Inv-2411

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT OF THE DIRECTOR

BUREAU OF SAFETY

ACCIDENT ON THE

LEHIGH VALLEY RAILROAD

ROCHESTER, N. Y.

JANUARY 27, 1940

INVESTIGATION NO. 2411

SUMMARY

Inv-2411

Railroad:	Lehigh Valley	
Date:	January 27, 1940	
Location:	Rochester, N.Y.	
Kind of accident:	Head-end collision	
Trains involved:	Motor and deadhead car	: Yard engine and : cars
Train number:	Extra 17	
Engine numbers:	Motor-car 17	: 130
Consist:	2 cars	: 3 cars
Speed:	20-40 m.p.h.	: Practically : stopped
Operation:	Timetable, train orders and manual block system	
Track:	Single; tangent; 0.75 percent descending grade westward	
Weather:	Clear	
Time:	About 10:35 a.m.	
Casualties:	2 killed, 5 injured	
Cause:	Failure to operate Extra 17 under proper control within yard limits.	

To the Commission:

On January 27, 1940, there was a head-end collision between a motor train with deadhead equipment and a yard engine with cars, on the Lehigh Valley Railroad at Rochester, N.Y., which resulted in the death of two employees and the injury of five employees.

Location and Method of Operation

This accident occurred on that part of the Buffalo Division designated as the Rochester Branch which extends between Hemlock and Rochester, N.Y., a distance of 28.4 miles. In the vicinity of the point of accident this is a single-track line over which trains are operated by timetable, train orders and a manual block system. The accident occurred within yard limits on the main track at a point 7,503 feet west of the east yard-limit board. Approaching from the east there are, in succession, a tangent 1,337 feet in length, a 3°45' curve to the right 461 feet in length, and a tangent 621 feet to the point of accident and 1,089 feet beyond. The grade for west-bound trains varies between 0.6 and 0.75 percent descending a distance of 2,011 feet to the point of accident and is 0.75 percent at the point of accident. Approaching from the west there are, in succession, a tangent 1,505 feet in length, a 4°30' curve to the right 540 feet in length, and the tangent on which the accident occurred. The grade for east-bound trains is, successively, 1.34 percent ascending a distance of 500 feet, 0.81 percent ascending 300 feet, and 0.75 percent ascending 689 feet to the point of accident.

From the engineman's side of a motor-car of the type involved, approaching from the east, the point of accident can be first seen from a distance of 792 feet; from the cab of a Diesel switch-engine approaching from the west it can be first seen from a distance of 1,155 feet.

The following rules of the operating department govern:

