INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE MISSOURI PACIFIC RAILROAD AT ROCHELLE, LA., ON JANUARY 26, 1928

March 24, 1928

To the Commission:

On January 26, 1928, there was a derailment of a passenger train on the Missouri Pacific Railroad at Rochelle, La., resulting in the death of two employees and the injury of five passengers, three mail clerks and two employees.

Location and Method of Operation

This accident occurred on the Monroe District of the Louisiana Division, extending between Alexandria Yard and Monroe Yard, La., a distance of 99.1 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 at the south switch of the passing track at Rochelle, approaching this point from the south the track is tangent for almost 4,000 feet, and for more than 2,300 feet beyond. The grade is level.

The passing track is about 3,800 feet in length and parallels the main track on the west, the turnout is a No. 10, and it is a facing-point switch for northbound trains. The switch stand, of the ground-throw, low-target type, is located on the west or left side of the main track, between the main track and the storage track, which track is merely a continuation of the passing track and extends almost 4,000 feet farther toward the south. There is a switch lamp mounted above the targets of the passing-track switch, both the targets and the lamp display a red indication when the switch is open and a green indication when it is closed. The centers of the targets are 7-3/4 inches above the rails, while the center of the lamp is 20-7/8 inches above the rails.

The main track is laid with 90-pound rails, 39 feet in length, with an average of 24 ties to the rail-length, tie-plated, single-spiked and ballasted with washed gravel to a depth of about 12 inches. The track is well maintained.

The weather was cloudy at the time of the accident, which occurred at about 7.26 a.m.

Description

Northbound passenger train No. 113 consisted of one baggage car, one combination baggage and mail car, one coach, one chair car, one Pullman sleeping car, one dining car and three Pullman sleeping cars, all of steel construction, hauled by engines 6505 and 6515, and was in charge of Conductor Parris and Enginemen S. R. Addis and Schultz, respectively. This train left Georgetown, 1.85 miles south of Rochelle and the last open office, at 7.23 a.m., seven minutes late, and was derailed at the south passing track switch at Rochelle while traveling at a speed estimated to have been between 35 and 50 miles per hour.

Both engines, their tenders, and the first three cars were derailed. Engine 6505 came to rest on its left side diagonally across the main track, headed southeast, at a point approximately 450 feet north of the switch. Engine 6515 stopped immediately south of the first engine, on its right side, diagonally across both tracks and headed northwest. The first three cars remained practically upright and in general line with the passing track. The employees killed were the engineman of the lead engine and the fireman of the second engine.

Summary of evidence

Examination of the switch after the accident disclosed that the switch points were partly open while the switch target displayed a red indication and the switch lamp was extinguished. The lever was latched in the socket on the north head-block tie, while the switch lock was secured by its short chain and lying on the south head-block tie, unlocked, this being the proper position when the switch is left lined for the passing track; there was nothing to indicate that the lock had been battered or pounded in any way. The east switch point was about 15/16 inch away from the east main track rail, with a piece of metal about 1/2 x 1-3/4 inches in size broken out of the top of the receiving end, the west switch point was about 3-3/8 inches away from the west rail. It also appeared that the No. 1 bridle rod and the connecting rod were buckled near the west rail and that the west No. 1 switch point clip was bent. There were no marks south of the switch points to indicate that there had been any dragging equipment, but the damaged condition of the switch indicated that it had been run through by some southbound train while lined for the passing track.

Inspection of the track disclosed that the first mark of derailment was at a point 20.5 feet north of the switch points, this being a mark on the top of the east main-track rail, apparently made by the rim of a wheel, 4.7 feet beyond this point there was a wheel mark on a spike head on the outside of the east rail of the turnout and a corresponding mark on the gauge side of the west rail of the turnout. These marks then appeared on successive ties and followed the turnout, marking the frog in the main track and also the guard rail opposite that frog on the west side, and then continued until the west wheels came in contact with the frog in the passing track, at which point the marks led back toward the main track, both of these tracks being torn up for a considerable distance.

