INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE TEXAS AND NEW ORLEANS RAILROAD, SOUTHERN PACIFIC SYSTEM, NEAR MEXIA, TEXAS, ON OCTOBER 2, 1927.

November 15, 1927.

To the Commission:

On October 2, 1927, there was a derailment of a passenger train on the Texas and New Orleans Railroad, Southern Pacific System, near Mexia, Texas, which resulted in the death of one employee and the injury of one employee.

Location and method of operation

This accident occurred on the Ennis Subdivision of the Dallas Division, extending between Ennis and Hearne, Texas, a distance of 110.2 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 an automatic block-signal system. The accident occurred approximately 800 feet west of trestle 176-A which spans a small stream about 4.8 miles west of Mexia. Approaching this point from the west the track is tangent for more than 1½ miles, and also in the opposite direction for a considerable distance. The grade for eastbound trains is generally descending to a point approximately 300 feet west of the point of accident from which point it is 0.036 per cent ascending to and beyond the point of accident.

The track is laid with 90-pound rails, 33 feet in length, with 18 ties to the rail-length, tie-plated, single-spiked except at joints where it is double-spiked, and is ballasted with gravel to a depth of from 8 to 12 inches.

Trestle 176-A, a five bent pile structure is 60 feet in length. The source and drainage area of the creek are southwest of the trestle, the water passing under the trestle from south to north, while the stream nearly parallels the track for a distance of about 800 feet west of the point of accident.

In this vicinity there had been extremely heavy rains during the night and a light rain was falling at the time of the accident which occurred at about 3.40 a.m.

Description

Eastbound passenger train No. 18 consisted of one mail car, one baggage and express car, one express car, one coach, one chair car and five Pullman sleeping cars, all of steel construction, hauled by GH&SA engine No. 611, and was in charge of Conductor Clark and Engineman Carter. This train left Ennis, 51.3 miles west of Mexia Yard, at 2.01 a.m., according to the train sheet, 1 hour and 26 minutes late, passed Mexia Yard, the last open office, at 3.28 a.m., 1 hour and 27 minutes late, and was derailed shortly afterwards upon encountering a washout while traveling at a speed estimated to have been between 25 and 35 miles per hour.

The engine and tender were derailed to the north and came to rest on their left sides almost parallel with the track, the forward end of the engine being 306 feet beyond the point of derailment and 37 feet from the center of the track. The first three cars in the train and the leading wheel on the south side of the forward truck of the fourth car were also derailed, the first car came to rest partly overturned to the north, while the second and third cars were leaning slightly in the same direction. The employee killed was the fireman.

Summary of evidence

During the night of October 1st there was an unusually heavy rainfall in the vicinity of the point of derailment; the official United States Weather Bureau report for Groesbeeck, about 6.7 miles east of the point of accident, showed 8.44 inches of rainfall at that point between 9 p.m., and 3 a.m., while the official weather observer at Mexia reported a rainfall of 7.02 inches for the 24-hour period ending at 7.00 a.m., October 2nd. This heavy rainfall covered a large area and washouts resulted at various points on the Dallas Division. Near the point of accident water covered the rails for a distance of 2,410 feet, and was up to the base of the rails for an additional distance of 500 feet. Beginning 60 feet west of the point of derailment the ballast and the embankment on which the track was laid was washed away for a distance of 425 feet, part of the ballast also being washed out for a considerable distance beyond these points.

Engineman Carter stated that his headlight was burning very dimly at Ennis, but he had it repaired at that point and experienced no further trouble with it after leaving that point; under existing conditions it gave him a range of vision of about 1,000 feet. Before departing from Ennis he talked with the train dispatcher and also the chief dispatcher regarding the heavy rains and track conditions, and he also heard the Division engineer calling the section men by telephone to inspect the track. At the time his train left Ennis he had train orders referring to high water at certain points, as well as an order reading "slow rain over division, look out for places that may be affected". Between Ennis and the point of accident it was raining and at times the rainfall was very heavy. Engineman Carter said that after departing from Mexia he reduced speed for the T&BV crossing just west of Mexia Yard in compliance with a 30-mile order in effect at that point and called to the crew of a westbound freight train standing on the siding there to look out for washout or high water about one mile west of Mexia. He also held an order to look out for water running over the track in Mexia Yard, and he was very careful approaching the bridge at the east end of Mexia Yard as he expected to find high water there, but as the water was not up to the bridge he opened the throttle and continued to work steam until he encountered another heavy rain when he shut off the throttle at which time the train was travelling between 20 and 25 miles per hour, but a short time later the heavy rain ceased. He permitted the train to drift down the grade and was travelling at a speed of 30 or 35 miles per hour when the engine lurched to the left and he felt the engine hit the ties. He reached for the brake valve but did not remember whether or not he applied the air as he was thrown backward in the cab as the engine turned over.

