand 6 finally reached Altamont, it was 11 1/2 hours overdue at Oakland and still had 50 miles to go. Anxious to prevent further delay to the train, the assistant superintendent decided to combine it with the RBW-9, employing the latter's locomotive as a helper behind the Sealand 6's caboose. The assistant superintendent told the Stockton terminal superintendent, who had gone to Altamont on his instructions, to instruct the helper engineer not to power unless asked to do so by the head-end engineer. However, the terminal superintendent allowed the helper engineer to use his own judgment in the matter.

The Sealand 6 had no radio-communicating ability because it had foreign-line locomotive units and a foreign-line caboose. The terminal superintendent gave the head-end engineer a small portable radio, but it was defective and would not transmit over the 1.2 miles between the head-end and helper locomotives. The terminal superintendent did not know this because he failed to have the required end-to-end radio test performed. A trainmaster, who was also at Altamont, knew of the problem and he could have ordered the helper engineer to operate from his middle unit which had a radio compatible with the radio on the head-end unit. However, the trainmaster took no action.

Using the 9,000-horsepower of the helper locomotive behind the occupied caboose of the Sealand 6 was a violation of WP Operating Rule No. 825(T), but neither the supervisors at Altamont, the assistant superintendent, nor the superintendent, who were aware of what was to be done, took action to insure that the rule was complied with. The responsibility for complying with this rule was shared by the officers who were in a position to insure compliance and who were as bound by the rule as the crewmembers. However, it is doubtful that anyone involved knew of the rule's requirements.

The WP rules do not stipulate who is in charge of a train manned by two on-duty train crews, each with a qualified conductor. The officers made no determination in the matter and never notified the helper conductor or the head-end engineer what they wanted done. The conductors could not communicate with each other or with the head-end engineer. When the terminal superintendent allowed the helper engineer to power on the basis of his own judgment, he gave him control of the train.

No restrictions were placed on the combined train and the engineers were compelled to make whatever they perceived to be track speed at all times. The combined train had a trailing weight of 5,800 tons, and trains exceeding 5,500 tons were restricted to 35 mph at the accident location. However, the helper engineer had been told nothing of the Sealand 6's tonnage and the head-end engineer had been given an erroneous tonnage figure for his train. Both engineers thought the train was authorized the 60-mph "special column" speed. Although the assistant superintendent had access to the correct tonnage, no one told the crews, nor was anything said concerning the appropriate speed column for the train. When the train derailed, the helper locomotive was being operated in full throttle at 63 mph.

The officers directly involved in this accident did not have an intimate association with the day-to-day operation of the trains. They lacked the thorough knowledge of the rules, timetable instructions, and proper operational procedures prerequisite to the making of critical operating decisions. The superintendent, the terminal superintendent, and the trainmaster did not have the background and experience to function as more than administrators. Officers who are held responsible for safety and efficiency must know not only what is required but must personally insure that trains are operated in the

proper manner. In December 1979, the senior vice president of operations ordered all assistant superintendents, terminal superintendents, and trainmasters to personally conduct no less than 20 efficiency checks each month. Yet, the following month, the three officers directly involved in this accident did not make a single efficiency check. The superintendent rendered a monthly accounting, but during the next 2 months, the officers made only 30 checks, whereas 120 checks were required. As for knowledge of the rules, the officers' problems in this area may have resulted from management's failure to examine officers on the rules since 1977.

The WP and the BART share a common right-of-way over much of the distance between Fremont and Oakland. BART trains run as fast as 80 mph and WP trains operate as fast as 60 mph in this territory. An emergency occurring on one line might very seriously affect operations on the other line. Yet, there was no plan for mutual notification in such an instance. Neither the WP's director of train operations nor the BART's Central Control supervisor knew who to notify in the event of an emergency on the common right-of-way.

As a result of this investigation, the National Transportation Safety Board recommends that the Western Pacific Railroad Company:

Take action with employees to determine that train operations are conducted according to operating rules. (Class II, Priority Action) (R-80-41)

Provide supervisors and employees periodic, supervised training based on a uniform understanding of the operating rules, timetable instructions, and bulletin instructions. (Class II, Priority Action) (R-80-42)

Review and amend its rules and instructions to provide comprehensive procedures for the safe operation of locomotives in helper service. (Class II, Priority Action) (R-80-43)

Provide crewmembers with the proper classification of their train for speed purposes and the correct trailing tonnage of their train. (Class II, Priority Action) (R-80-44)

Provide radios that operate on the Western Pacific frequency and which can adequately provide communication between both ends of the trains to crews of trains with foreign locomotive and/or caboose equipment. (Class II, Priority Action) (R-80-45)

Develop and maintain on a current basis with the Bay Area Rapid Transit District a plan for immediate notification of any emergency occurring on the common right-of-way between Oakland and Fremont. (Class II, Priority Action) (R-80-46)

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

By: 
James B. King
Chairman