

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

R-324

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Forwarded to:

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SAFETY RECOMMENDATION(S)

R-80-34 and -35

About 3:30 a.m., on February 16, 1980, nine westward bound locomotive units of the Burlington Northern (BN), Inc., collided with BN standing train Extra 2048 East (No. 178), which consisted of 65 cars and a caboose at Angora, Nebraska. The head brakeman of train No. 178 and the engineer of Extra 7814 West were killed, and three crewmembers were injured. Three locomotive units and 12 cars derailed. Damage was estimated at \$1,297,000. ^{1/}

At the time of the accident, it was dark and light snow was falling. Witnesses indicated that visibility was poor.

Train No. 178 with two locomotive units departed Northport, Nebraska, about 12:50 a.m., and stalled about 1 mile east of Northport on the 1.0 percent ascending grade to Angora, Nebraska. The train returned to Northport and a third locomotive was added. The airbrakes were connected between the three units, but because a unit control jumper cable was not available, the third locomotive unit could not be electrically connected for multiple unit control of the three units' traction power.

Train No. 178 with three locomotives began to ascend the grade to Angora but again stalled — this time 9.5 miles east of Northport. The train dispatcher instructed the crewmembers to uncouple the locomotive from the train and proceed to Angora. According to the train dispatcher, it was his intention to have the locomotive of Extra 7814 West which consisted of six units, pull the train over the hill. At the same time, he issued a train order to the conductor and engineer of

^{1/} For more detailed information read, "Railroad Accident Report--Head-end Collision of Nine Burlington Northern Locomotive Units with a Standing Freight Train, Angora, Nebraska, February 16, 1980" (NTSB-RAR-80-7).

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Extra 2048 East (train No. 178) and to the conductor and engineer of Extra 7814 West at Alliance for the meeting of the locomotives at Angora. The train dispatcher did not inform either crew of his intentions on how the order was to be accomplished or how the locomotives were to be handled after meeting at Angora.

The crewmembers were apparently confused by the instructions and the train order since they coupled the nine locomotive units without connecting the air brakes or power cables between the six locomotive units and the three original units of train No. 178. Because of the manner in which the nine locomotive units were coupled, the engineer on the third locomotive unit only had control of the air brakes, power, and dynamic braking on the two original units of train No. 178, and he had control of only the air brakes on the added locomotive unit, now the lead unit. He had no control of this unit's power because of the lack of a multiple unit control jumper cable, and he had no control over the six units of Extra 7814 West.

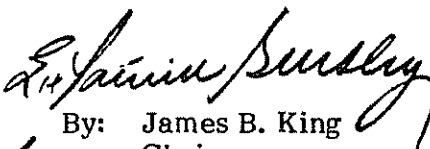
After the nine locomotive units were coupled at Angora, the engineer of train No. 178 decided to control the locomotive units from the operating compartment of the third unit from the west end. After starting the locomotive units westward toward the stalled train, the added weight of the six uncontrolled locomotive units quickly caused the speed to increase. Because the visibility was restricted, the engineer was probably not able to relate the distance traveled with the increased speed and was not able to prevent the collision after receiving a warning from the front brakeman that the standing train was 10 car lengths away. If all units had been properly coupled for multiple unit control and operated from the leading cab for the direction of travel, sufficient braking probably would have been available to the engineer to have controlled the speed and to have stopped the locomotive short of the train.

Neither the conductor of train No. 178 nor the conductor of Extra 7814 West supervised the intended compliance with the train orders, and no other supervision was available for the move. Most of the crewmembers had been trained in the BN schools for new employees, but it is almost impossible to substitute this type of training for experience needed by employees to properly handle an operation similar to the one involved in the accident. In these cases, supervision becomes a necessity.

Therefore, the National Transportation Safety Board recommends that the Burlington Northern:

Provide the equipment necessary to make couplings between all units of a locomotive so that the engineer will have complete control of all locomotive units. (Class II, Priority Action) (R-80-34)

Insure that Rule 800, which assigns the responsibility for train operation to conductors, is adhered to strictly and conductors are adequately trained to make the necessary decisions for the safe handling of the train. (Class II, Priority Action) (R-80-35)


By: James B. King
for Chairman