> 93. Within yard limits the main track may be used, protecting against all trains in accordance with the provisions of Rule 99.
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> Second-class and extra trains and yard engines must move within yard limits prepared to stop, unless the main track is seen or known to be clear.
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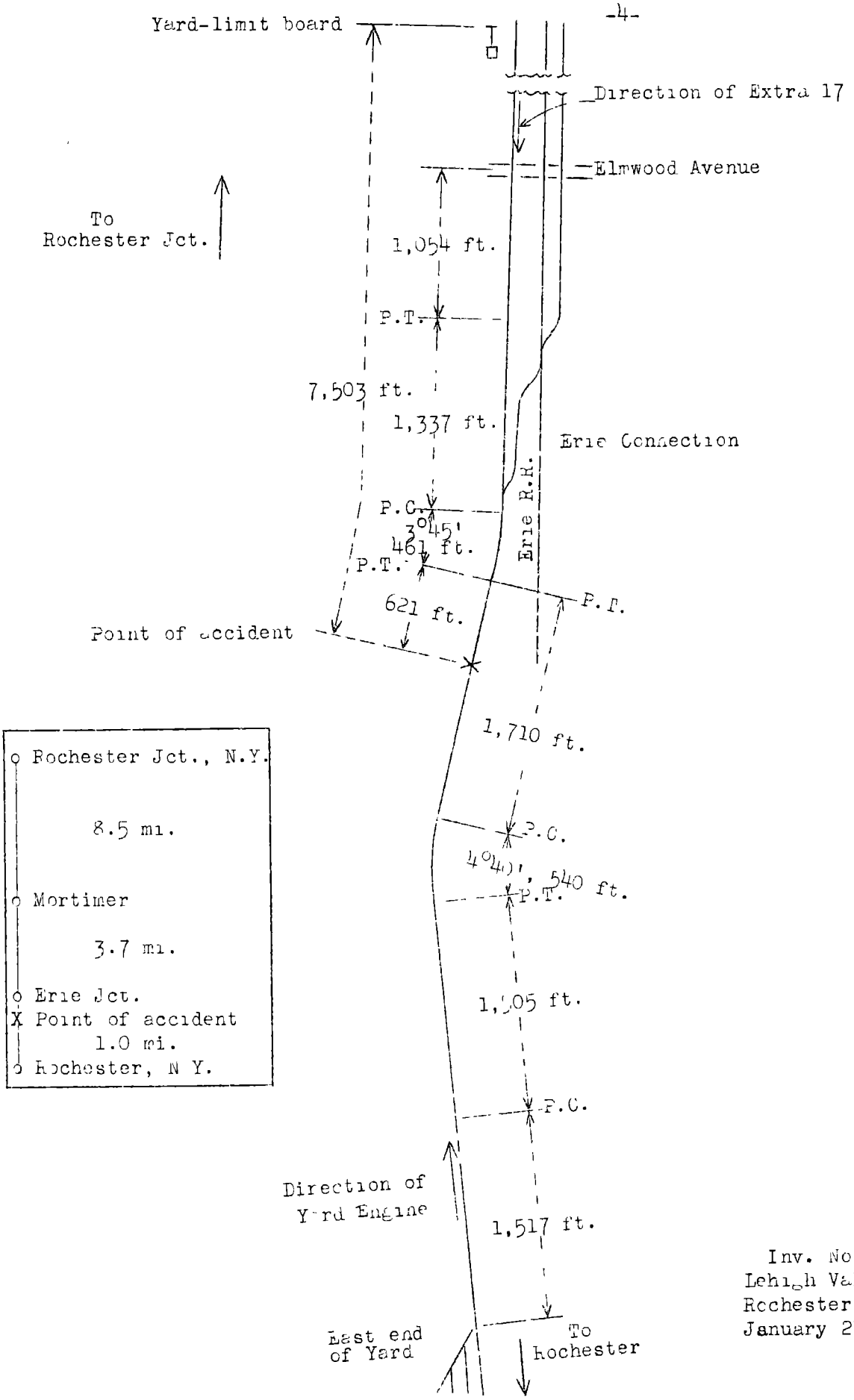
> * * *



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103. When cars are pushed by an engine, except when shifting or making up trains in yards, a trainman must take a conspicuous position on the front of the leading car and when depending upon signal from the trainman, the movement must be stopped immediately when the signal cannot be seen.

Special time-table instructions read in part as follows:

Rochester Branch....Manual Block System for opposing and following movements is in operation. Where there is no operator, Conductors must report to Train Dispatcher on telephone when clear and obtain his permission before again occupying main track.

The maximum authorized speed for first-class trains and passenger extras is 50 miles per hour, and for other trains and light engines it is 30 miles per hour.

The weather was clear at the time of the accident, which occurred about 10:35 a.m.

Description

Yard engine 130, a Diesel-electric switching engine, with Conductor Dieter and Engineman Shepard in charge, with two loaded coal cars in front and one loaded coal car behind, left Rochester yard and entered the main track at a point about 4,650 feet west of the point of accident about 10:30 a.m., according to the statement of one member of the crew; it was making an eastward movement but had practically stopped when it was struck by Extra 17.

Extra 17, a west-bound train, with Conductor Lewis and Engineman Douglass in charge, consisted of gas-electric motor-car 17, which was a steel motor-baggage-passenger compartment car and a deadhead combination baggage and passenger car, which was of steel-underframe construction, in the order named. This train departed from Rochester Junction, 13.2 miles east of Rochester, at 10:17 a.m., according to the train sheet, left Mortimer, the last open office and 4.7 miles east of Rochester, at 10:32 a.m., and while moving at a speed variously estimated to have been between 20 and 40 miles per hour collided with the front car which was being pushed by yard engine 130.

The front car being pushed by yard engine 130 telescoped motor-car 17 a distance of about 5 feet; the motorman's compartment was practically demolished. The front truck of motor-car

17 was driven backward about 4 feet and one pair of wheels was derailed. The second car in Extra 17 was neither derailed nor damaged. The first car being pushed by the yard engine was not derailed, but the rear end of the second car stopped on top of the cab of engine 130 and demolished it. Engine 130 was partially derailed.

The employees killed were the fireman and a trainman of the yard engine and those injured were the conductor, the engineman and a trainman of the yard engine, and the conductor and the engineman of Extra 17.