After the derailment the cab was partly filled with water, but he climbed out on the side of the tender, then started towards the mail car, before reaching it, however, he slipped and fell into the water which was over his head. A little later he and the assistant maintenance of way engineer, who was a passenger on the train, examined the track structure and found that it had been undermined on the left side where the train was derailed, but not on the right side. They further examined the track towards the east for about one-half mile and in several places found the ballast and fill on the left side of the track washed away while at one place the water had washed entirely under the track for a distance of about 20 feet. He also said there was no water over the track as his train approached the point of accident but at the time the examination was made there was some water over the track where the derailment occurred. Some time after the accident Engineman Carter talked with a man whom he thought was a trackwalker, who informed him that he had passed over that portion of

track about 30 minutes prior to the accident and at that time there was no indication of high water.

Conductor Clark stated that while his train was at Ennis, the chief dispatcher instructed him because of heavy rain west of that point, to watch the speed of the train and to caution the engineman about high water particularly in the vicinity of Mexia; while the train was at Corsicana he cautioned the engineman as instructed and the engineman replied that he would be on the alert. At the time the station stop was made at Mexia there was only a light rain falling, but they encountered another heavy rain between that point and the point of accident. At the time of the accident he was in the fourth car of the train. As soon as the train came to a stop he opened the vestibule door at the forward end of this car but could not get off due to the high water. He then proceeded to the second car in the train and got off on what appeared to him to be a section of track washed against the baggage car but the water still prevented him from reaching the engine. He thought the car from which he alighted was still on its trucks and he observed the water was about even with the body at its western end. Conductor Clark estimated the speed of the train at the time of the accident between 25 and 30 miles per hour and was of the opinion Engineman Carter was operating the train at a speed in harmony with orders issued and verbal instructions given as to the weather conditions.

Baggageman Rogers stated that after the accident he opened the door on the north side of the third car and observed the water running rapidly under the car about nine inches below the level of the car floor while the water was passing under the second car about six inches below the floor. He then opened the door on the south side of the car with the intention of getting off, but considered the water too deep to do so.

Brakeman Rheay said the train passed over the T&BV crossing at a speed of about 10 or 11 miles per hour but the speed was increased after passing that point, and he estimated the train was travelling at about 25 or 30 miles per hour at the time it was derailed. He immediately procured flagging equipment, got off the south side of the rear car and stepped into water that came to his knees. On his way back to flag he did not find any water running over the track but there were indications extending back about one-fourth mile from the train that water had been running over the track. When he returned to the train about 40 minutes later he found that the water had receded to some extent.

Assistant Maintenance of Way Engineer Gude stated that at the time of the accident he was asleep in a berth

in the sixth car, but was awakened by the sudden stop of the train, and after dressing, he started towards the head end of the train; at the fifth car he looked out and observed that water was running swiftly along both sides of the track and that it was passing over the rails at a depth of about two inches. Engineer Gude said that a short time later he and Engineman Carter inspected the track; the water apparently had continued to rise slightly after the accident but commenced to recede about 30 minutes later. He further stated that the washout was caused by an unprecedented rainfall in that immediate vicinity, and that during his 9 years' experience with this railroad the water had never reached the stage it did on the morning of October 2nd.

Section Foreman Brown, whose section extends between mile posts 170 and 177 in which territory the accident occurred, stated that at about 9 p.m., October 1, the dispatcher called him to patrol the track on account of the heavy rainfall which had been reported in that locality. Between 9.30 and 11.30 p.m. he and three laborers went over the section by motor car, stopping en route at Navasota River and also at trestle 176-A and made a thorough inspection of the streams at both points, the inspection being made at the latter point at about 11 p.m., but the water was not then rising at either point. At about 1 a.m., he was again called by the division engineer and instructed to proceed to mile post 165 on the adjoining section, eastward, inspect the track in that vicinity and then return to his own section. He started for that point with 3 men at 1.30, picked up the section foreman at Groesbeeck, and continued eastward, but upon reaching a point a short distance west of mile post 165 they were flagged by train No. 38 which was stalled on account of the high water. They then started to return but at bridge 165-A they encountered some debris over the track. A stop was made to remove this debris and also to inspect the bridge; while this was being done the water rose so rapidly that they were unable to proceed in either direction and were compelled to abandon their car and seek safety. One of his laborers was drowned, and another was later rescued from a tree-top. Foreman Brown did not learn of the derailment of train No. 18, until 7.30 a.m., October 2 and did not reach the scene of the accident until 8 p.m , on the same date.

