

NATIONAL TRANSPORTATION SAFETY BOARD
Vehicle Recorder Division
Washington, DC 20594

September 28, 2016

Witness Video and Audio

Specialist's Factual Report
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1. EVENT

Location: Panhandle, Texas
Date: June 28, 2016
Trains: BNSF, Eastbound Train, S-LACLPC1-26K
BNSF, Westbound Train, Q-CHISBD6-27L
NTSB Number: DCA16FR008

2. GROUP

A group was not convened.

3. SUMMARY

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

4. DETAILS OF INVESTIGATION

The National Transportation Safety Board (NTSB) Vehicle Recorder Division received two witness videos from a security camera installed in a Dairy Queen retail store. The camera's field of view is shown in figure 1. Figure 2 shows the position of the Dairy Queen relative to the accident and grade crossing. The grade crossing shown in figure 2 was about 1,825 feet from the Dairy Queen and the point of collision of the two trains was about 4,540 feet from the Dairy Queen. Recorded video was not pertinent to the investigation; as such, only the recorded audio was considered by this report.

This factual documents sounds recorded during the time period pertinent to the collision on June 28, 2016, and a comparison recording on the day before the collision.

Figure 1. Dairy Queen security camera field of view.



Figure 2. Location of Dairy Queen relative to accident-relevant points.



4.1. Audio Recording Description

Recorded audio was recorded at 32,000 Hz. Recording #1 captured the time period surrounding the collision on June 28, 2016. Recording #2 was from the day prior to the collision. Both recordings contained constant broadband

background sound, similar to in-store equipment operation (such as, the heating and air conditioner system).

4.2. Timing and Correlation

While the video recordings contained time stamps, the time stamps were not verified by this report and were not used. All times in this report are elapsed time from the start of the recording, expressed as hhmm:ss (hh means hours, mm means minutes, ss means seconds).

4.3. Summary of Recording Contents

4.3.1. Recording#1: Accident

At 0021:27, a faint sound similar in character to a distant horn was recorded for about 1-second. Other than this sound, only ambient noise was recorded on the audio until 0022:08.

At 0022:08, a muffled sound was first recorded (sound A), similar to the IIC-reported train collision. At 0022:12, two louder, muffled sounds were recorded (sounds B). At 0022:23, another muffled sound (sound C), of nearly the same intensity as B, was recorded. This sequence of sounds were similar to the initial collision of the two trains and collision of subsequent cars from the train consists.

At 0026:58, sirens were first recorded. At 0027:13, three horns were recorded, followed by sirens, another horn, and more sirens. These horns and sirens were consistent with emergency vehicles (such as, police or fire).

4.3.2. Recording#2: Day Prior to the Collision

Between 0000:31 and 0000:42, five horn blasts, similar to a train horn, of increasing intensity and frequency were recorded. The change in frequency was likely do the Doppler Effect.¹

¹ The Doppler Effect refers to the change in frequency of a sound due to motion (<https://www.grc.nasa.gov/www/k-12/airplane/doppler.html>).