

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

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Forwarded to:

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President and Chief Operating Officer
Consolidated Rail Corporation
6 Penn Center Plaza
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SAFETY RECOMMENDATION(S)

R-81-54 through -56

About 4:12 p.m., on November 7, 1980, Conrail freight train OPSE-7 struck the head end of Amtrak train No. 74 while it was standing on track No. 2 at Dobbs Ferry, New York. The lead locomotive unit of train OPSE-7 overrode and destroyed the operating cab of the power car of train No. 74. Of the estimated 234 persons aboard the trains, 75 passengers and 9 crewmembers were injured. Damage to the equipment was estimated at \$915,000. 1/

OPSE-7 arrived at Glenwood at 3:20 p.m. and had completed backing onto track No. 2 at 3:42 p.m. After talking with the operators at the DV and OW interlocking stations, the dispatcher determined that there were no trains between OW and Glenwood on track No. 2. The dispatcher instructed the OW operator to apply a blocking device for track No. 2 east. The OW operator did not apply the blocking device, but he replied "BDA (blocking device applied) signal 6 at 3:49." Even though the operator did not indicate train order signal displayed, the train dispatcher issued train order No. 304, a "J" order, to the OW operator:

Hold all eastward trains clear of No. 2 track between OW and Glenwood.

The OW operator copied the order and repeated it to the dispatcher. The order was made complete at 3:50 p.m.

The dispatcher then issued train order No. 305 to the OW operator, the DV operator, and the conductor and the engineer of Extra 2806 (OPSE-7) in care of the DV operator:

Extra 2806 West has right over opposing trains on No. 2 track Glenwood to OW.

1/ For further information, read: Railroad Accident Report—"Head-End Collision of Amtrak Passenger Train No. 74 and Conrail Freight Train OPSE-7, Dobbs Ferry, New York, November 7, 1980" (NTSB-RAR-81-4).

Both operators copied and repeated the order, and the order was made complete at 3:54 p.m. The OW operator confirmed to the dispatcher that the block between Glenwood and OW was clear of trains. The DV operator transmitted order No. 305 over Conrail radio channel No. 2 to the engineer of OPSE-7. The engineer repeated the order and it was made complete at 3:57 p.m. The DV operator reported that OPSE-7 departed Glenwood westbound on track No. 2 at 4:08 p.m.

As westbound OPSE-7 rounded a 0°54' curve approaching Dobbs Ferry, New York, about 4:12 p.m., the engineer and head brakeman saw a train approaching in the distance. At the first sighting of the train, the engineer and head brakeman said they were not able to determine which track the train was on because of the curve, but they thought that it was on another track. However, as OPSE-7 continued around the curve, the engineer and head brakeman saw that the train was on the same track. The engineer said he immediately applied the train brakes in emergency and the train started slowing from 38 mph. When it became evident that a collision would occur, the engineer and head brakeman laid on the locomotive cab floor.

At 3:56 p.m., eastbound Amtrak train No. 74, the Empire State Express, en route from Niagara Falls, New York, to Grand Central Station, New York City, New York, departed Croton-Harmon Station on track No. 2. The train consisted of a power club car, a food service car, three coach cars, and a power car, facing in the opposite direction, at the rear end of the train.

As train No. 74 approached the OW interlocking, the engineer saw a red (stop) signal indication. The engineer, using the Metro Region Commuter Radio channel No. 3, called, "74 to OW," twice between 4:05 and 4:06 p.m. After the second call, the OW operator replied, "OK 74," and activated the signal lever, which cleared the signal for the train to continue east of OW on track No. 2. The OW operator recorded movement of train No. 74 east on track No. 2 at 4:08 p.m.

Train No. 74 continued eastward on track No. 2 in response to clear indications on the next three signals. However, the fourth signal, just west of the Dobbs Ferry station, indicated "Advance Approach." However, before train No. 74 arrived at the signal, it changed to "Approach." The engineer reduced the train's speed to approximately 25 mph as it passed the signal and entered a 0°46' right-hand curve. On exiting the curve, the engineer and fireman saw a freight train about 0.5 mile to the east approaching on one of the four tracks. When the engineer determined that the approaching train was on the same track, he shouted a warning to the fireman and simultaneously applied the train brakes in emergency. The engineer and fireman jumped from the locomotive, without alerting the conductor or passengers, just before the train came to a stop.

Moments later, OPSE-7 collided with standing train No. 74 at about 10 mph. The impact derailed the lead unit of OPSE-7 and pushed train No. 74 rearward about 112 feet, derailling the lead power car and the following three passenger cars. Electrical power to the four tracks was shut off after a crewmember boarded the cab of the rear power car and used the radio to request that the power be shut off because of the collision and because passengers were getting onto the tracks. An employee of a restaurant adjacent to the accident site immediately called the Dobbs Ferry Police Department. Within 3 minutes after the accident, emergency forces began to arrive at the accident site.

The train dispatcher was qualified under Conrail operating rules without restrictions. He had been on duty about 1 hour 30 minutes. He had worked for Conrail for 4 years 6 months and had been a dispatcher for 1 year 6 months. Before becoming a dispatcher, he had worked as an operator. During his employment as an operator, he attended a 2-week school for operators in Wilmington, Delaware. He had 2 months on-the-job dispatcher training, which included operating rules classes, train order classes, and observing dispatchers responsible for three separate districts. After the accident, he stated that he had not required the operator to respond "stop signal and train order signal displayed" as required by Conrail rules for issuing a "J" order because, ". . .it was never a practice in our office because the facilities for displaying a train order signal does not exist in most towers." He further stated that when he was an operator he had received train orders but did not display a train order signal because the facilities did not exist.

