

**National Transportation Safety Board
Office of Railroad, Pipeline and Hazardous Materials Investigations**

Washington, D.C. 20594

Head-On Collision between
Southern California Regional Rail Authority Train 111 and
Union Pacific Leesdale Local in
Chatsworth, California
September 12, 2008

DCA 08 MR 009

Mechanical Group Factual Report

Mechanical Group

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The Accident

About 4:23 p.m. pacific daylight time, westbound Metrolink passenger train Number 111 and Union Pacific Railroad (UP) freight train LOF6512 collided head-on near Chatsworth, California. The Metrolink train derailed its locomotive unit and lead passenger car; the UP train derailed two locomotive units and 10 freight cars. As a result of the collision, the Metrolink locomotive unit was shoved about 50 feet into the lead passenger car. Emergency response agencies reported that 102 injured persons were transported to local hospitals. There were 25 fatalities.

Damage is estimated at \$10.6 million. Environmental conditions were daylight, clear skies, haze, calm winds and a temperature of 73 degrees Fahrenheit with visibility of four miles.

Train Consists

Metrolink train 111 consisted on one locomotive unit, two passenger coach cars and one cab car. The locomotive was 58 feet in length and each of the cars were 85 feet in length for a total train length of 313 feet.

Locomotive Unit	SCRA 855
Coach Car	SCRA 185
Coach Car	SCRA 207
Cab Car	SCRA 617

The Union Pacific (UP) Leesdale Local consisted of two locomotive units and 17 cars. The train, including the locomotive units, weighed 1,523 tons and was 1,164 feet in length. There were seven loaded and 10 empty cars.

Locomotive Unit	UP 8485
Locomotive Unit	UP 8491
	CEFX 95334
	CEFX 96307
	ARMN 933964
	GRX 65014
	MP 374660
	SP 228550
	WC 22193
	DWC 793859
	GTW 517811
	DWC 793859
	LW 50247
	ARMN 768079
	ARMN 761840

ARMN 768036
ARMN 923979
ARMN 769010
FBOX 504734

Damages

Monetary damages were estimated by Metrolink and the UP to be;

Metrolink	SCAX 855	\$3,500,000
	SCAX 185	2,200,000
	SCAX 207	750,000
	SCAX 617	750,000
UP	Locomotives	\$1,200,000
	Cars	2,123,000
	Lading	200,000
	Clearing:	
	UP	500,000
	Metrolink	<u>670,000</u>
	Total	\$10,543,000

Post Accident Inspection

The rear two Metrolink cars (SCAX 207 and SCAX 617) were inspected and the air brake system was tested at the accident site on Sunday, September 14, 2008. Metrolink locomotive unit 886 supplied air pressure for the test. The air brake system on the cars was charged to 111 psi then a 20 psi reduction was made and a leakage test conducted. The cars had 2 psi brake pipe leakage. All the on-tread and disc brakes applied. A pry bar was used to validate the disc brake application at each location. All the contact surfaces were smooth and work polished. The brake pipe was recharged and brake shoes released from their respective locations. An emergency application was then initiated from the locomotive unit. The brakes at each location again applied, however; the disc brake at the number 8 location on SCRA 617 released. The actuator at that location was loose and moved substantially when shaken by hand.

The air brake systems on the Metrolink locomotive unit and first car were damaged in the accident to the extent that no meaningful test could be performed. The contact surfaces of both were inspected and were smooth and work polished. The front truck on the locomotive unit had thermal cracking at several locations around the circumference of the wheels. The lead truck did not have thermal cracks.

The rear seven cars from the UP Leesdale Local were inspected at Moorpark, California on Sunday, September 14, 2008. UP locomotive unit 1427 supplied air pressure for the test. The air brake system on the cars was charged to 90 psi that a 20 psi reduction was made and a leakage test conducted. The cars had ½ psi brake pipe leakage.

The brakes applied at each location. The brake system was recharged and the brake shoes released except at the R3 location on ARMN 769010. A new wheel was evident at that location.

Inspection History

Inspection records and maintenance history records were examined for each of the Metrolink cars and the locomotive unit involved in the accident. All required inspections and scheduled maintenance had been performed.

Event Recorder

The UP Leesdale Local had event recorders and cameras on both locomotive units. A digital download of one event recorder was obtained at the scene. The other event recorder was damaged in the accident to the extent that a download was unsuccessful. The memory module was extracted from that recorder. The event recorder module, data and both camera data were sent to the UP playback station in Omaha, Nebraska where a Safety Board technician coordinated the retrieval of the information.

The Metrolink locomotive unit was equipped with an event recorder. It suffered major thermal and crush damage in the accident. It was recovered and sent to the Safety Boards laboratory in Washington, D.C. The Metrolink cab car also had an event recorder. It was undamaged in the accident. The seal numbers were verified at the accident site and the recorder removed. Data was downloaded from that recorder on Sunday, September 14, 2008.