Engineman Schultz, of the second engine, stated that he was looking ahead when approaching the switch but that the first he knew of anything wrong was on seeing the lead engine rock and then the accident occurred, at which time the speed was not more than 45 miles per hour. Everything happened so quickly that he could not tell exactly what did occur but he was of the opinion that he would have noticed it if the air brakes had been applied in emergency from the lead engine prior to the time it began to rock. Engineman Schultz said that it is very hard to see the indication displayed at this particular switch when the weather is not clear, but that on a clear day it can be seen for a considerable distance. He also stated that the air brakes had been tested and worked properly, while he had talked with Engineman Addis before departing from Alexandria on this trip and had noted that Engineman Addis appeared to be in good physical condition. Fireman F. S. Addis, of the lead engine, said that after departing from Georgetown he sanded out the flues and then his father, Engineman S. R. Addis, handed him the orders to read; after reading the orders he handed them back to his father. Just as Fireman Addis got back on his seat box he felt the engine lurch, as though it headed into the passing-track switch, and he immediately shut off the firing valve. Fireman Addis estimated the speed to have been between 45 and 50 miles per hour at the time of the accident, and said that everything happened so quickly he was not sure just what did occur. He also stated that his father shouted something just before the switch was reached, what it was he did not know, and he thought that the air brakes were also applied, although he was not sure on this point. None of the other members of the crew was aware of anything wrong until the

air brakes were applied in emergency Their estimates as to the speed ranged from 35 to 45 miles per hour.

Section Foreman White stated that he last inspected the switch two days prior to the accident and found it to be in good condition, that his motor car was locked up in the car house at Georgetown the evening of the day prior to the accident, that he was certain that it was not taken out until shortly before 7.30 a m. on the day of the accident, and that none of the section men under his supervision was in possession of a switch key. This motor car was brought out on the main track after train No. 116 left Georgetown, with the intention of following that train to the north end of the section Section Foreman White went to the office to get a line-up on trains and while there learned of the accident. He immediately proceeded to the point of accident on the motor car, accompanied by his men, and was followed by another section crew, belonging to the section immediately adjoining his own section, south of Georgetown. Other section foremen in charge of sections in the immediate vicinity of Rochelle also stated that their motor cars had been under lock and key during the night Examination of the switch by these section foremen on their arrival at the scene of the accident disclosed conditions to be practically as stated heretofore. In their opinion the switch had been run through previously by a southbound train while lined for the passing track.

Lamp Tender Collins stated that he installed a new wick in the switch lamp on the day prior to the accident, filled the cup with oil, and left the lamp burning in good condition, it contained enough oil to burn from 3 to 3-1/2 days. He arrived at the switch about three hours after the accident occurred and at that time the lamp was not burning, while he could not find anything wrong with it which would have caused it to become extinguished. He relighted the lamp and said that it was still burning on the following day.

Division Engineer Halpin stated that the switch stand is located between the main and storage tracks, and on the fireman's side for a facing-point movement, because of the fact that it is considered necessary to have the switch stand operate from the normal closed-point side, so that the rods and other members will be in tension under normal operation and in the event there should be equipment dragging from beneath trains it would not disturb the adjustment of the closed point. With reference to the fact that the switch stand is a low stand instead of a high stand, he stated that the track centers of the main

and storage tracks are only about 13 feet apart and that the use of a high or an intermediate stand would not afford safe clearance for men riding on the sides of cars.

This switch was last used by the crew of engine 2611, northbound, at about 2.30 p m. the day before the accident, and members of that crew emphatically maintained that the switch was left properly lined and locked for the main track Freight train No. 160, the last northbound train to pass prior to the accident, passed the switch at about 4.40 a.m., at a speed of about 30 miles per hour, and at that time members of the crew observed that the switch lamp was burning dimly, displaying a green indication. Southbound freight train extra 73, consisting of 55 cars, the last train in either direction to pass over the switch prior to the accident, passed that point at about 7 a.m., at a speed of about 30 miles per hour, and took siding at Georgetown for train No. 116. Engineman Hughes, of extra 73, stated that it was hazy when his train passed Rochelle and at that time of the morning it was difficult to see switch lamp indications and he did not know whether or not the lamp was burning. He did not recall having done any more than just glance at the switch, although he said it was his custom to observe the position of the switch points and targets of all switches. He was positive that his train did not run through the switch, as otherwise he would have heard the noise of the switch points rattling and the target breaking, he admitted, however, there would not be much noise in the event the damage consisted only of bending the bridle and the connecting rods. Fireman Ates, of train No. 73, said that it was not dark enough to tell whether the switch lamp was burning although switch target indications could have been distinguished, that it was his practice to watch for switch targets at night and for switch points during the day, and that he was sitting on his seat box looking ahead when approaching the switch but that he could not say whether the switch was properly closed, with the point tight against the main track rail, although the indications were that it was closed. Fireman Ates did not think it possible for his train to have run through the switch without making a noise. Head Brakeman Bailey stated that he was standing in the gangway on the right side of the engine approaching the switch, that the switch was properly lined for the main track, with the target and lamp displaying green indications, and that the switch points seemed to fit properly He also said that the switch lamp displayed a good clear indication.

