INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE INDIANA HARBOR BELT RAILROAD AT BURNHAM, ILL , ON MARCH 1, 1923

April 5, 1923

To the Commission:

On March 1, 1923, there was a derailment of a light engine, followed by a side collision between the light engine and a cut of standing freight cars, on the Indiana Harbor Belt Railroad at Burnham, Ill , which resulted in the death of two employees

Location and method of operation

At Burnham there is a yard, approximately 3,500 feet in length, extending north and south, with a single-track main line on the east side of the yard tracks; no passenger traffic is handled over this track The accident occurred on the main track, about midway between the north and south ends of the yard The track is straight in the vicinity of the point of accident, while the grade is practically level The track is laid with second-hand 80-pound rails, with an average of 20 oak ties to the rail-length, single-spiked, and ballasted with cinders and earth; although the rails were worn considerably, the track was maintained generally in a good condition Under the rules, the speed of switch engines is restricted to 20 miles an hour. The weather was clear at the time of the accident, which occurred at about 4.25 p m

Description

Switch engine 46, headed south, without cars, was in charge of Conductor Heller and Engineman Griffith; while enroute from the north end of Burnham yard to the water tank located at the south end of this yard, traveling at a speed variously estimated to have been between 20 and 35 miles an hour, it was derailed to the right, crossed receiving track 6, which is immediately adjacent to the main track, and collided with a cut of freight cars standing on receiving track 5

The engine remained upright, and sustained only slight damage, as was also the case with the cars The employees killed were the conductor and a switchman, who were riding on the right side of the front foot board.

Summary of evidence

While switching in the north end of the yard, the left injector failed to work, on account of lack of water, and it was decided to proceed at once to the water tank at the south end of the yard However, on reaching a point about halfway between the north and south ends of the yard the engine began swaying, and Engineman Griffith said he then shut off the steam and tried the gauge cocks, just after which the engine was derailed; he then applied the brakes and reversed the engine He further stated that he was anxious to reach the water tank ahead of any other engine, and on arrival to try both injectors, then if for some reason there should be delay there would be time in which to pull the fire. He estimated the speed at the time of the accident to have been about 20 miles an hour Engineman Griffith stated there were no defects about engine 46 of any consequence, and in his estimation the accident resulted from the ties becoming soft after the frost left them, which permitted the spikes to pull out very easily, and caused the rails to spread and the engine to drop down between the rails.

Fireman Larrance thought the speed was high, and that there was also some fault with the track, resulting in a rail spreading Flagman Obey who was riding on the front foot board, said the speed was between 25 and 35 miles an hour He thought the accident was caused by excessive speed over uneven track, saying that from his position on the foot board he had noticed a low joint, and that the rails seemed to be spread at the joint

Section Foreman Pomelio said the track was given the usual daily inspection on the morning of the accident, and that it was in good condition

Roadmaster Kimbrough stated that he found where the engine had swayed from side to side to such an extent as to spread the rails, finally pushing a rail outward enough to derail the engine; he thought the track spread as a result of excessive speed.

Examination of the track disclosed there were flange marks on the ties, 4 to 6 inches from the rails, extending parallel to the rails for a distance of approximately 200 feet, then leading gradually in a diagonal line towards the west for a distance of about 150 feet, at which point they turned abruptly to the right, and crossed the adjacent track The rails were badly bent as a result of the accident, but none of them was broken or marked to indicate they had caused the derailment; a careful examination of the rails disclosed nothing to indicate that the derailment was caused by the turning over of a rail, but on the contrary apparently they were forced over by side stress.

Engine 46 is of the 0-6-0 type, used exclusively in switching service, it has a driving wheel base of 11 feet 6 inches The engine has a weight of 170,500 pounds, while the tender weighs 43,900 pounds empty, and 101,400 pounds loaded.

Conclusions

This accident is believed to have been due to excessive speed, for which Engineman Griffith is primarily responsible

Engineman Griffith admitted that he was making a fast run to the water tank on this occasion, the water supply carried by engine 46 being very low, and although he maintained that the speed was not in excess of 20 miles an hour, the maximum permitted for this type of engine, the distance the engine traveled after being derailed, and the testimony of members of the crew, indicate that the rate of speed must have been considerably higher Apparently the engine swayed from one side to the other to such an extent as to place abnormal side strains on the rails, which caused them to spread sufficiently to permit the driving wheels to be derailed.

At the time of the accident the employees involved had been on duty about 1½ hours, previous to which they had been off duty for periods ranging from 11 to 24 hours

Respectfully submitted,

W. P. Borland,

Director