

**NATIONAL TRANSPORTATION SAFETY BOARD**  
**Virtual Meeting of September 15, 2020**  
**(Information subject to editing)**

**Collision of Two CSX Transportation Freight Trains**  
**Carey, Ohio**  
**August 12, 2019**  
**NTSB/RAR-20/03**

This is a synopsis from the NTSB's report and does not include the Board's rationale for the conclusions, probable cause, and safety recommendations. NTSB staff is currently making final revisions to the report from which the attached conclusions and safety recommendations have been extracted. The final report and pertinent safety recommendation letters will be distributed to recommendation recipients as soon as possible. The attached information is subject to further review and editing to reflect changes adopted during the Board meeting.

## **Executive Summary**

On August 12, 2019, about 5:09 a.m., local time, westbound CSX Transportation freight train H70211 collided with the side of eastbound CSX Transportation freight train W31411 at a switch near Carey, Ohio. The trains were operating on the CSX Transportation Columbus Subdivision which extends 90.6 miles from Columbus, Ohio, to Fostoria, Ohio. Each train's crew consisted of a conductor and a train engineer. The lead locomotive of the westbound train and railcars loaded with refuse in positions 1 through 4 were derailed onto their sides from the collision. The eastbound train derailed 21 railcars, loaded with frac sand, in positions 6 through 26. As a result of the collision, the eastbound and westbound train engineers suffered minor injuries. Collision damage was estimated at \$4.9 million. No placarded hazardous material railcars derailed.

The accident investigation focused on the following safety issues:

- **Train handling and performance.** This investigation determined that the westbound train engineer, although trained and certified to operate the train, was not engaged in operating the train after completing work on the siding track, as indicated by the fluctuating train speed, the abnormal use of the locomotive headlight switch, and his failure to take action to stop the train at Control Point Springs.
- **CSX Transportation random drug- and alcohol-testing program.** Under the CSX Transportation random drug- and alcohol-testing program, about 25 percent of regulated employees were to have been tested for drugs per year and 10 percent of regulated employees were to have been tested for alcohol per year. However, the engineer of westbound CSX Transportation freight train H70211 had not been tested for drugs in the 10 years immediately prior to the collision.
- **Inward- and outward-facing image recorders.** Ten years ago, the National Transportation Safety Board recommended to the Federal Railroad Administration that they mandate the use of inward- and outward-facing image recorders on trains.

Although the Federal Railroad Administration has initiated efforts to require these recorders on passenger trains, no similar action has been taken to mandate recorders on freight trains.

- **Railroad switching operations in territory with positive train control.** The use of positive train control restricted mode is required during switching operations because, in certain situations, the positive train control active mode could inhibit the reverse movement of the train. While a train operates in positive train control restricted mode, train speed is limited to the upper-speed threshold of restricted speed, and signal enforcement and established work zone enforcement are no longer active.

## Findings

1. The following factors did not cause or contribute to the collision: train crew experience, impairment of the eastbound train crew, work schedule, train mechanical condition, track condition, traffic control signal system, disabled positive train control system on the eastbound train, and actions by the CSX Transportation Dispatch Center.
2. There were no actions the eastbound train engineer or eastbound train conductor could have taken to prevent the collision with the oncoming train.
3. This collision could have been prevented had the positive train control system on the westbound train been in active mode as the train approached the stop signal at Control Point Springs.
4. The westbound train engineer was impaired by his use of alcohol at the time of the collision.
5. Although postaccident testing showed the presence of marijuana in the westbound train engineer's system, it cannot be determined if his use of marijuana caused any further impairment.
6. The westbound train engineer demonstrated performance decrements while operating the train after completing work on the Carey siding track, as illustrated by the fluctuating train speed, the abnormal use of the locomotive headlight switch, and his failure to take action to stop the westbound train at Control Point Springs.
7. CSX Transportation's drug- and alcohol-testing programs failed to deter the westbound train engineer's illegal use of marijuana and consumption of alcohol which impaired his performance while on duty and operating the train.
8. In light of the shortcomings in the CSX Transportation random drug- and alcohol-testing program documented in Federal Railroad Administration audits of the program, the circumstances of this collision, and US Department of Transportation's Office of Inspector General's concerns with the Federal Railroad Administration's auditing processes, an audit of CSX Transportation's testing system that is independent of the Federal Railroad Administration is warranted.

