Railroad Operations Group Chairman's Factual Report

Oxnard, California

HWY15MH006

(08 pages)

NATIONAL TRANSPORTATION SAFETY BOARD

OFFICE OF HIGHWAY SAFETY

WASHINGTON, D.C.

Railroad Operations Group Chairman's
Factual Report

A. Accident

Location:	Near South Rice Avenue, UPRR Milepost 406.2
Vehicle #1:	2005 Ford F450 Pick-up towing a 2000 Tandem Axle Utility Trailer
Operator #1:	Harvest Management
Vehicle #2:	Metrolink M102 24
Operator #2:	Metrolink (UPRR Property)
Vehicle #3:	1998 Toyota Camry
Operator #3:	Private
Date:	February 24, 2015
Time:	5:44 a.m.
NTSB #:	HWY15MH006

B. Accident Summary

For a summary of the accident, refer to the *Accident Summary* report, within this docket.

C. Railroad Operation Group

Ted T. Turpin NTSB – Operations Group Chairman	Louis Costa SMART
Mike Galvani BLET	R. T. McCarthy Director Operations - Metrolink
Greg Wallen UPRR	Matt Cardiff CPUC - Senior Investigator
Scott Woolstenhulme Operating Practices – FRA	Eric Smith Amtrak

D. Accident Details

1.0 Narrative

The conductor, engineer and student engineer went on duty at 4:25 a.m. at the Metrolink facility at Montalvo, California. They prepared their train, M102 24, for departure and moved the train to the East Ventura passenger platform. They performed a running air brake test on the equipment as they left the facility. They departed East Ventura at 5:25 a.m. After entering the UPRR dispatching system they went to the Oxnard passenger station. The train departed Oxnard station at 5:39 a.m. as noted on the conductors delay report.

According to the event recorder and the student engineer's interview, he observed the "delayed in block"[1] requirement and did not exceed 40 mph until he could determine the next signal was clear. He then accelerated the train in the full throttle position (No. 8) while approaching Rose Avenue.

Approximately ¾ of a mile after passing Rose Avenue and ¼ of a mile before reaching South Rice Avenue grade crossing, the train passed the whistle board[2] for South Rice Avenue grade crossing. At this point the student reduced the throttle and explained during his interview that he asked the engineer if there was a vehicle on the track in front of them. The student engineer said the engineer answered yes, had instructed him to "plug it"[3] and said that they should get out of the cab. During this exchange the student engineer had already decided to place the train in emergency braking.

The engineer and student engineer departed the cab and went into the upper level of the car. The student said that the engineer had gone several seat rows into the car and sat on the right side of the car. The student engineer grabbed a vertical stanchion in the car and remained standing. He said he was able to maintain his grip and never released the stanchion until the car stopped moving. The student engineer explained that when the car came to rest, the engineer was no longer in the seat and was lying against the window below him. (The car had rolled onto its side so that the right side of the car was on the ground.)

2.0 Operating Documents

The crews were governed by the General Code of Operating Rules. The UPRR timetable that contained specific instructions for the district they were operating. This territory was part of the UPRR Los Angeles Service Unit and the Santa Barbara Subdivision.

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[1] When a train stops at a location where there is no visible signal ahead of the train, the engineer must approach the next signal at a reduced speed sufficiently to be able to stop in case the next signal has a restrictive indication.
[2] The whistle board is a sign located ¼ of a mile before a grade crossing. The sign (on this railroad) has a "W" on it to remind the engineer to start the whistle sequence for the upcoming grade crossing.
[3] This is railroad vernacular for applying the emergency brakes.

The following railroad operating rules and supplements were applicable at the time of the accident:

- *General Code Of Operating Rules*, Sixth Edition, Effective April 7, 2010, Updated July 2, 2013
- Amtrak Air Brakes and Train Handling, Effective January 28, 2013
- Union Pacific Railroad, Los Angeles Area, Timetable #5, Santa Barbara Subdivision, Effective 0900 Monday, October 28, 2013
- UPRR System Special Instructions
- Metrolink General Track Bulletin No. 7780, February 24, 2015
- Track Warrant No. 316, February 24, 2015
- Track Bulletins - 2019, 131004, 111026, 111058, 111069, and 111070

3.0 Train Consist

The M102 24 had four passenger cars SCAX 645, 206, 211, 263, and one locomotive, 870, at the rear of the train. The lead car, SCAX 645, was equipped with an operating cab. This train configuration was referred to as a Push/Pull operation. This train was in Push mode. The first vehicle of the train was a passenger car and the train was being pushed by a locomotive at the rear of the train. Train length was 396 feet and weighed 402 tons.

