INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE MICHIGAN CENTRAL RAILROAD NEAR DETROIT, MICH., ON SEPTEMBER 28, 1930.

October 21, 1930.

To the Commission:

On September 28, 1930, there was a derailment of a freight train on the Michigan Central Railroad at North Yard, near Detroit, Mich., which resulted in the death of two employees and the injury of one employee.

Location and method of operation

This accident occurred on that part of the Northern Division extending between Detroit and Saginaw, Mich., a distance of 105.79 miles, in the vicinity of the point of accident, this is a single-track line over which trains are operated by time-table, train orders, and a manual block-signal system. The accident occurred within yard limits, 4,460 feet south of the north yard-limit board, at the switch leading to a spur track, this spur track is 800 feet in length and parallels the main track on the east. Approaching the switch from the north, the track is tangent for more than 5 miles, this tangent extending for a considerable distance beyond the switch The grade is practically level.

The switch involved is a facing-point switch for southbound trains and leads off the main track through a No. 9 turnout. The switch stand, located on the west or engineman's side of a southbound engine, 8 feet 8 inches from the west rail, is of the Ramapo "Ajax" type, and is equipped with an oval red target located 5 feet 6 inches above the top of the rail, in addition to a switch lamp, the center of the lens being 8 feet 2 inches above the top of the rail, the oval target only shows when the switch is open. The switch stand is so constructed that when in normal condition the operating lever can not be latched or locked until the switch has been completely moved to either the open or closed positions.

There is a fixed signal located 1,348 feet north of the switch, designated as an approach signal, displaying a permanent approach indication, this signal is not connected to any track circuit. Trains are required to proceed at a speed reduced to not exceeding one-half the

maximum authorized at point involved (not exceeding 30 miles per hour) prepared to stop at the next signal. The speed of freight trains on this division is restricted to 40 miles per hour.

The weather was clear and it was daylight at the time of the accident, which occurred about 5.05 p.m.

Description

Southbound freight train extra 7933, BD-4, at the time of the accident consisted of one empty gondola car, two empty baggage cars, and a caboose, hauled by engine 7933, of the 2-8-2 type, and was in charge of Conductor Mangan and Engineman O'Donahue. This train left Utica, 14.08 miles north of North Yard, at 4.48 p.m., according to the train sheet, and was derailed at the spur-track switch while traveling at a speed estimated to have been between 35 and 40 miles per hour.

Engine 7933, together with its tender, came to rest on its left side, approximately 10 feet east of, and in line with, the main track, with the front end of the pilot 300 feet south of the switch points. The first car remained coupled to the tender, but was derailed and partly overturned, while the second car had the front wheels of the forward truck derailed. The employees killed were the fireman and head brakeman, while the employee injured was a train dispatcher who was riding in the caboose at the time of the accident.

Summary of evidence

Engineman O'Donahue stated that he did not reduce speed at the approach signal, the speed was about 40 miles per hour approaching the switch and from his position in the engine cab it appeared to be all right, the first knowledge he had of anything wrong being when the accident occurred, he did not know whether he applied the air brakes. Immediately after the engine turned over, he got out on the ground and the driving wheels were still revolving, under steam. Engineman O'Donahue went back to the switch and met Conductor Mangan there, the switch lock was open, hanging at full length from the chain, and the switch lever was in the slot. The lock showed some fresh sharp cuts, such as would be made by being struck with an instrument like a chisel, these marks being on the hook of the lock. The last time he looked over the engine was at Lapeer, 58.94 miles north

of Detroit, when he got down and oiled around it, the engine was in perfect working order and the air brakes worked properly. Engineman O'Donahue stated that the fireman and head brakeman were sitting on the seat box on the left side of the engine, the indication of the approach signal was not called to him by the fireman, nor by him to the fireman. The engineman saw the indication displayed, however, and he said he had never seen it displaying any other indication than it displayed in this instance; he was not aware that it was a fixed signal, displaying the same indication permanently, but thought it was a signal operated by the yardmasters. Although he had not reduced speed as required by the indication displayed, he said he could have stopped short of the next signal, provided it had been displaying a stop indication.