Chief Dispatcher Hoefer stated that he reported for duty at Ennis at 6 p.m., October 1; between 7 and 7.30 a heavy rain was falling at that point and the storm appeared to be moving eastward. On account of weather reports received from operators, section foremen between Ennis and Hearne were called between 9 and 10 p.m., and instructed to patrol their sections. As the section foremen reported

conditions they were further instructed that if any more hard rains came to again patrol the track. At about 11.45 Foreman Brown on whose section the accident occurred reported that he had been over his section and the track was all right. Dispatcher Hoefer said that he informed the conductor of train No. 18 that a very heavy rain had fallen between Ennis and Hearne and to be certain that the engineman complied with all speed restrictions. He also notified Engineman Carter to the same effect, further authorizing the engineman to lose time on his running schedule if necessary.

Division Engineer Slabotsky stated that he communicated with the dispatcher at Ennis between 3 and 3.30 p.m., October 1, and learned that there had been heavy rains on the Denison and Ennis Subdivisions. Upon receiving this information he instructed the dispatcher to issue rain orders to all trains. Engineer Slabotsky said he arrived at Ennis at about 10.55 p.m., and then learnód there had been several washouts on the Fort Worth Subdivision. He assisted the dispatcher in notifying the section foremen to patrol the track in the territory affected by the storms. The section foreman at Groesbeeck informed him that there was only one laborer available at that point and that it would take considerable time to locate the others. Engineer Slabotsky said he then instructed Foreman Brown on the adjoining section to proceed to Groesbeeck, pick up the foreman of that section and assist him in patroling the track. Engineer Slabotsky said thathe was very anxious to get someone out in that territory as quickly as possible, as there had been several washouts between mile posts 163 and 165, while no trouble of that nature had been experienced in the vicinity of the point where the accident later occurred.

Engineman Dietrick, of eastbound train No. 38, the last train to pass the point of derailment prior to the accident, stated that he passed Mexia at 1.18 a.m., on time, and thathe encountered pretty heavy rain between that point and Navasota River. The small streams between Mexia Junction and mile post 176 were filled but were not overflowing, the ditches paralleling the track were not full although they had some water in them. At the time he passed bridge 176-A he estimated the water was about 18 inches below the bottom of the bridge. His train was later marooned by washouts a short distance east of bridge 165-A. Later the flagman told Engineman Dietrick that he left the rear of the train as soon as it came to a stop and started across bridge 165-A at which time the water passing over the bridge was about up to his shoe-tops, but before getting entirely across he decided it was not safe and started to return to his train and before again reaching the east end of the bridge the water had become waist deep.

Conclusions

This accident was caused by a washout.

At the time of this accident flood conditions prevailed at many points on this line due to extremely heavy rainfall. Weather Bureau reports from Groesbeeck, only a few miles from the point of accident, indicated a rainfall of 5.7 inches between midnight and 3.00 a m. Operating officials were apparently well-informed concerning the existing conditions, and efforts were made to guard against accidents both by having the tracks patrolled and by issuing slow orders and messages of caution and warning to train crews.

Notwithstanding these conditions, the train sheet shows that Engineman Carter practically maintained schedule running time between Ennis and Mexia Yard, while there is some evidence indicating that he operated his train cautiously at certain points between Mexia and the point of accident, the speed of the train at the time of the accident was estimated at 30 or 35 miles per hour. In view of the train orders regarding high water in his possession, and the fact that he had been verbally cautioned with respect to the danger from washouts, he should have been running at a lower rate of speed and it is probable he then could have seen the water on the track or adjacent to the roadbed in time to have brought his train to a stop or materially reduced its speed before reaching the point where the train was derailed.

The section foreman on whose section the accident occurred had been called away to another point endangered by the high water and became marooned, he was therefore prevented from patrolling his own section in time to have found the situation that existed near trestle 176-A shortly before train No. 18 arrived.

The employees involved were experienced men, at the time of the accident the crew of train No. 18 had been on duty 3 hours and 35 minutes after having been off duty 12 hours or more.

Respectfully submitted,

W. P. BORLAND,

Director.