U.S. Department of Transportation
Federal Railroad Administration

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Federal Railroad Administration, Office of Railroad Safety

Accident Investigation Summary Report CFE-2021-16

Union Pacific Railroad Company (UP)
Castroville, Texas
September 22, 2021

1. Executive Summary

On September 22, 2021, at approximately 2:40 p.m., CDT, a Union Pacific Railroad Company (UP) contractor employed by W.T. Byler was fatally injured while working with a six-man crew assigned to complete maintenance work on a bridge located at Milepost (MP) 240.65 on UP's Del Rio Subdivision near Castroville, Texas. The equipment operator (Contractor 1) was working alone operating a hi-rail excavator equipped with a tie-talon attachment and was carrying 6,660 lbs. of steel grating from the west end of the bridge to the material staging area. When the crew did not see Contractor 1 arrive with his last load of panels, they called him on the radio several times but did not receive a response. UP personnel found Contractor 1 in the cab, pinned between the bridge grating and the back of the excavator's cab. The Medina County Sheriff's Office, the LaCoste Volunteer Fire Department, and Allegiance Emergency Medical Services (EMS) from Castroville, Texas, responded to the accident. Upon arrival, Allegiance EMS of Castroville pronounced Contractor 1 deceased at 3:36 p.m., CDT.

2. Accident Description

On September 22, 2021, at approximately 7:00 a.m., CDT, Contractor 1 reported for work at the material staging area near MP 240.76 where the bridge work was to be performed that day. Contractor 1 was charged with removing bridge walkway grating panels, staging them at the west end of the bridge and then moving them to the material staging area located 1,795 feet west of the bridge. *See* Figure 1.

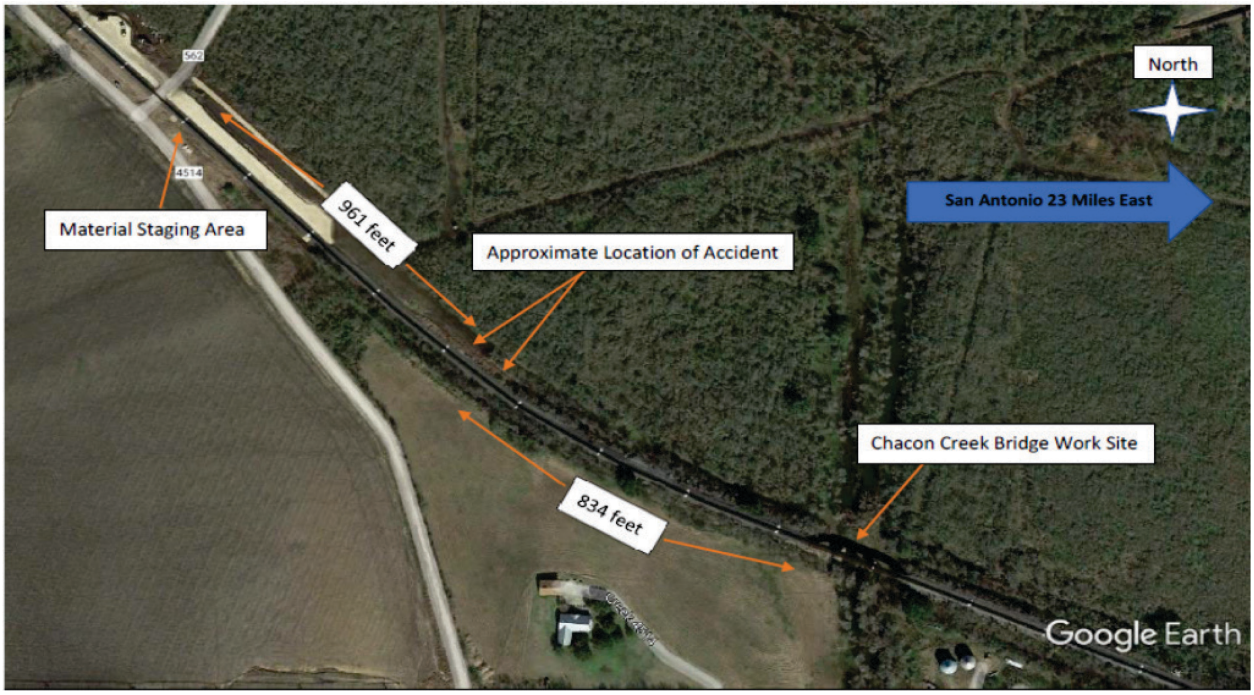

Figure 1:Aerial photograph of the incident location near MP 240.37 of the Del Rio Subdivision

A job briefing was held at 8:00 a.m., CDT, but crew members stated Contractor 1 was not at the briefing. The interviewed employees, including the supervisor, did not know why Contractor 1 did not attend the morning job safety briefing. The crew members believed Contractor 1 was at the excavator, near the staging area, during the job briefing. The crew stated that the job briefing was given by a new Foreman (Foreman 1), who had just replaced his predecessor (Foreman 2) that same day. Foreman 1 exercised his seniority and bumped Foreman 2 that morning. However, during the interview process following the accident, Foreman 1 stated that Foreman 2 had given the job briefing, and Foreman 2 stated that Foreman 1 had given the day's job briefing. Foreman 1 stated that, at approximately 8:15 a.m., CDT, he was in a work gang truck setting up his yellow/red flags for that day's Form B[1] while Foreman 2 was preparing for the day with the rest of the gang, including providing the job briefing.

In the interview, Foreman 1 stated that, after setting up their Form B protection, he introduced himself to all of the contracted laborers except Contractor 1, and everyone prepared for work. At 11:44 a.m., CDT, the Bridge Supervisor received track authority from CP-SA243 to CP-SA236 until 3:00 p.m., CDT. The crew dismantled the bridge decking in preparation for Contractor 1 to remove the walkway grating panels using the excavator. Once the bridge crew completed dismantling the bridge components to be removed, the crew cleared the area to allow Contractor 1 to remove the 20-foot-long walkway panels.

