National Transportation Safety Board
Office of Research and Engineering
Washington, DC 20594

RRD22LR013

ONBOARD IMAGE RECORDER

Specialist's Factual Report

February 16, 2023

A. ACCIDENT

Location: El Paso, Texas
Date: August 29, 2022
Time: 2114 mountain daylight time (MDT)
0314 August 30, 2022, coordinated universal time (UTC)
Locomotive: Union Pacific (UP) 7132

B. ONBOARD IMAGE RECORDER SPECIALIST

Specialist: Michael Portman
Aerospace Engineer – Recorder Specialist
National Transportation Safety Board (NTSB)

C. DETAILS OF THE INVESTIGATION

In agreement with the Investigator-In-Charge (IIC), an Onboard Image Recorder group was not convened, and a summary was prepared.

1.0 Video Files Information

The NTSB Vehicle Recorder Division received a hard drive containing video files. The files were extracted in .avi format and consisted of 80 forward facing video files and 84 internal cab video files, all of resolution 704x240 pixels and without color.

The internal cab video files were reviewed and, in agreement with the IIC, were deemed non-pertinent to the investigation, and are therefore not included in this report.

2.0 Timing and Correlation

Each video file was titled with its starting time, approximately in UTC. Comparison of stopping and starting times of the locomotive between the video files and locomotive event recorder determined that the video files were offset by approximately 2 seconds. Therefore, the timing was adjusted by 2 seconds to bring the video and data into alignment, and the videos were then additionally adjusted to local time, MDT, by subtracting 6 hours. Therefore, the times used in this report are expressed in approximately MDT.

D. SUMMARY OF EVENTS

The following summary makes use of throttle, speed, and distance information provided by the locomotive event recorder. The video began at 1807:57 with the

locomotive coupled to another locomotive in front of it. The locomotive was uncoupled, reversed, and subsequently began to travel forward uneventfully for the next approximately 2.5 hours.

At 2041:50, while in an idle throttle setting and traveling forward at 28 miles per hour (mph), the locomotive passed a work crew on the parallel track to the left, as seen in Figure 1.

Figure 1. View as the locomotive passed the work crew to the left, at 2041:50.

Between 2042:30 and 2042:32, while switching from an idle throttle setting to a T1 setting, and travelling forward at 26 mph, the locomotive switched its headlight setting from bright to dim, as seen in Figure 2 and Figure 3. The locomotive had travelled 1,565 ft from its location in Figure 1.

Figure 2. View shortly before the locomotive dimmed its headlight, at 2042:30.

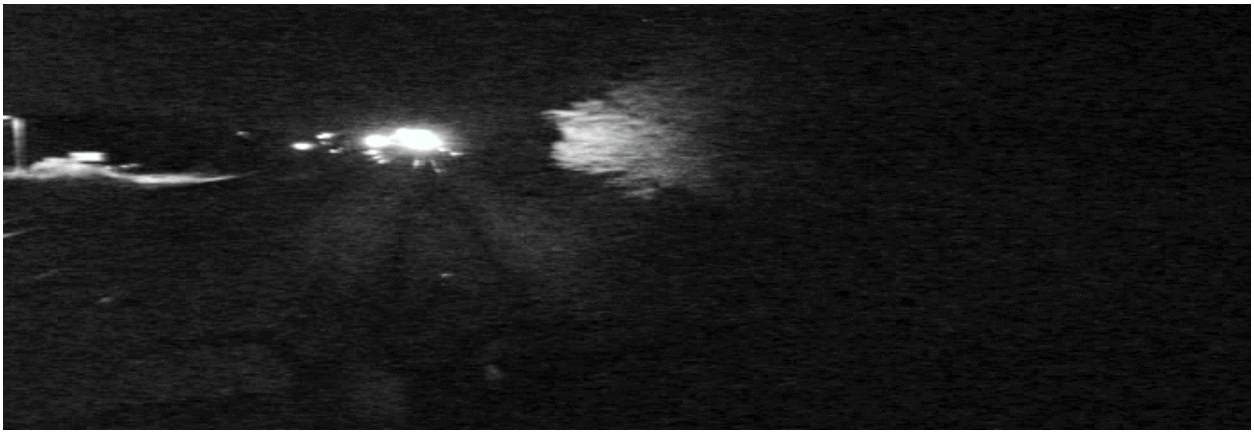

Figure 3. View shortly after the locomotive dimmed its headlight, at 2042:32.

The headlight remained dimmed until 2043:06, when the lights brightened shortly before a grade crossing. In this time, the locomotive traversed 1,297 ft. The train passed the grade crossing, re-dimmed its headlight, then switched onto the parallel track on the left shortly thereafter.

At 2044:16, while at an idle throttle setting and travelling forward at 12 mph, the locomotive's front door could be seen to open, and the conductor stepped out and left the frame shortly after. The opening door can be seen, circled in red, in Figure 4. The locomotive traversed approximately 4,784 ft between Figure 1 and Figure 4.

Figure 4. View of the door opening in the front of the locomotive.

The locomotive continued forward until stopping at approximately 2049:39 and remained stationary until beginning to move backward approximately between 2109 and 2110. The exact time could not be determined due to a dimly lit environment and lack of available visual cues. For more detailed timing information, see the Locomotive Event Recorder, Specialist's Factual Report located in the docket for this accident.

The train continued backward while remaining on the same track until it slowed to a stop at approximately 2114:22. The locomotive remained stationary at that position until the video recordings ended at 0220:10 on August 30, 2022.

Submitted by:

Michael Portman
Aerospace Engineer – Recorder Specialist