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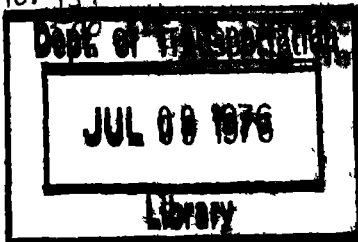
EV.107

no. 451-

U.S Interstate Commerce Commission

Railroad accident investigation
report. EV.107 no. 451-500.

No. 451



Investigation of an accident which occurred
New York Central Railroad at Geneva,
N. Y., August 8, 1917.

Sept. 1, 1917.

On August 8, 1917, there was a side collision at Geneva, N. Y., on the New York Central Railroad, between two light engines, resulting in the death of one employee and injury of one employee. After investigation of this accident, the Chief of the Division of Safety reports as follows:

This accident occurred in yard limits about 1 mile east of Geneva Passenger Station. This part of the New York Central Railroad is on a section of the Rochester Division extending from Rochester to Syracuse and is a single-track line, over which the movement of trains is controlled by timetable and train orders, supplemented by a manual block signal system. Movements in the yard, where the accident occurred, are under the direction of a Yardmaster.

The Pennsylvania Division joins the Rochester Division at Geneva and the tracks of the former division are parallel to and south of the latter to a point about 1 mile east of the station, where they join the Rochester Division main track, which is used by Pennsylvania Division trains for about 400 feet to the junction switch of the Pennsylvania Division line north to Lyons. The connecting track to the Pennsylvania Division at this point forms one "leg" of a wye where engines or trains are turned. There are yard tracks on both sides of the main tracks from the station to the junction. The tracks are straight for several hundred feet each side of the junction and are practically level. The main line of the Lehigh Valley Railroad crosses by an overhead bridge just over the junction switch.

The connection of the Pennsylvania Division to the Rochester Division, which is virtually a crossing, is protected by signals operated from an interlocking machine in a small cabin located north of the tracks and just east of the junction switch and the Lehigh Valley overhead bridge. The switches are not handled from the cabin, but are thrown by a switchtender who also operates the signal levers. They are bolt-locked by separate levers in the machine, which are properly interlocked with the levers controlling the signals, so that a signal can be cleared only for the route which it governs, and when a signal is cleared, the switches in the route controlled by it are locked and cannot be moved. The signals are all mechanical and, while of the three-position, upper right hand quadrant type, they are operative from zero to 45°, thus giving caution and stop indications only. The night indications are yellow and red. While this arrangement insures that a signal will be cleared only for the route intended

it is not as flexible as a regular interlocking, and signals are not provided for all moves. The eastbound main line (Rochester Division) signal can only be cleared for a main line movement, and the lower arm is inoperative; the Pennsylvania Division eastbound signal has two arms also but the upper one is inoperative and the lower arm can be cleared only for moves from the Pennsylvania Division onto and across the Rochester Division to the Pennsylvania Division leading to Lyons. As no signal is provided from the main line (Rochester Division) to the Pennsylvania Division, the practice for a train making this move is for the switchtender to clear the signal and after it has been passed by the train, to restore the signal to normal, set the junction switch and give a hand signal for the train to proceed onto the Pennsylvania Division towards Lyons.

The trains involved in this accident were Engine 3783, backing east along the Rochester Division main line, and about to be diverted north onto the Pennsylvania Division track and two engines coupled together, # 1785 and #173, backing westward along the Rochester Division from the ash pit east of the junction.

Engine 3783 had just arrived from Buffalo, via Lyons, with a freight train known as BG4, which it had left on track No. 1 in Geneva Yard. The engine had cut off from the train, crossed to the main line and was backed east on the Rochester Division main line towards the Junction with the Pennsylvania Division. It received a clear signal, had stopped after passing the signal and was moving on to the junction switch, having received a hand signal from the switchtender, when it was struck by engines 1785 and 173 about 10:15 p. m.

Engines 1785 and 173 had come from the cinder pit, east of the junction, and were backing west along the Rochester Division main line, coupled together in the order mentioned. It was the intention to back west of the junction switch and then head north onto the Pennsylvania Division. The men in charge of these two engines stopped at the home signal east of the junction, which was in the stop position called for the signal to be cleared, and, upon observing a hand signal from the switchtender, accepted it as authority to move, and proceeded, striking the tank of engine 3783 on the junction switch.

The speed of all the engines was low, not over 4 or 5 miles per hour. The weather was dark and cloudy at the time of the accident.

Tender trucks of both engines 1785 and 3783 were derailed and the tender of engine 1785 was forced against the engine.

Enginemen Ott, in charge of engine 3783, stated that he brought in train BG4, and, after putting it away, he backed down the main track, intending to burn his engine on the wye, before going to the dump pit. He found the signal at "GF" Tower clear for him to proceed, but it was necessary for him to stop after passing the signal

before the switch could be opened for him to go on the Pennsylvania Division main track which forms part of the wye. Just as he stopped he got a hand signal from the switchtender to proceed onto the wye. He had noticed two red lights on the main line east of the wye switch, but supposed it was the rear of some eastbound train. His attention was taken up in watching the switchtender and signalman and he did not see the other engines until they collided with him. After they struck, he moved his engine a short distance, about 6 or 8 feet, to release anyone who might be locked in. He said there was a light on the tank of his engine and when he came to a stop, after passing the Rochester Division signal, one of the brakemen got on the rear, remaining there until just before the collision. He said he had no conversation with the switchtender or with Engineman Bergen, of engine 173, except to ask him: "How is your fireman?"

