



National Transportation Safety Board

Washington, D.C. 20594

Railroad Accident Brief

Accident No.: ATL-00-FR-006
Location: Port Hudson, Louisiana
Date of Accident: June 26, 2000
Time: 10:42 a.m., central standard time
Railroad: Canadian National/Illinois Central Railroad
Fatalities: 1
Injuries: 8
Type of Accident: Highway/railroad grade crossing collision

Synopsis

On June 26, 2000, about 10:42 a.m., central standard time, a loaded southbound tractor-semitrailer combination truck struck the lead locomotive of Canadian National/Illinois Central Railroad (CN/IC) train LBRZE-26 at the highway/rail grade crossing at the intersection of U.S. Highway 61 and the CN/IC Zee Industry Lead track near Port Hudson, Louisiana. The engineer was fatally injured, the conductor and truckdriver were seriously injured, and the brakeman sustained minor injuries. The driver and four occupants of a car that had left the highway to avoid colliding with the train also sustained minor injuries.

The Accident

The accident train was a local that had originated at the CN/IC yard in Baton Rouge, Louisiana. It was scheduled to make a round trip to Zee, where it would service local industries and set out cars to be interchanged with another railroad before returning to the yard. Records indicate the train had been mechanically inspected and had passed an air brake test before it left Baton Rouge. No exceptions had been noted.

The motor carrier that owned the accident truck was registered with the Federal Motor Carrier Safety Administration and was an authorized for-hire entity with interstate operation authority to transport logs, poles, beams, and lumber. At the time of the accident, the truck was loaded with logs. The automobile that was involved in the accident, which had been traveling southbound ahead of the truck, was a 1997 Oldsmobile Achieva. It was on the way from Ferriday, Louisiana, to Baton Rouge.

The train, the southbound automobile and log truck, and a northbound cargo tank truck converged on the crossing at about the same time. The crossing was equipped with

active warning devices that consisted of flashing lights and a warning bell. As the train approached the crossing, the northbound cargo tank truck slowed down for the crossing, stopped, and backed up several feet. The cargo tank truck driver told investigators that the warning lights for the northbound approach were flashing. The train brakeman later told investigators that he had seen the warning lights flash as the train began crossing the northbound lanes of the divided highway. The log truck driver and the driver and front passenger of the automobile said that the lights for southbound traffic had not been flashing as they approached the crossing. Several other witnesses stated that the train horn sounded but that the warning lights did not activate.

As the train was crossing the southbound lanes, the driver of the automobile maneuvered to avoid colliding with it. The car departed the highway to the west, striking a caution sign while going airborne over a ditch. The car landed in the ditch and struck a utility pole with its right front quarter panel before coming to rest near the track. The log truck, which had been behind the automobile, struck the right side of the lead locomotive, damaging its cab and right side. The force of the collision derailed the front truck of the locomotive. Several of the logs on the log truck entered the locomotive cab through the engineer's window (right side) and ejected the engineer through window on the opposite side of the cab. The log truck then traveled west about 58 feet along the north side of the tracks before coming to rest. The trailer, which remained connected to the tractor, struck the mast that supported the warning lights for the southbound lanes and came to rest on top of the automobile. The tractor and trailer were severely damaged. The train's lead locomotive, which had partially derailed, continued moving west and demolished the crossing signal case that housed the grade crossing control equipment. The locomotive continued an additional 101 feet before stopping. The couplers between the two locomotives were slightly damaged but remained coupled. The remaining cars of the train were not damaged. According to the on-board event recorders, at the time of the collision, the train was sounding its horn and moving at 14 mph.

The lead locomotive of the train had a video camera that recorded the view in front of the train. The videotape was analyzed by the Safety Board's Vehicle Recorder Division and the Federal Bureau of Investigation's Forensic Audio, Video, and Image Analysis Unit. Neither analysis could determine whether the grade crossing warning lights were flashing at the time of the accident. The locomotive video camera was also equipped to record audio, and it recorded the sound of the locomotive horn as the train approached the crossing.

