

NATIONAL TRANSPORTATION SAFETY BOARD
Public Meeting of January 21, 2010
(Information subject to editing)

Railroad Accident Report
Collision of Metrolink Train 111 with Union Pacific Freight Train LOF65-12
Chatsworth, California
September 12, 2008
NTSB/RAR-10-01

This is a synopsis from the Safety Board's report and does not include the Board's rationale for the conclusions, probable cause, and safety recommendations. Safety Board staff is currently making final revisions to the report from which the attached conclusions and safety recommendations have been extracted. The final report and pertinent safety recommendation letters will be distributed to recommendation recipients as soon as possible. The attached information is subject to further review and editing.

EXECUTIVE SUMMARY

About 4:22 p.m., Pacific daylight time, on Friday, September 12, 2008, westbound Southern California Regional Rail Authority (SCRRA) Metrolink train 111, consisting of one locomotive and three passenger cars, collided head-on with eastbound Union Pacific Railroad (UP) freight train LOF65-12 near Chatsworth, California. The Metrolink train derailed its locomotive and lead passenger car; the UP train derailed its 2 locomotives and 10 of its 17 cars. The force of the collision caused the locomotive of train 111 to telescope into the lead passenger coach by about 52 feet. The accident resulted in 25 fatalities, including the engineer of train 111. Emergency response agencies reported transporting 102 injured passengers to local hospitals. Damages were estimated to be in excess of \$12 million.

CONCLUSIONS

1. The following were neither causal nor contributory to this accident: weather, fatigue, the engineer's medical conditions or treatments, training and experience of crewmembers, operation of Union Pacific Leesdale Local, alcohol or illegal drug use by operating crewmembers, and condition of the track or rolling stock.
2. Although the conductor of the Union Pacific Leesdale Local had likely used marijuana within 3 to 11 hours of the accident, this was neither causal nor contributory to the accident.
3. Considering the challenges of the recovery operations, the emergency response to the accident was timely, well coordinated, and effectively managed.
4. Because locomotive cab exits are not designed to be quickly opened in an emergency, firefighters could not rapidly enter the cab of the Union Pacific Leesdale Local to rescue the injured crew.
5. Physical evidence, documentary and recorded data, and postaccident signal examination and testing confirm that the westbound signal at Control Point Topanga was displaying a red aspect at the time Metrolink train 111 departed Chatsworth station and as it

approached and passed Control Point Topanga, and had the engineer complied with this signal indication, the accident would not have occurred.

6. Eyewitness reports of seeing a green aspect from the Chatsworth station are contrary to the other evidence; postaccident testing and research show that witnesses could not have reliably seen the red aspect that the Control Point Topanga signal was displaying as train 111 departed the station because of a combination of extreme distance to the signal (more than 1 mile), lighting conditions at the time, and limitations of the human visual system.
7. The signal and traffic control systems worked as designed on the day of the collision, and the dispatcher's "stacking" of train routes played no role in the accident.
8. The engineer of train 111 was actively, if intermittently, using his wireless device from shortly after his train departed Chatsworth station, and his text messaging activity during this time compromised his ability to observe and appropriately respond to the stop signal at Control Point Topanga.
9. The Metrolink engineer was aware that he was violating company safety rules when he used his cell phone to make calls or to send and receive text messages while on duty, but he continued the practice nonetheless.
10. Although the conductor of the Union Pacific Leesdale Local violated operating rules by sending and receiving text messages during times when he shared responsibility for the safe operations of his train, any distraction caused by such use did not cause or contribute to this accident.
11. Because of the privacy afforded by a locomotive cab or train operating compartment, routine efficiency testing and performance monitoring practices are inadequate to determine whether or to what extent engineers or other crewmembers may not be complying with safety rules such as those regarding use of wireless devices or allowing access by unauthorized persons.
12. A train crew performance monitoring program that includes the use of in-cab audio and image recordings would serve as a significant deterrent to the types of noncompliance with safety rules engaged in by the Metrolink engineer and the Union Pacific Leesdale Local conductor in this accident and would provide railroads with a more comprehensive means to evaluate the adequacy of their safety programs.
13. Passenger survivability in this accident was determined almost exclusively by where an individual was located, and the extremely high collision forces resulted in a loss of occupant survival space in the forward two-thirds of the first passenger coach.
14. Had a fully implemented positive train control system been in place on the Ventura Subdivision at the time of this accident, it would have intervened to stop Metrolink train 111 before the engineer could pass the red signal at Control Point Topanga, and the collision would not have occurred.

PROBABLE CAUSE

The National Transportation Safety Board determines that the probable cause of the September 12, 2008, collision of a Metrolink commuter train and a Union Pacific freight train was the failure of the Metrolink engineer to observe and appropriately respond to the red signal aspect at Control Point Topanga because he was engaged in prohibited use of a wireless device, specifically text messaging, that distracted him from his duties. Contributing to the accident was

the lack of a positive train control system that would have stopped the Metrolink train short of the red signal and thus prevented the collision.

RECOMMENDATIONS

As a result of its investigation of the September 12, 2008, collision of Metrolink train 111 with Union Pacific LOF65-12 at Chatsworth, California, the National Transportation Safety Board makes the following safety recommendations:

New Recommendations

To the Federal Railroad Administration:

1. Require the installation, in all controlling locomotive cabs and cab car operating compartments, of crash- and fire-protected inward- and outward-facing audio and image recorders capable of providing recordings to verify that train crew actions are in accordance with rules and procedures that are essential to safety as well as train operating conditions. The devices should have a minimum 12-hour continuous recording capability with recordings that are easily accessible for review, with appropriate limitations on public release, for the investigation of accidents or for use by management in carrying out efficiency testing and system-wide performance monitoring programs.
2. Require that railroads regularly review and use in-cab audio and image recordings (with appropriate limitations on public release), in conjunction with other performance data, to verify that train crew actions are in accordance with rules and procedures that are essential to safety.

Previously Issued Recommendations Reclassified in This Report

R-07-3

Require the installation of a crash- and fire-protected locomotive cab voice recorder, or a combined voice and video recorder, (for the exclusive use in accident investigations and with appropriate limitations on the public release of such recordings) in all controlling locomotive cabs and cab car operating compartments. The recorder should have a minimum 2-hour continuous recording capability, microphones capable of capturing crewmembers' voices and sounds generated within the cab, and a channel to record all radio conversations to and from crewmembers.