- SCAX 645 – Hyundai/Rotem Cab car: 140,000 pounds length, 85 feet.
- SCAX 206 - Bombardier Coach Car: 110,000 pounds length, 85 feet.
- SCAX 211 – Hyundai/ Rotem Coach Car: 145,000 pounds length, 85 feet.
- SCAX 263 – Hyundai/ Rotem Coach Car: 145,000 pounds length, 85 feet.
- SCAX 870 – Electro-Motive Diesel[4] F59PH: 270,000 pounds length, 58 feet.

The train had received an air test and inspection by a mechanical employee Monday night before the operating crew went on duty. The mechanical employee left an "air slip" on the train for the operating crew to indicate that the train had passed an air test and was ready to perform service.

During the post-accident interviews, the student engineer explained that the train had operated normally and he took no exceptions to the performance of the braking systems.

4.0 Site Description

At the accident location there was a single main track. Train M102 24 collided with the truck at milepost 406.2 and the lead wheels on the cab car showed marks on the tie plates and north rail where it derailed shortly after the impact.

[4] A division of Caterpillar, Inc.

The track was tangent (straight) from MP 405 to MP 412 and the highway grade crossing was at MP 406.25. The track had a slight descending grade through the accident site.

Parallel to the tracks and on the right side in the direction of the accident train, was East Fifth Street (HWY 134). Headlights from vehicles approaching the train on East Fifth Street converged with the track the further the vehicles were in the distance. At the time of the accident, there was a tractor trailer with its headlights off stopped in the area between East Fifth Street and the railroad track near the South Rice Avenue grade crossing.

The tracks were maintained and classified as FRA Class 4 track.[5] Maximum authorized speed for freight trains at this location was 60 mph and passenger trains 79 mph.

5.0 Post accident Sight Distance Observations

On Saturday, February 28, 2015, investigators conducted an observation exercise at nearly the same time of day with similar lighting conditions as the day of the accident. The exercise was performed under significantly different circumstances than the day of the accident. The exemplar truck was a railroad high rail vehicle that had to be placed on the rails, as it is intended to operate. The exemplar truck could not be placed on the right of way in the exact position or orientation that the truck involved in the accident was. Oncoming traffic running parallel to the tracks and on the right side in the direction of the exemplar train, as well as cross traffic on the Rice Road crossing could not be controlled. Two data points were captured. One was when the train cab occupants could first see the truck and the second was when the train cab occupants could determine that the truck was obstructing the track. (During this observation, all of the train cab occupants understood beforehand what they were looking for near the crossing.)

- The train cab occupants agreed the truck was visible when the train was 4,644 feet from the truck.
- The train cab occupants agreed that the truck was obstructing the track when the train was 3,430 feet from the truck.

6.0 Event Recorder/Image Recorders

An event recorder/image recorder group was part of the investigation. Data from these devices will be provided by that group. That report will describe the speeds of the train including the impact speed.

[5] Classification of Tracks is covered by 49 CFR Part 213. Each class of track will have specific levels of inspections and maintenance depending on the class of track. Further, each class of track will specify the speed allowed by freight and passenger trains.

7.0 Damage

Estimated damage:

Mechanical	$10.5 million
Track	$100,000
Signals	$25,000
Total	$10.625 million

8.0 Method of Operations

Trains were authorized by signal indication. The traffic control system was managed by a Union Pacific railroad train dispatcher in Omaha, Nebraska. The operating crews would receive authorization by signal indication at Control Points located throughout the territory. Between the Control Points were automatic block signals that did not give authority, however, these signals did govern the entrance to the section of track beyond their location and to the next signal. These signals are not interconnected with grade crossing devices.

The student engineer stated that the signal prior to the crossing had displayed a green aspect, authorizing the train to proceed at track speed. The green aspect also indicated that the block was not occupied by any other railroad equipment.

9.0 Grade Crossings

The operating rules had specific requirements for engineers when approaching grade crossings. The engineer was required to sound the horn (whistle) and ring the bell on the locomotive prior to entering the crossing. The student engineer said that he had started the horn sequence just before he noticed that there was something on the tracks ahead of the train.

This model of cab car automatically rang the bell and flashed the ditch lights when the horn was sounded. The desired pattern is two longs, a short and a long blast as the cab car approaches and operates through the crossing. The student engineer was unable to complete the horn sequence before he applied the emergency braking and departed the cab.