Grade Crossing Information

The accident crossing is about 2 1/2 miles north of the town of Port Hudson in East Feliciana Parish. U.S. Highway 61 in the vicinity of the accident is a 4-lane divided roadway. The northbound traffic lanes are separated from the southbound lanes by a depressed grass median that ranges in width from 28 to 31 feet. Southbound traffic on U.S. Highway 61 approaching the crossing descends an average grade of about 1 percent. In the area of the crossing, the highway has a posted speed limit of 65 mph.

The northbound and southbound sides of the highway are each composed of two 12-foot-wide through lanes. The two lanes on each side are separated by painted white dashes and reflective buttons. The traffic lanes intersect the railroad track at an angle of 106°. The crossing surface is pre-cast concrete slab, and the vertical profile is almost flat. The advance warning signs and pavement markings are located in accordance with the *Manual on Uniform Traffic Control Devices*. The pavement markings spanned the width of both southbound lanes, were in good condition, and were located 695 feet from the nearest rail. Two 36-inch-diameter advance-warning signs, one adjacent to each southbound lane, were located 666 feet before the nearest rail.

Two cantilever masts, each with eight round 12-inch-diameter flashing lights, provided warning for all directions of highway traffic. The crossing lights are connected to the flasher control circuit in a manner that will cause the lights for the northbound and southbound lanes to be operational simultaneously. A Safetran Grade Crossing Predictor (GCP 3000) operating in a stand-alone, bi-directional mode (monitoring train traffic along both the east and west approaches) controlled the activation of the warning lights and bell. The GCP measures the speed of an approaching train and calculates the time the train will take to arrive at the crossing. The GCP then activates the lights and bell so as to provide highway vehicle drivers with a predetermined warning time regardless of the speed of the train. The crossing warning system normally operates on commercial power, but the crossing also had two banks of stand-by backup batteries, one for the GCP and the other for the flashing lights and bell. The crossing warning system was operating on backup battery power at the time of the collision, as it had been since local electrical storms interrupted power to the crossing the day before the accident. While the warning signal system is operating on battery power, the system data recorder continues to record information regarding signal activation until battery output drops below a certain threshold. At that point, the data recorder is no longer able to record, but it will retain the data already stored in the data recorder memory until battery power is completely exhausted. The data recorder at the accident crossing had maintained previously recorded information, but it had stopped recording new data about 12 hours before the collision.

Sight distance for southbound traffic was limited by a number of obstructions. A line of trees parallels the highway along the southbound approach to the crossing. The trees are about 13 1/2 feet west of the edge of the highway's paved surface and terminate about 59 feet north of the railroad tracks. An earthen berm is northeast of the crossing. The top of the berm is about 5 feet above the road surface, and trees and other foliage grow along the berm. Active crossing warning devices are often used to help compensate for limited sight distance. The cantilever-mounted warning lights at the accident crossing can be seen from more than 1/2 mile away. Advance warning signs and pavement markings were also in place on the highway.

Following the accident, Safety Board investigators collected the lamps from the lights on the cantilever mast that was hit and knocked down. The lamps were taken to the Safety Board's Materials Laboratory and examined for evidence of hot stretching, which would indicate that the crossing warning lamps had been lit when the mast was hit. The filaments showed no evidence of stretching; however, the crossing warning signal mast may not have been struck with the velocity necessary to stretch the lamp filaments.

Events Before the Accident

On June 25, 2000, the day before the accident, sections of East Feliciana Parish reported electrical storms. The surrounding areas, including the area encompassing the accident scene, reported commercial power interruptions.

One witness to the accident said that while she had been driving southbound earlier on the morning of the accident, she had seen the warning lights at the accident crossing flash, turn off, and reactivate with no trains present. She said that she later crossed the tracks northbound and noticed the lights were not flashing.

A Colonial Pipeline station is adjacent to the crossing to the southwest. The station's security system includes video cameras, one of which captures the northbound lanes of the crossing, including the warning lights for northbound traffic. Safety Board personnel analyzed the videotape and found that on June 25 at 10:30 p.m.,¹ the GCP had activated the lights although no trains were present. The videotape documented that the flashing lights were activated continuously throughout the night. After dawn, because of the increase in ambient light, it could not be determined from the videotape whether the lights continued to flash or when they might have stopped flashing. Nor could the operational status of the warning lights be determined from the videotaped behavior of motorists at the crossing, some of whom stopped at the grade crossing before proceeding while others proceeded through without stopping.