Conductor Mangan stated that he was riding in the caboose at the time of the accident, and he estimated the speed to have been about 30 miles per hour Immediately after the accident he went to the switch and met Engineman O'Donahue there, the switch was lined for the main track, with the lever in the slot, at an angle of about 45°, in which position the switch could not be moved in either direction, and the lock was open and hanging on the chain. In his opinion, the switch was lined for the main track at the time the train approached, but the lever was not in the slot, leaving the switch point open far enough for a flange or wheel to get by it, with the result that the engine derailed at the switch, and he also thought that the rear truck of the gondola car or the forward truck of the baggage car caught the points and slammed them closed again, with such force that the lever moved over to and was partly seated in the slot. Flagman Diamond immediately went back to flag, and made no examination of the switch

Yard Conductor Johnson, who was in charge of engine 8923, assigned to switch the industries at North Detroit on Friday, September 26, stated that he was riding on top of a box car when his engine backed out of the spur track involved, with two freight cars, a stop was made to close the switch and he saw Brakeman Beamish close the switch and then handle the lock. Brakeman Beamish stated that the switch lock was in perfect working order, and that after he closed the switch, he locked it and then tried the lock to see that it was properly locked, which it was.

Section Foreman Maule inspected the switch on Saturday, September 27, about 7.30 a.m., examining the switch points, rods, bolts, stand, lock, and lamp, and at that time the switch was in good condition.

The investigation developed that the first marks on the switch were on the strap braces or spreaders of the west throw rail, 10 feet 3 inches from the switch point, and on the east throw rail, 10 feet 4 inches from the point; the first wheel marks on the ties were 18 feet south of the switch points, extending to a point 54 feet south of the frog, where the east rail was turned over, the heel of the east switch point was bent out of line about 3 inches, beginning at a point 13 inches from the leaving end, evidently caused by the wheel of the engine crowding it after the engine had left the rail and was riding on the ties.

Inspection of the track made subsequent to the accident for a distance of several hundred feet north of the switch disclosed no marks to indicate dragging equipment, the switch points were in almost perfect condition, there being no wear of any consequence, the point that was removed on account of having been bent at the heel had no marks on it, except at the extreme southern or leaving end, where it appeared to have been struck by a wheel after the wheel had been derailed. All connections to the switch were in good condition, and the switch stand was securely spiked to the ties, having no vibration or loose movement.

Careful inspection of the engine disclosed no defect that could have caused or contributed to the derailment; all flanges were in good condition, and the foundation brake equipment was intact.

The last train to pass over the switch prior to the accident was a northbound extra, which passed that point around 4.12 p.m.

Conclusions

This accident is believed to have been caused by a cocked or partly-opened switch, apparently due to tampering.

There was no defective condition found about the track or equipment which would have caused the accident. The switch was last used on September 26, while Section Foreman Maule inspected it about 7.30

a.m. September 27, nothing wrong being observed with it on either occasion The last train to pass over the switch was a northbound extra, a trailing-point movement, less than one hour prior to the accident. After the accident, examination of the switch lock indicated that it had been tampered with, and it is probable that at the time of the accident the switch was only partly open, not far enough for the target to display a red indication, with the result that proper warning of danger was not given to the engineman While the circumstances indicated that the switch had been tampered with, yet at the time of the investigation it had not been determined when or by whom the tampering was done.

The speed of extra 7933 was considerably in excess of that permitted for it under the approach signal indication which was displayed. Engineman O'Donahue maintained that he did not know what the approach signal was for, and said that it had always displayed the same indication, he knew what indication it displayed, however, and should have complied with the speed restrictions imposed by that indication. On the other hand, it is a matter of conjecture as to whether the accident would have been prevented had the speed been reduced to that permitted for this particular train, 20 miles per hour. Steps should be taken, however, to make certain that all employees have a thorough understanding of all signals and of the rules governing their operation.

All of the employees involved were experienced men, and at the time of the accident none of them had been on duty in violation of any of the provisions of the hours of service law.

Respectfully submitted,

W. P BORLAND,

Director.