[1] Form Bs are used to document track occupancy authority to protect personnel and equipment work zones on the track. They notify of the time that a work zone is in effect, the foreman in charge, the milepost limits, and whether trains must stop before entering the work zone and request permission to enter the work zone from the foreman in charge.

Contractor 1 was tasked with moving the grating panels from the bridge, stacking them at the end of the bridge, and then moving the panels to the material staging area. Contractor 1 completed three trips from the bridge to the staging area. The accident occurred on the fourth and final trip to the material staging area. On this trip, Contractor 1 was in the process of moving three steel grating panels that were approximately 3 ft. by 20 ft., weighing 6,660 lbs.

Working alone, Contractor 1 operated a hi-rail excavator equipped with the tie-inserting attachment to carry steel grating (each panel weighing approximately 6,600 pounds) from the west end of the bridge to the material staging area. The bridge crew track authority was due to expire at 3:00 p.m. CDT, and at approximately 2:40 p.m. CDT, the bridge crew had not seen the Contractor arrive with the last load of panels. They called him on the radio several times but did not receive a response. UP personnel found the hi-rail excavator 834 feet west of the bridge with Contractor 1 in the cab, pinned between the bridge grating and the back of the excavator's cab.

The Medina County Sheriff's Office, the LaCoste Volunteer Fire Department, and Allegiance Emergency Medical Services (EMS) from Castroville, Texas, responded to the accident. Upon arrival, Allegiance EMS of Castroville pronounced the contracted operator dead at 3:36 p.m., CDT.

3. INVESTIGATION AND ANALYSIS

The Federal Railroad Administration (FRA), UP, and the National Transportation Safety Board (NTSB) investigated the accident. An inspection of the accident scene and interviews with the UP and W.T. Byler (employer of Contractor 1) employees who were part of the bridge crew were conducted.

Equipment

No employees witnessed the accident. However, due to the position of the equipment and walkway panels, when discovered, it was determined that Contractor 1 was traveling with the load in front of the equipment, and the paneling was positioned parallel and inside the gauge of the rail. It was determined that the load shifted or slipped from the tie handler (grappling devices on the excavator), causing the far end of the grating panels to strike the ground and a crosstie in the track. This impact on the ground caused the end of the walkway panels directly in front of the equipment to go through the windshield and into the excavator's cab, pinning Contractor 1.

Contractor 1 used a BTE-manufactured 308-WT Excavator, with a Tie Handler attachment, to grab and transport the steel grates to a material staging location. BTE states that the BTE Tie Handler attachment is a work head designed to remove, install, and transport single railroad crossties. BTE states that the BTE Tie Handler attachment is a heavy-duty tie-changing attachment that can be attached to backhoes and excavators and provides a maximum squeeze pressure of 3,000 pounds per square inch. As such, based on the specifications provided by BTE, FRA determined the Tie Handler attachment was not designed to move steel grating.

After conducting the investigation, FRA could not ascertain whether the grating slipped from the tie handler attachment or whether the attachment did not have the capacity to carry the grating. Either of these issues would have contributed to the end of the grating striking the ground, proceeding to impacting the windshield, and pinning the operator in the cab of the excavator.
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Toxicological

FRA Post-Accident Forensic Toxicology results indicate Contractor 1 was not impaired by drugs or alcohol.

Cell Phone Use

Contractor 1's cellphone was discovered at the scene of the incident and FRA reviewed the cell phone records of Contractor 1 to ascertain if the equipment operator was using the device at the time of the incident. It was determined that Contractor 1 received and answered a call two minutes before the accident. The call lasted for 11 minutes, which suggests that the call remained connected for 9 minutes after the accident occurred. Multiple calls from the same number to Contractor 1's phone followed throughout the night and into the morning. Text messages were also received by Contractor 1's phone from the same number, with messages suggesting that the person may have heard the accident occur through the phone. When investigators attempted to contact the person who called Contractor 1, the number had been disconnected, and no information for the owner was available.

UP's Engineering Safety Rule 2.21 (Electronic Devices), which applies to UP employees and contractors, prohibits using cell phones or other electronic devices while operating equipment. Based on the available information, Contractor 1 did not follow this rule. However, it cannot be determined if it was a contributing factor to the accident.

Roadway Worker Protection

FRA's investigation into the accident determined that UP employees failed to conduct a job safety briefing with Contractor 1 before work was performed as required under 49 CFR 214.315(a). FRA recommended a violation to UP for non-compliance with 49 CFR 214.315(a).

In addition, W.T. Byler failed to train the two other contractors, in addition to Contractor 1, working on the bridge crew before assigning them roadway worker-related duties. FRA recommended two violations to W.T. Byler for failing to provide their employees with initial Roadway Worker Protection (RWP) training. However, while FRA's findings related to RWP were severe infractions of the regulations, it was determined that neither of these conditions contributed to the accident. Further, FRA determined that the decedent was trained on the equipment he was operating at the time of the incident, with the most recent training conducted in January of 2021.

4. CONCLUSION

FRA could not determine if Contractor 1's use of a cellular phone caused a distraction while operating the equipment, and thus whether the use of electronic devices played a role in the

accident. However, FRA acknowledges that such distraction could have been a contributing factor.

As a result, FRA concluded that the cause of the accident was the misuse of a BTE 308-WT Excavator with a Tie Handler attachment to grab and transport steel grates, a function it was not designed to complete. Additionally, the lack of the required job safety briefing for Contractor 1 was a contributing factor to this incident.