Between 4:40 a.m. and 5:09 a.m. on the day of the accident, a CN/IC car inspector notified the yardmaster at the Baton Rouge Tower that the warning devices at the Scotland crossing were operating continuously. (The Scotland crossing is about 20 miles from the accident crossing.) At 5:09 a.m., the yardmaster left a voice message at the CN/IC network operations center help desk, in Edmonton, Alberta, Canada, reporting that the Scotland warning devices were not operating properly. At 5:14 a.m., a help desk employee left a message for the yardmaster saying that no Scotland crossing could be found in the CN/IC database. The yardmaster contacted the car inspector who had made the report and asked for additional information. He then reported the location of the Scotland crossing to the help desk. Help desk personnel did not forward the information about the malfunctioning warning devices to the appropriate dispatcher, so no signal maintainer was sent to check the problem. Instead, a CN/IC signal supervisor who happened to be near the Scotland crossing noticed that the warning devices were activated and called the local signal maintainer.

Meanwhile, at 4:57 a.m., a sheriff's deputy told his dispatcher, located in Clinton, Louisiana, that the lights at the accident crossing were flashing although no trains were in sight. At 4:59 a.m., the dispatcher forwarded the report to a clerk at the Baton Rouge Tower. Earlier, the yardmaster at the Baton Rouge Tower had received a report that the lights at the Choctaw Street crossing were flashing although no trains were present. The Choctaw Street crossing was part of the Kansas City Southern (KCS) Railroad, and the yardmaster notified the KCS, which said it would handle the problem. Because the

¹ Times are according to time stamp on videotape.

4:57 a.m. trouble call came from Clinton, where the CN/IC does not have tracks, the clerk and the yardmaster assumed this call was also about the Choctaw Street crossing. Consequently, the clerk told the Clinton dispatcher that he knew about the problem and that the KCS was handling it. Thus, no signal maintainer was dispatched to the accident crossing before the accident to determine whether the warning devices were working properly, nor was the crew of the accident train told that the crossing warning devices were reported to be in continuous operation.

Actions Taken Since the Accident

Since the accident, CN/IC special agents have contacted law enforcement agencies in the jurisdictions through which the railroad operates. The special agents provided these agencies with CN/IC emergency contact numbers and the contact numbers of local railroad personnel who can dispatch the appropriate railroad response personnel in case of problems at a crossing.

In addition, the CN/IC has begun using a signal malfunction form that must be completed by a railroad employee who has been told of an equipment malfunction at a grade crossing. The appropriate signal personnel are notified, and the form remains open until a signal maintainer reports the outcome of the response. The form can then be closed if the reported problem has been addressed.

Activation of Warning Flashers

The investigation could not determine whether the flashing warning lights at the accident crossing were activated at the time of the collision. Witnesses gave conflicting indications. The grade crossing controller was destroyed in the collision, as were the crossing circuitry and batteries. The northbound truckdriver, who was not involved in the collision, stated that the flashers were activated before the collision. The crossing flashers were equipped with white “telltale” lights, which are visible to train crewmembers as the train approaches the crossing. One crewmember, the brakeman, indicated that the flashers were activated. The conductor was seriously injured and was not interviewed. However, the occupants of the automobile, the accident truckdriver, and other witnesses stated that the warning lights for southbound traffic were not flashing. The video recordings of the flashers did not capture the detail necessary to determine if the lights were in operation. Investigators carefully examined the locomotive event recorder and found no evidence that the engineer made a sudden attempt to reduce speed before reaching the crossing.

Probable Cause

The National Transportation Safety Board determines that the probable cause of this accident was the inability of the tractor semi-trailer driver to stop his vehicle after seeing the train in time to avoid the collision. Although the grade crossing had limited visibility for identifying an approaching train, it was equipped with flashing warning

lights; however, there was insufficient evidence to determine if the warning lights were functioning immediately before the collision.

Adopted: October 16, 2003