Yard Clerk Dugal, stationed at Rochelle, stated that he was about 75 or 80 steps north of the switch when extra 73 passed him and on reaching a point about 5 or 6 feet north of the switch he crossed the main and passing tracks to a telephone booth on the east side of the track, he crossed back over the main track and continued walking southward in the path between the main and passing tracks to another telephone booth, and then continued to the station at Georgetown. Yard Clerk Dugal said that on each occasion when he crossed the tracks he noticed that the switch was properly lined and locked for the main track. As it was daylight, however, he did not observe whether the switch lamp was burning. After the accident he examined the switch and it was then lined for the passing track, with the lever in the latch, the lock open, secured by its chain and lying on the head block tie, the connecting rod bent, and the east switch point broken on the end and more or less sprung away from the main track rail. Several days later, after witnessing tests which consisted of having the switch run through by a freight train, he admitted that it created damage to the switch similar to the damage which existed immediately after the accident, but he said that the results of the test did not change his opinion in the least as to the conditions that existed at the time he passed it, following extra 73, and he said some one must have opened the switch between that time and the time of the accident.

An inspection made of the equipment before and after it was placed back on the track disclosed no defects that would have caused or contributed to the accident. A mark was found on the top of the flange of the right front wheel of the engine truck of engine 6505, measuring 3 inches in length, the forward end of the mark being 1/8 inch inside and the rear end 1/8 inch outside of the center of the flange, apparently caused by the flange of the wheel striking the edge of a switch point. On the outer circumference of the rim of this wheel there was a curled shaving, caused by the fact that the wheel had run diagonally to the main track, that portion of the rim grinding against the rail before it dropped to the ties.

Vision tests made from the cab of an engine of the same type as those in use on the day of the accident, under somewhat similar weather conditions, at approximately the same time of day, with the train traveling at a speed of about 30 miles per hour, disclosed that the stop indication of the switch target could be seen from the engineman's side for a distance of 516 feet 10 inches, and from the fireman's side for a distance of 545 feet 10 inches, while the switch points when open could be seen for a distance of 426 feet 10 inches from the engineman's side and 449 feet 4/ inches from the fireman's side.

After the switch had been placed in proper repair it was lined and latched for the passing track. A southbound freight train of practically the same length as extra 73, the last train to pass the switch prior to the accident, hauled by an engine of the same type, was then run through the switch This resulted in buckling the connecting rod downward and the bridle rod upward, accompanied by the bending of the west No 1 bridle rod clip. This damage in turn caused the east switch point to stand away from the main track rail a distance of 1-3/4 inches and the west switch point to stand away from the stock rail 2-5/16 inches and also resulted in the switch lamp being extinguished. The damage created was practically similar to that which was found to exist immediately after the accident.

Conclusions

This accident was caused by an open switch.

Examination of the switch after the accident showed that the switch points were partly open, while the switch target displayed a red indication and the switch lamp was not burning. The lever was latched in the open position, the No. 1 bridle rod, the connecting rod and the west No 1 switch point clip were bent, and the lock was lying on the head block tie, unlocked. There was nothing to indicate that any one had battered or pounded the lock in the endeavor to open it, and apparently some one had unlocked and opened the switch and it had afterwards been run through by a southbound train.

Members of the crews of train No. 160, northbound, and extra 73, southbound, which trains passed over the switch on the main track at about 4.40 a. m. and 7 a. m., respectively, noticed nothing unusual in connection with the switch, and at the time of the investigation it had not been determined just when or how the switch came to be open.

Had an adequate automatic block-signal system been in use on this line, this accident probably would not have occurred; an adequate automatic train stop or train control device would have prevented it.

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.