

## INTERSTATE COMMERCE COMMISSION.

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REPORT OF THE CHIEF OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE FLORIDA EAST COAST RAILWAY NEAR EVERGLADE, FLA., ON NOVEMBER 2, 1922.

November 27, 1922.

To the Commission:

On November 2, 1922, there was a head-end collision between a freight train and a work train on the Florida East Coast Railway near Everglade, Fla., resulting in the death of 3 employees, and the injury of 11 employees.

Location and method of operation.

This accident occurred on the Fourth District of the Southern Division, extending between Buena Vista and Key West, Fla., a distance of 158.8 miles, in the vicinity of the point of accident this is a single-track line over which trains are operated by time-table and train orders, no block-signal system being in use. The accident occurred at a point approximately  $3\frac{1}{2}$  miles south of Everglade. Approaching this point from the south there is more than a mile of tangent, followed by a 2-degree curve to the right 713 feet in length; the accident occurred near the southern end of this curve. Approaching from the north there are several miles of tangent, followed by the curve on which the accident occurred. The grade is practically level. Owing to trees growing near the right-of-way, the engine crews of each train could not obtain a view of the opposing train until within approximately 1,400 feet of each other. The weather was clear at the time of the accident, which occurred at about 1:19 p.m.

Description.

Work extra 77 consisted of 3 cars, hauled by engine 77, and was in charge of Conductor Roach and Engineman Jones. At Homestead, 14.4 miles north of Everglade, the crew received copy of train order No. 11, Form 31, reading as follows:

"Work Extra 77 works Six 6 am  
until Seven thirty 7:30 pm  
between Homestead and Islamorada  
protecting against Third 3rd  
class trains and against Extra  
79 South.

Extra 79 South wait at  
Homestead until Eight 8:00  
am for Work Extra 77. At  
Six 6:00 am all overdue trains  
have passed Homestead."

At about 12:55 p.m. this train departed from  
Key Largo, 9 miles south of Everglade, and made a stop  
at Cross Key, about 5 miles from Everglade, to unload  
laborers. It then proceeded to Everglade, took water,  
and was returning to Cross Key, at which point it was  
intended to wait on the siding for train No. 22; how-  
ever, on reaching a point about  $1\frac{1}{2}$  miles north of this  
siding it collided with train No. 22 while traveling at  
a speed estimated to have been between 20 and 30 miles  
an hour.

Northbound freight train No. 22 consisted of  
11 cars and a caboose, hauled by engine 135, and was in  
charge of Conductor Cox and Engineman Mitchell. At  
Key Largo the crew received a copy of train order No. 54,  
Form 19, reading as follows:

"No Thirty Seven 37 eng 103  
wait at Everglade until one  
forty five 145 pm for No  
Twenty two 22 Eng 135".

Train No. 22 departed from Key Largo at 1:07  
p.m., 47 minutes late, and shortly after passing Cross  
Key collided with work extra 77 while traveling at a  
speed estimated to have been about 15 miles an hour.

Both engines remained upright but were badly  
damaged. The first car in train No. 22 was demolished,  
while several other cars in the two trains were badly  
damaged. The employees killed were a trainman and two  
laborers who were riding on the first car of train No. 22.

Summary of evidence.

While at Key Largo, Conductor Roach of the work train overheard Operator Barcus repeat train order No. 54, previously quoted, to Train Dispatcher Morgan, and at the time the laborers were getting off work extra 77 at Cross Key, Conductor Roach and Engineman Jones decided there was sufficient time to proceed to Everglade, take water, and return to Cross Key for train No. 22. Accordingly, Flagman Surrency was called to the engine and verbally instructed to hold train No. 22 at Cross Key until 1.25 p.m., according to Conductor Roach. However, Flagman Surrency maintains he was told 1.15 p.m., and that if the work extra was not then in sight to allow train No. 22 to proceed. Immediately after the departure of work extra 77 from Cross Key, Flagman Surrency placed two torpedoes on the rail near the south end of the curve south of Cross Key, then took up a position at the north end of this curve about 1,300 feet south of the siding, from which place he had a clear view of the track in each direction for a considerable distance. On the return trip from Everglade, just as the engine of the work train entered the curve north of Cross Key, Conductor Roach stepped over to the fireman's side of the cab, looked across the inside of the curve, saw train No. 22 about 600 feet away and shouted to Engineman Jones, who shut off steam and applied the air brakes in emergency. Conductor Roach stated he repeated the instructions to Flagman Surrency and thought it was thoroughly understood that train No. 22 was to be held until 1.25 p.m. Engineman Jones stated that at the time Flagman Surrency was called to the engine, Conductor Roach issued instructions to hold train No. 22 until 1.25 p.m., as the work train would be back by that time, which statement was corroborated by Fireman Riley.

On arrival of train No. 22 at Cross Key, at about 1.18 p.m., as work extra 77 was not in sight, Flagman Surrency gave Engineman Mitchell a proceed signal, at which time the speed was about 30 miles an hour, therefore, being of the impression work extra 77 would clear at Everglade, but not knowing how long it had been gone, Engineman Mitchell shut off steam and made a slight application of the air brakes on account of the curve north of Cross Key. When the engine of the work extra came into view, Engineman Mitchell applied the air brakes in emergency, sounded one long blast of the whistle, and he and Fireman Wells jumped just before the accident occurred. None of the other members of this crew was aware of anything wrong until the air brakes were applied in emergency just before the accident occurred.

Although Superintendent McLean considered that the rule requiring messages or orders respecting the movement of trains, or the condition of track or bridges, should be given in writing, applied to instructions given flagmen by conductors when making a movement such as was contemplated by work extra 77 on this occasion, no forms are provided for this purpose, and the statements indicate it has been the practice for conductors to issue verbal instructions to flagmen, although there were some statements to the contrary.

#### Conclusions.

This accident was caused by a misunderstanding as to flagging instructions issued by Conductor Roach to Flagman Surrency, resulting in work extra 77 occupying the main track on the time of train No. 22 without proper flag protection.

Conductor Roach maintains having verbally instructed Flagman Surrency to hold train No. 22 at Cross Key until 1:25 p.m., in which statement he is supported by Engineman Jones and Fireman Ridley. However, Flagman Surrency maintains he was instructed to hold train No. 22 until 1:15 p.m. Conductor Roach is responsible for the existence of this misunderstanding, for it was his duty to know that his instructions were thoroughly understood by the flagman.

Rule 103 of the Rules of the Transportation Department reads as follows:

"Messages or orders respecting the movement of trains or the condition of track or bridges must be in writing."

It is the contention of the officials that under this rule the instructions issued by Conductor Roach should have been in writing. This rule was not so understood by the employees directly involved, and on roads which require flagmen's instructions to be in writing, there are usually definite instructions to that effect and provision is also made for the use of prescribed forms. Had the flagging instructions been issued in writing, the opportunity for the misunderstanding which arose in this case would not have presented itself, and the accident undoubtedly would not have occurred.

This accident again calls attention to the inherent weakness of the human element, and emphasizes the necessity for the block system. Had an adequate block-signal system been in use on this line, this accident no doubt would have been averted.

All of the employees involved were experienced men. At the time of the accident the crew of work extra 77 had been on duty less than 9 hours, and the crew of train No. 24 less than 10 hours, after having been off duty more than 12 hours, and 9 hours, respectively.

Respectfully submitted,

W. P. Borland,

Chief, Bureau of Safety.