10.0 Crew Information

Post-Accident Toxicological Testing - According to Title 49 CFR Part 219 (Subpart C-Post-Accident Toxicological Testing), “219.201 **Events for which testing is required …** *(b) Exceptions.* No test may be required in the case of a collision between railroad rolling stock and a motor vehicle or other highway conveyance at a rail/highway grade crossing…” Initially, the collision had the appearance of a rail/highway grade crossing accident. Metrolink/Amtrak decided that no toxicological tests were required to be performed on the Metrolink/Amtrak operating crew.

Hours of Service and Rest Cycle - Title 49 CFR Part 228 – **Hours of Service of Railroad Employees,** requires that railroad operating employees not work over 12 hours in a given shift and must have a minimum of 8 hours or 10 hours off duty between shifts.[6] The Metrolink crew's duty hours were within the requirements of the regulation.

Operational Testing - Title 49 CFR 217.9 contains specific requirements for the testing and observations of operating employees while they perform their duties. Metrolink/Amtrak maintains an operational testing program to monitor the performance and rules compliance of employees operating trains. The purpose of the operational testing program is to observe operating crew activities when they are unaware that a supervisor is present.

A. Engineer

The 62-year-old engineer was hired by the Santa Fe Railroad on September 9, 1970. He worked as an engineer for Metrolink since the early 1990s. The engineer was employed by Amtrak from November 1986, through June of 2005. From June of 2005 through June of 2010, he was employed by Connex. Connex held the operating contract for train crews for Metrolink Trains during this period. In June of 2010 the engineer returned to Amtrak employment, when Amtrak replaced Connex as the holder of the operating contract for Metrolink crews.

The engineer had a current 49 CFR 240 certification dated June 19, 2014.[7] He was qualified to operate trains throughout the Metrolink system. The accident train schedule was his regular job assignment.

Operational Testing - The engineer had been observed by supervisors 185 times in the last 12 months. He had not complied with policy or procedures three times. None of the noncompliance events involved the proper procedures at a grade crossing or general attentiveness while operating a train.

Work/Rest Cycle - The engineer had been off on the previous Saturday and Sunday. He had worked Monday, February 23, 2015 on the same train schedule as the accident train. He had operated into Los Angeles and returned to Oxnard Monday evening at 6:42 p.m.

Training Record - The engineer was current with all of the required training programs. He had passed his most recent operating rules examination on June 19, 2014.

Fit for Duty - The engineer had passed a medical, hearing, and vision examination on August 15, 2014.

[6] If an employee works for the full 12 hours then the regulation requires 10 hours off duty before the next on duty period.

[7] 49 CFR 240 requires that engineers be certified every 3 years. The engineer must pass a written knowledge examination and performance skills examination.

B. ***Student Engineer***

The 31-year-old student engineer was hired by Amtrak on June 15, 2010. He was promoted to the conductor position on December 5, 2011. He then transferred to the engineer training program on January 6, 2014. At the time of the accident, he had completed his training program and was days from becoming a qualified engineer.

Operational Testing - The student engineer had been observed by supervisors 153 times in the last 12 months. He had complied with the railroads rules and procedures properly during all of the 153 observations.

Work/Rest Cycle - The student engineer had been off on the previous Saturday and Sunday. He had worked on Monday, February 23, 2015 on the same train schedule as the accident train. He had operated into Los Angeles and returned to Oxnard Monday evening at 6:42 p.m. While in Los Angeles he had a rest period and spent it napping at a hotel. Monday night he said he had gone to bed sometime after 9 p.m. and normally falls asleep easily. He woke up between 3:00 a.m. and 3:30 a.m. on Tuesday.

Training Record - The student engineer was current with all of the required training programs. He had passed his most recent operating rules examination on June 19, 2014.

Fit for Duty - The student engineer had passed a medical, hearing, and vision examination on October 24, 2014.

C. ***Conductor***

The 58-year-old conductor was hired by Amtrak on September 15, 1989. He has worked on the Metrolink system since June 26, 2010.

Operational Testing - The conductor had been observed by supervisors 62 times in the last 12 months. He had not complied with policy or procedures three times. None of the noncompliance events involved the proper procedures at a grade crossing or general attentiveness.

Work/Rest Cycle - The conductor had been off on the previous Saturday and Sunday. He had worked on Monday, February 23, 2015 on the same train schedule as the accident train. He had operated into Los Angeles and returned to Oxnard Monday evening at 6:42 p.m.

Training Record - The conductor was current with all of the required training programs.

End of Report