The OW operator was qualified under Conrail operating rules without restrictions. He had been on duty about 1 hour 15 minutes. After the accident, the OW operator stated that he did not apply the blocking device. He further stated, "that is something you do automatically. You say 'BDA' and then go over and do it. This was the way I was trained." He had been working for Conrail for 1 year 22 days. He had received on-the-job training with various operators on duty for 57 days and had worked on all three shifts. Before beginning the on-the-job training, he had attended 4 days of classroom instruction on the Conrail Rules of the Transportation Department. Before completing the on-the-job training, he had successfully passed a written examination on the Rules of the Transportation Department. He did not attend the 2-week school for operators at Wilmington because the school, which had been established by Conrail's predecessor company, Penn Central, and the 10-day program were eliminated during March 1977. During his employment, he had worked most of his time at OW; however, he had worked at White Plains for about 1 month and had been back at OW for 2 weeks before the accident.

Examination of the efficiency tests conducted on the dispatcher indicated that on June 12, 1980, the dispatcher had been observed and a record was prepared of the observation as he transmitted a train order. The report indicated that he complied with the Conrail rules for the transmission of train orders. There was no record of any observation of the performance of the OW operator.

When the dispatcher decided to run train OPSE-7 against the current of traffic, the primary safeguard, placing a blocking device on the signal lever, and the primary redundant feature, displaying the train order signal, were ignored by the OW operator. Additionally, the dispatcher failed to comply with the instruction governing "J" holding orders which required him to assure that the train order signal was displayed.

The OW operator stated that he had been trained to apply the blocking device after copying a train order. Additionally, the operator said that he acquired the improper procedure from other operators during his on-the-job training. The operator's statement indicates that other operators were following this unsafe practice, even though it was a violation of Conrail Rules for a "J" holding order. This situation at the OW tower highlights a problem with on-the-job training: If the employees used to train new employees are using improper and unsafe procedures, these methods are being taught to the new employees. Therefore, it is evident that Conrail needs to improve its overview and direct supervision of on-the-job training for operators.

Federal regulations require that Conrail make periodic tests and inspections to determine the extent of compliance with its operating rules, timetables, and special instructions by its operating employees. Records must be retained and made available to the FRA so that performance can be checked by FRA.

Conrail's training of the OW operator was inadequate because it did not assure that he was copying and delivering train orders according to the rules. The absence of supervisory monitoring during his first year of work as an operator resulted in the operator's failure to comply with that train order practice which requires the application of a blocking device to the pertinent signal lever and the display of the train order signal before copying a train order. Since the dispatcher also failed to require the display of the train order signal before transmitting the train order, it suggests that the questionable practices may be widespread on this division.

Conrail's program, which was submitted to FRA, failed to accomplish its intent -- to assure the understanding of the rules and compliance with them. FRA's monitoring of Conrail to determine if it is following its program was also ineffective. The Safety Board questions the adequacy of Federal oversight in this case to insure the Conrail program of operating tests and inspections that allows an employee, such as the OW operator, to be hired, trained on the job, and work for over a year without any supervisory review of his performance.

Since the engineer of OPSE-7 received his train order on channel 2 and train No. 74 was on channel 3, the engineer of train No. 74 was not alerted by radio traffic on channel 2 that OPSE-7 was operating on track No. 2 from the opposite direction. No. 74 was monitoring channel 3 in compliance with the timetable special instructions and OPSE-7 was not monitoring channel 3 because the Conrail freight locomotive units are not equipped with a radio with channel 3. However, the Conrail timetable had established limits of operation that required the use of channel 3 in the area of the accident. If both trains had been operating on the same radio channel, the engineer of train No. 74 may have heard the train order given to the engineer of OPSE-7 to use track No. 2 and thus have been alerted that an opposing move was being made and have stopped his train on track No. 2 at OW. If train No. 74 had stopped at OW, this accident would have been prevented. However, Conrail management, instead of having their freight train locomotives equipped with radios to receive and transmit on channel 3 so that the engineers could comply with the timetable instructions, equipped the towers with a radio with channel 2. The operators then monitored channel 2 and 3 simultaneously and when necessary could transmit train orders to freight trains on channel 2.

The conflict between the Conrail timetable instructions and the Conrail procedures for operation of train radio on different channels between MO Tower, Bronx, New York, and CD Tower, Harmon, New York, which includes the area of the accident, is a failure to comply with 49 CFR 220.39, which requires radios to operate on the designated channel. The engineer of OPSE-7 could not turn to channel No. 3, as specified by the timetable and required by 49 CFR 220.23, because his locomotive was not equipped with a radio to operate on channel 3. This is another example of the failure of management and supervision to ensure that operations were conducted in accordance with Conrail rules and Federal requirements for safe train operations.

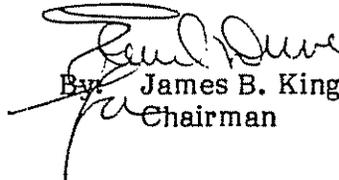
As a result of its investigation of this accident, the National Transportation Safety Board recommends that Consolidated Rail Corporation (Conrail):

Establish better procedures for the training and followup by supervisors of operators and dispatchers to insure compliance with the rules. Provide formal training. (Class II, Priority Action) (R-81-54)

Require that all trains operating on the main line monitor the same channel as designated in the timetable. (Class II, Priority Action) (R-81-55)

Provide the operators on the Metropolitan Region with the ability to display a train order signal at train order stations as required by the operating rules. (Class II, Priority Action) (R-81-56)

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


By: James B. King
Chairman