

NATIONAL TRANSPORTATION SAFETY BOARD
Vehicle Recorder Division
Washington, DC 20594

July 23, 2015

Track Image Recorder Factual Report

Specialist's Factual Report
By Christopher Babcock

1. EVENT

Location: Pine Bluff, Arkansas
Date: April 3, 2015, 9:23 pm central daylight time (CDT)
Operator: Railroad Switching Services
NTSB Number: DCA15FR007
Locomotive: UP1912

2. GROUP

A group was not convened.

3. SUMMARY

At about 9:23 pm central daylight time (CDT), a switch crew consisting of an operator and ground person was shoving approximately 34 box and tank cars (nine box cars were loads) using an Electro-Motive Diesel (EMD) freight locomotive GP60 east from the switch lead into track four of the facility classification yard in Pine Bluff, Arkansas. The switch crew was building an outbound block of cars for interchange. The switch crew was attempting to make a cut approximately 9 cars ahead of the locomotive. The operator stopped after moving approximately three car lengths and not receiving any further commands. The operator departed the locomotive and discovered the ground person fatally injured underneath the truck of the car where the cut was being made.

A hard drive containing forward facing video and audio from the lead locomotive was recovered and forwarded to the National Transportation Safety Board's Vehicle Recorder Laboratory for evaluation.

4. DETAILS OF INVESTIGATION

The NTSB Vehicle Recorder Laboratory received the following equipment:

Recorder Manufacturer/Model: **Wabtec Track Image Recorder**
Recorder Serial Number: **KB0748B490**

4.1. Recorder Description

4.1.1. Wabtec Track Image Recorder (TIR)

The Wabtec TIR system contains a forward facing video camera and microphone that record to an external hard drive (Figures 1 and 2). It records color video at a resolution of 704x480 pixels and 15 frames per second (fps). External audio is also recorded. Some versions will also record GPS position and speed. The recorders are not required by regulation and are not protected from impact or fire.



Figure 1. Side view of Wabtec TIR hard drive.



Figure 2. Front view of Wabtec TIR hard drive.

4.2. Recording Contents

The recorder from the locomotive was received undamaged and audio/video for the time surrounding the accident was downloaded normally using a Wabtec readout station appropriate for this model recorder.

4.3. Timing and Correlation

Timing on all events from the video was correlated to similar events recorded on the locomotive's event recorder. Specifically, the time of the horn heard on the audio prior to the accident grade crossing was compared with the horn discrete parameter on the event recorder. One hundred fifty five seconds were added to the time stamp of all events recorded by the TIR to time align the video to the timing on the event recorder data.¹ Due to the 1 sample per second sample rate from the event recorder, there may be up to a 1 second error between video events and events recorded from other sources.

4.4. Summary of Events

The lighting condition was dark with a freight car attached forward of the locomotive. At 2052:14 CDT, a person in a dark baseball cap moved between the locomotive and the freight car forward of the locomotive from the left side of the frame to

¹ See Event Recorder Specialist's Factual Report for further information

the center of the frame and then back out of the frame to the left. At 2053:57 CDT, the locomotive started moving in reverse and stopped at 2102:03 CDT. At 2102:36 CDT, the locomotive started moving forward and stopped at 2103:12 CDT. At 2105:37 CDT, the locomotive started moving in reverse and stopped at 2109:12 CDT. At 2109:52 CDT, the locomotive started moving forward and stopped at 2111:06 CDT. At 2111:35 CDT, the locomotive started moving in reverse and stopped at 2112:35 CDT. At 2113:00 CDT, the locomotive started moving and stopped at 2114:02 CDT. At 2114:30 CDT, the locomotive started moving and stopped at 2115:26 CDT. The direction could not be determined from the video. At 2115:50 CDT, the locomotive started moving and stopped at 2116:45 CDT. The direction could not be determined from the video. At 2117:15 CDT, the locomotive started moving and stopped at 2118:05 CDT. The direction could not be determined from the video. At 2118:35 CDT the locomotive started moving and stopped at 2119:35 CDT. The direction could not be determined from the video. At 2120:35 CDT, the locomotive started moving forward and stopped at 2120:50 CDT. At 2122:35 CDT, a short horn blast was heard. At 2122:50 CDT, the locomotive started moving forward. At 2123:35 CDT, the locomotive stopped. At 2206:24 CDT, a person in a yellow hardhat moved between the locomotive and the freight car forward of the locomotive from the right side of the frame to the left side of the frame. At 2207:15 CDT, flashing emergency lights were visible on the right side of the frame. At 2208:05 CDT, a person in a yellow hardhat with his face not visible to the camera moved between the locomotive and the freight car forward of the locomotive from the left side of the frame to the right side of the frame. The video review ended at 2209 CDT.