



National Transportation Safety Board

Washington, D.C. 20594

Railroad Accident Brief

Accident No:	DCA-99-MR-004
Location:	Momence, Illinois
Date of Accident:	March 23, 1999
Time:	7:02 a.m. central standard time
Railroad:	Consolidated Rail Corporation (Conrail)
Injured:	4 minor
Property Damage:	\$1,791,000
Type of Accident:	Collision

The Accident

On March 23, 1999, about 7:02 a.m., central standard time, eastbound Consolidated Rail Corporation (Conrail) train KAEL-3 struck the side of the lead locomotive unit of southbound Union Pacific Railroad (UP) train ZYCMX-23 at a crossing of Conrail and UP tracks in Momence, Illinois.

As a result of the collision, the lead locomotive unit of the Conrail train and both locomotives and the first 16 cars of the UP train derailed. Diesel fuel from the second UP locomotive was released and caught fire, damaging the locomotive and containers on the freight cars in the immediate area. The UP estimated its damage to be \$1,654,000. Conrail estimated its damage to be \$137,000.

Both conductors and engineers were hurt. The Conrail conductor refused treatment on scene, and the Conrail engineer and both UP crewmembers were treated and released from a local hospital.

An hour before the accident, the Conrail train departed Kankakee, Illinois. As it approached the distant signal for Control Point Momence Junction, it was traveling approximately 44 mph. The engineer observed in a timely manner that the distant signal was displaying an approach-restricting indication, and he made an automatic brake application, slowing the train to 27 mph. About a minute later, he released the brakes. He knew, he later said, that an approach-restricting indication meant that the next signal (the home signal at Control Point Momence Junction) could display a red aspect (stop) if another train was occupying the UP tracks near the crossing. He knew that after passing the approach-restricting indication, he was responsible for slowing the train to less than 30 mph and for being prepared to stop short of the next signal.

Neither the engineer nor the conductor was able to see the home signal while transiting the curve because tall trees lined the track. As the train headed out of the curve and moved onto the straight track, the signal was still too far away for its aspect to be distinguished by the naked eye. The engineer and the conductor realized that the position of the sun made the aspect even harder to read. Nevertheless, the engineer took no additional action to slow the train.

The conductor became concerned about not being able to see the home signal but did not mention his concern to the engineer. The conductor retrieved a pair of binoculars from his bag to help him identify the signal aspect. He told the engineer the aspect was red, and moments later he told the engineer to place the brakes in emergency. The engineer immediately and progressively applied more brakes; then, no more than 474 feet before the crossing, he placed the train into emergency, but he did not activate the two-way end-of-train device. The train slowed down, but it did not stop in time to avoid entering the crossing and striking the passing UP train. Train performance simulation indicated that had the end-of-train device been activated at the time the engineer initiated emergency braking, it would have increased the braking performance of the train and may have prevented the accident.

Tests and inspections found no indication the train's brakes or the signal system had malfunctioned. The crossing did not have any automatic enforcement of the signal indications. Collision protection depended entirely on the ability of the crew to handle the train properly.

PROBABLE CAUSE

The National Transportation Safety Board determines that the probable cause of the collision was the failure of the Conrail engineer, despite the crew's difficulty in seeing the home signal, to slow the train enough to be able to stop it before it entered the crossing. Contributing to the accident was the conductor's delayed action in warning the engineer to slow the train even though the conductor realized that the train might be traveling too fast to stop at the crossing. Also contributing to the accident was the lack of any safety redundancy system capable of preventing a collision in the event of human failure.

Approved: March 14, 2002