INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED ON THE LOUISVILLE & NASHVILLE RAILROAD AT GRANT, KY., ON FEBRUARY 23, 1925.

June 4, 1925.

To the Commission:

On February 23, 1925, there was a derailment of a passenger train on the Louisville & Nashville Railroad at Grant, Ky., which resulted in the death of two employees and the injury of one trespasser.

Location and method of operation

This accident occurred on that part of the Kentucky Division which extends between Cincinnati, Ohio, and Corbin, Ky., a distance of 187 miles. In the vicinity of the point of accident this is a double-track line over which trains are operated by time-table, train orders and an automatic block-signal system. The derailment occurred at a point opposite the station at Grant, which is a non-telegraph station 11.4 miles south of Cincinnati. Approaching Grant from the north, beginning at mile post 11, there is a 3° 11' curve to the left 1,013 feet in length, 365 feet of tangent, and then a 10° curve to the right having a total length, including spirals, of 1,000 feet, this curve extending to the north portal of Grant tunnel, the first mark of the derailment appeared on this last-mentioned curve at a point 263 feet from its northern end. The grade is slightly ascending for southbound trains.

The track is laid with 90-pound rails, 33 feet in length, with 31 white oak ties to the rail-length, tie-plated on curves, and ballasted with cinders; rail anchors are used on grades, while an 80-pound guard rail extends the entire length of the 10° curve on which this accident occurred. The track is well constructed and maintained in good condition.

Commencing 143 feet north of the point of derailment, the north and southbound main tracks gradually diverge from each other to the portals of their respective tunnels, approximately 675 feet distant, which lie about 200 feet apart.

All trains are restricted to a maximum speed of 25 miles an hour between mile posts 11 and 12, between which points Grant tunnel is located, there being a warning board near mile post 11 governing southbound trains.

The weather was cloudy at the time of the accident, which occurred at 7.56 a.m.

Description

Southbound passenger train second No. 33, consisting of one express car, one baggage car, two Pullman sleeping cars and one coach, in charge of Conductor Camery, departed from Cincinnati, Ohio, at 7.18 a.m., eight minutes late, and arrived at Latonia, Ky., 4 miles distant, at 7.35 a.m., being hauled to this point by a yard engine. Engine 284, in charge of Engineman Merringer, was then coupled to the train in place of the yard engine, and the train departed from Latonia at 7.44 a.m., according to the conductor, nine minutes late, passed DeCoursey at 7.50 a.m., eight minutes late, and was derailed at Grant, 4.6 miles distant from DeCoursey, at 7.56 a.m., while traveling at a speed variously estimated at from 25 to more than 40 miles an hour.

The engine and tender were derailed to the left and came to rest on their left sides, parallel with each other and at right angles to the track, 219 feet south of the first mark of derailment. The first car and the forward truck of the second car were derailed, the first car coming to rest in an upright position across the track. The employees killed were the engineman and fireman.

Summary of evidence

Conductor Camery, of train second No. 33, said his train departed from Latonia at 7.44 a.m., instead of 7.40 a.m. as was shown by the train sheet, and that shortly after it passed DeCoursey, at 7.50 a.m., he left the rear coach in which he had been riding and went forward. He thought the train moved at an average rate of speed after leaving Latonia until about the time it approached mile post 11, at which point the brakes were applied, he looked out of the vestibule as he passed from the first Pullman car into the baggage car, and at that time estimated the speed of his train to be about 25 miles an hour. He had just entered the baggage car and had talked with Baggageman McHargue in regard to his duties when the car lurched violently to the left and as he reached for the signal cord the shock of the derailment threw him off his balance. He looked at his watch immediately afterwards and noted that the accident occurred at 7.56 a.m., subsequently he observed the fireman's watch which apparently had stopped

at the time of the accident and it also registered 7.56 a.m. Conductor Camery examined the track shortly afterwards, but said that with the exception of a broken angle-bar bolt head found a short distance north of the first mark of derailment, the track appeared to be in good condition and he was unable to find anything about the track or equipment which might have caused the derailment. He accounted for the movement of the engine 219 feet beyond the point of derailment, most of this distance on its left side, shearing off the top of a four-foot embankment, by saying that previous rains had softened the earth in the vicinity so it would not retard the movement of the engine as would solid ground.

Baggageman McHargue said he did not open the door of his car after leaving Latonia until the derailment occurred, and while he had not paid any particular attention to the speed of the train, he thought it was running at the usual rate of speed at the time of the derailment. He said the air brakes had been applied a short time before the derailment but he could not tell the place at which the application was made, the duration of the application, or how much the speed of the train was reduced thereby. He said Conductor Camery came into the baggage car, asked some questions and he had just started to resume work on his baggage report when the accident occurred.