Fireman Gardner, of engine 3783, stated that at the time of the accident they were moving 4 or 5 miles per hour. He did not see the other engines until they were 4 or 5 car lengths away and he then called to the engineman, who applied the brakes. He did not see any hand signals, as they were given on the opposite side of the engine. He stated that this was his second trip down there and that he was not familiar with the signals around Geneva. He had a book of signal rules, but had not been examined on them, nor had he received any instructions.

Brakeman Howard said he came in on train 804, remaining on the caboose after they pulled into the yard, but got on the rear of the tender of his engine 3783, as it came back on the main track. The lights on the tender were burning and he had his white lantern. He saw no hand signals given except those of the switch tender, but saw the lights on an engine at the other signal. As the switch was set for them he did not notice the movement of the other engine until they were about 3 car lengths away.

Brakeman Sheldon stated he was riding in the gang way of engine 3783 while backing down the Rochester Division main line. He says that the lights on the rear of his engine were in excellent condition when he cut off on arrival in the yard. He saw the signal clear for them, saw the switchtender give his hand signals, and noticed the switch was set for their move. After that, he stepped back onto the deck of the engine and did not see anything of the other engines.

Conductor Kenyon, of train 804, stated that he dropped off at the yard office as they were pulling by and was in the office when the collision occurred. He had previously looked out to see if the engine was returning and noticed the switch set for the wye. He noticed the light on rear of engine 3783 as it was approaching and saw that a man with a lighted lantern was also riding on the rear end. He did not think the speed was over 4 or 5 miles per hour.

Enginemen Bergen, in charge of the two coupled engines, stated that he was on engine 173, which was the rear engine of the two, as they were then moving, engine 1785, with Fireman Craig being the leading engine. Both engines were running backward. It was the intention to back west beyond the junction switch leading to the Pennsylvania Division and then pull ahead and proceed over the Pennsylvania Division to Lyons, when engine 173 would be the leading engine. Besides Fireman Craig on engine 1785, there was another fireman on engine 173, and two coalers were on engine 1785 going to Lyons to help coal the engine. He backed out of the dump pit and proceeded up to the westbound signal protecting the junction, stopped and waited further permission to proceed. He said that when he called for a signal, he received a hand signal but he did not move at once, and Fireman Craig on the leading engine 1785, also called for a signal. He then again saw a hand signal to come forward, and accepted it; then home signal still at stop. The last time he saw the switch targets for the Pennsylvania Division they were green, but he saw no other engine in the vicinity, and, as the only thing visible was a switch engine some distance off, he at first thought he had collided with a box car. He stated that he had been working on this position about two weeks and had been told by the switchtender that he would give a hand signal to back up, but Enginemen Bergen said he was not entirely clear as to what this arrangement was, although he expected to get a hand signal to back up. He said he was familiar with the rule governing block signals and other signals, which says these stop signals must not be passed until after the situation has been explained and is understood. It was a very dark night and he could see switch lights distinctly. At the time he backed in, he thought he was going 4 or 5 miles per hour and it seemed only a fraction of a minute from the time he started till they struck. He stated that he talked with the switchtender after the accident about the signals and said to him that "we should not have passed the signal." He also said that if he had had an inexperienced man with him he would not have allowed him to take the leading engine.

Switchtender Clark stated that he gave engine 3783 a signal that permitted it to come to the tower, but it was not possible to give it a signal to go from the Rochester Division to the Pennsylvania Division, so that it was necessary to stop it and give it a hand signal after it had passed the eastbound signal. During this time there were two engines standing at the westbound signal. The crew of these engines mistook his hand signal given engine 3783. When giving this signal he stood on the north side of the main track, on the opposite side of the engine from the engineer of the two engines, and with his back to them. He said that when Enginemen Bergen first came there he had told him that the levers sometimes stuck and he would be obliged to give a hand signal. He stated that he had been examined on the book of rules and had passed and that he had had a book of rules, but did not now possess one. He said he did not know the signal rules and

that after the accident he had no conversation with Enginemen Bergen. He was about 50 feet from the two engines at the time of the collision.

The cause of this accident was the disregard of the home signal indication by Enginemen Bergen and fireman Craig of engines 1785 and 173, in violation of signal rule No. 616, which reads as follows:

"616. Hand signals must not be accepted as authority to pass any signal indicating STOP, except for switching movements when the governing signal cannot be cleared. They must be given by the signalman from the ground, upon the track for which they are intended, and only after the train or engine which is to make the movement has been stopped, and the situation fully explained and understood."

An installation of signals so arranged that it is necessary to give hand signals to enable frequent moves to be made was a contributing cause, as, under the conditions existing at the time of the accident, it was practically impossible to give hand signals to a train at the eastbound signal without there being danger of such signals being also accepted by a train standing at the westbound signal.

This investigation developed the fact that a laxity in the observance of fixed signals at this point has been allowed to grow up, due to the necessity of frequently using hand signals for such moves as were being made at the time of the collision. There was also a lack of proper instruction and examination on the book of rules; had those rules been firmly fixed in the minds of all employees who had to do with movement of trains over this district by regular instructions and examination, it is not probably that the accident would have happened, notwithstanding the defective signal installation existing.

The signaling at this point should be re-arranged so as to avoid the necessity of the use of hand signals for frequent movements.