9. Inward- and outward-facing recorders can improve the quality of accident and incident investigations and provide the opportunity for proactive steps by railroad management to verify that train crew actions are in accordance with safety rules and procedures.
10. The administrative controls specified in Title 49 *Code of Federal Regulations* 236.1005 (f) in territories with positive train control systems that use the restricted mode feature are inadequate for preventing train-to-train collisions.
11. Adequate training and managerial oversight are essential for ensuring that rules and procedures for safely operating positive train control systems in restricted mode are followed correctly.

## **Probable Cause**

The National Transportation Safety Board determines that the probable cause of the train collision near Carey, Ohio, was the failure of the westbound train engineer to respond to the signal indications requiring him to slow and stop the train prior to Control Point Springs because of his impairment due to the effects of alcohol. Contributing to the collision was the design of the positive train control system which allowed continued operation in restricted mode on the main track.

## **Recommendations**

### **New Recommendations**

As a result of this investigation, the National Transportation Safety Board makes the following new safety recommendations:

### **To the US Department of Transportation:**

1. Request that the US Department of Transportation Inspector General conduct an audit of CSX Transportation's drug- and alcohol-testing program to determine the circumstances that allowed a regulated employee to operate for an extended time period without being subjected to random drug testing.
2. Upon completion of this examination, make any needed recommendations to CSX Transportation in its implementation of its drug- and alcohol-testing program, as well as the Federal Railroad Administration in its auditing of CSX Transportation.
3. If necessary, apply any lessons learned to broadly implement enhancements to railroad drug- and alcohol-testing protocols to prevent a similar scenario from occurring at other railroads

**To the Federal Railroad Administration:**

4. Review the software changes being developed by the Interoperable Train Control Application Committee regarding positive train control restricted mode and amend Title 49 *Code of Federal Regulations* Part 236 to require railroads to revise their positive train control systems to implement engineering controls that will automatically limit the use of restricted mode on main tracks.

**To the Association of American Railroads, the American Short Line and Regional Railroad Association, National Railroad Passenger Corporation, Alaska Railroad, and the American Public Transportation Association:**

5. Inform your members of the circumstances of this collision and request they undertake a review of their training and managerial oversight programs as they relate to restricted speed operations on territories that operate positive train control systems in restricted mode to identify opportunities for training improvement and to implement appropriate mitigating actions.

**To CSX Transportation:**

6. Review and revise your training program to ensure employees are properly qualified on positive train control, including restricted mode.

**Previously Issued Recommendations Classified in this Report**

**To the Federal Railroad Administration:**

1. Require the installation, in all controlling locomotive cabs and cab car operating compartments, of crash- and fire-protected inward- and outward-facing audio and image recorders capable of providing recordings to verify that train crew actions are in accordance with rules and procedures that are essential to safety as well as train conditions. The devices should have a minimum 12-hour continuous recording capability with recordings that are easily accessible for review, with appropriate limitations on public release, for the investigation of accidents or for use by management in carrying out efficiency testing and systemwide performance monitoring programs. (R-10-1)

This recommendation was previously classified “Open—Acceptable Response” on September 16, 2019. This recommendation is now classified “Open—Unacceptable Response.”

2. Require that railroads regularly review and use in-cab audio and image recordings (with appropriate limitations on public release), in conjunction with other performance data, to verify that train crew actions are in accordance with rules and procedures that are essential to safety. (R-10-2)

This recommendation was previously classified “Open—Acceptable Response” on September 16, 2019. This recommendation is now classified “Open—Unacceptable Response.”