Flagman Martin said he looked at his watch as his train passed DeCoursey and noted that it was then 7.50 a.m. He was riding in the rear car and did not pay any particular attention to the speed, but did not think it exceeded 30 or 35 miles an hour between Spring Lake, 3.2 miles from Grand and Mile Post 11. A light brake application was made about the time the train approached mile post 11 which reduced speed to about 20 or 25 miles an hour, at which speed the train was moving at the time of the derailment.

Assistant Section Foreman Burnside stated that he had inspected the track in the vicinity of the point of accident shortly before the arrival of train second No. 33 and found it in good condition. In company with two section men he was standing in the yard of his house, on the east side of the main tracks near the point of accident, and observed train second No. 33 approaching Grant, he said he was expecting the train to reduce speed for the curve but could not see that the brakes were applied which would have been indicated by fire flying from the wheels and thought the train continued to move at the same rate of speed until it was derailed. As the train approached Grant one of his men inquired as to whether it was train No. 29, the local passenger train, but even from a distance the speed of the

approaching train was such as to be noticeable and he knew that it was not the local. Shortly after the train encountered the curve, water was seen to splash from the tender and the engine and tender then left the rails; he thought the tender was the first to be derailed. He estimated the speed of the train at the time of the derailment to have been at least 40 miles an hour. He had a clear view of the train as it approached and passed him, was looking directly at it at the time of the derailment and saw nothing connected with the train, such as dragging brake rigging, etc., which might have caused the derailment, and expressed the opinion that the accident was caused by the operation of the train at an excessive rate of speed on a sharp curve.

Master Mechanic Hunter said he arrived at Grant about two hours after the occurrence of the accident and made an examination of the engine and tender in an effort to ascertain the cause of the derailment. The flange of one of the engine-truck wheels had an indentation which appeared to have been made by a blow, and it was discolored from heat, there were no marks on the rails, however, to indicate that this had happened while the wheel was on the rail. He said one of the tender wheels had a segment broken out of it, but the break appeared to be new, and he did not think it was the cause of the accident. After engine 264 was rerailed and brought to the shops at Covington he made a further detailed examination and as a result of his investigations he was of the opinion that no defective condition existed in the engine or tender which could in any way have contributed to the cause of the derailment. Examination of the track showed that the gauge at the point of derailment was 4 feet 8¾ inches, while the superelevation was 4-7/8 inches, which is ample for the speed of 25 miles an hour permitted on this curve. The elevation was uniform, and the gauge in general was properly maintained.

The first indication of derailment was a faint mark one-half inch wide on top of a tie, parallel with and 13 inches from the outside of the left rail of the curve; the next tie southward bore similar but deeper marks, the succeeding tie bore three similar but still deeper marks and the east ends of the succeeding seven ties were badly mutilated; the track was not otherwise damaged except at the point at which the express car and the baggage car were derailed. No unusual marks appeared on any of the rails near the point of derailment, nor was the guard rail polished or marked to indicate that it had offered any resistance to the derailment of the train.

There were indications that the engine had turned over on its left side almost immediately, the air compressor from the left side of the engine being found 132 feet south of the initial point of derailment, embedded in the clay bank, 13 feet east of the center line of the southbound main track, while the cab of the engine contained a quantity of cinders similar to those spread between the main tracks a short distance north of where it came to rest, indicating that most of the movement made subsequent to the derailment was while the engine was on its left side. It also appeared that clay from 1 to 2 feet in thickness had been sheared from the top of the bank between the main tracks to the point at which the engine came to rest. According to the testimony, train second No. 33 had traveled the distance of 4.51 miles between DeCoursey and the point of accident in 6 minutes, or at an average speed of 45 miles per hour.

Conclusions

This accident is believed to have been caused by the operation of train second No. 33 at an excessive rate of speed on a sharp curve, for which Engineman [illegible] Merringer is primarily responsible.

While both Conductor Camery and Flagman Martin said the speed had been reduced to about 25 miles an hour, the weight of all the evidence is to the contrary. The section foreman who witnessed the derailment estimated the speed to have been at least 40 miles an hour and said the speed when approaching the station was so great as to be noticeable. It also appeared that after derailment the engine continued a distance of 219 feet, a large part of this distance on its left side, shearing off the top of an embankment, until finally the pilot became embedded in the earth, with still sufficient momentum remaining to swing the rear of the engine around away from the track until it was practically at a right angle to the track. Under such circumstances it seems apparent that the estimate as to speed made by the section foreman is more nearly correct, and in view of the fact that careful examination both of track and equipment failed to disclose any defect which could have caused the accident, it is believed that this excessive rate of speed was responsible for the occurrence of the accident. Engineman Merringer had been promoted to engineman in October, 1920, and was regularly assigned to freight service.

At the time of the accident the members of the crew had been on duty about 1 hour, after off-duty periods of 12 hours or more.

Respectfully submitted,

W. P. Borland,

Director.