Summary of Evidence

Engineman Shepard, of the yard engine, stated that his engine was en route from Rochester yard to Elmwood Avenue, which is located 3,475 feet east of the point of accident. The weather was clear and he had an unobstructed view on the tangent on which the accident occurred. His engine was moving at a speed of about 15 or 18 miles per hour, the usual speed for yard movements, when he saw Extra 17 as it rounded the curve east of the point of accident. He shut off the power immediately and placed the brake valve in emergency position. He was unable to say how far his engine and cars moved after the brakes were applied in emergency, but the engine was practically stopped when the collision occurred; no one had time to jump off.

Conductor Dieter, of the yard engine, stated that he did not think the air hose were coupled on all the cars being handled by his engine, and that it is not the practice to couple the air hose when making movements of this kind. His engine was moving at a speed of about 10 or 12 miles per hour when Extra 17 was seen as it came around the curve at a speed of 40 or 45 miles per hour. He thought his own engine stopped within three or four car lengths after the engineman applied the brakes in emergency. All members of his crew were in the engine cab; no one had sufficient time to jump off prior to the accident. The weather was clear and he could see as far as Erie Connection, which is located 1,111 feet east of the point of accident.

Trainman Farr, of the yard engine, stated that he thought his engine did not move more than three or four car lengths after he saw Extra 17 and that his own engine was stopped at the time of collision. His engine left the yard about 10:30 a.m., and the accident occurred about 10:35 or 10:36 a.m. There was some snow and the wind was blowing, but he had a clear view of the track ahead, and he did not think that it was necessary for him to ride on the front car as he could see over the two cars from the engine cab. He stood inside the door and main-

tained a constant lookout ahead. When the yard engine leaves the yard to make a movement to Elmwood Avenue it is not the practice to have a clear block and he did not think that it was the general practice for conductors to obtain a lineup before leaving the yard. He understood that yard engines should move within yard limits prepared to stop unless the way is seen or known to be clear. He said that if Extra 17 had been operated in compliance with the yard-limit rule the accident would have been averted.

Engineman Douglass, of Extra 17, stated that before his train left Sayre, his initial terminal, 108.5 miles east of Rochester Jct., the air brakes were tested and found to be in good operative condition. At Rochester Junction he received train order No. 5, Form 19, reading as follows:

> Motor 17 run extra Rochester Jct. to Rochester.

At Mortimer the train-order signal was at stop, but it soon changed to clear and his train departed about 10:33 a.m. When approaching the curve just east of the point of accident, he was operating his train at a speed of about 30 miles per hour and he reduced speed to about 20 miles per hour. As the train rounded the curve he saw cars moving toward him about 250 or 300 feet distant. He immediately placed the brake valve in emergency position and then jumped off. He thought his train did not move more than 150 feet after he made the emergency application; when his train stopped the rear end of the motor-car was opposite him. Engineman Douglass stated that the clear signal at Mortimer indicated to him that the track to Rochester was clear. It was his understanding that a yard engine working on the main track within yard limits is required to be protected by flag in accordance with rule 99. He saw the yard-limit board, which he thought was located about 3/4 mile east of the point of accident. Early in his statement he said that in his opinion he was operating in accordance with the provisions of rule 93 when he reduced his speed to 20 miles per hour, but later he said it was his duty to operate at such speed that he could stop short of an obstruction. He has never been regularly assigned to the Rochester Branch and his last trip over this branch was in October 1939. His eyesight and hearing were last tested in 1938.

Conductor Lewis, of Extra 17, stated that after his train left Rochester Junction the speed did not exceed 30 miles per hour and he estimated that it was from 20 to 25 miles per hour just prior to the accident. He was in the passenger compartment of the motor-car when the accident occurred, which he thought

was about 10:35 a.m. He did not feel an emergency application of the brakes or reduction in speed just prior to the accident. This was his first trip over this branch in about 3 years and he was not sure of the location of the yard-limit board. He knew that within yard limits his train was required to be operated prepared to stop within range of vision. The weather was clear and he could see a distance of about 1/2 mile.

Electrician Broock stated that he was on motor-car 17 to attend to the generator. Motor-car 17 had just been released from the shop and the speed was very low at the beginning of the trip. He estimated that after the train left Mortimer the speed was about 35 miles per hour, but when it rounded the curve east of the point of accident the speed had been reduced to about 20 miles per hour. He did not feel an application of the brakes nor any reduction in speed prior to the accident.

Electrician Cooper stated that he was on Extra 17 to observe the performance of the power units. He was seated on the left side of the cab and as the train rounded the curve east of the point of accident, at a speed of about 20 miles per hour, he saw cars across the curve; he thought the cars were about 500 feet distant. Immediately he looked toward the engineman, who was then in the act of closing the throttle, and saw him place the brake valve in emergency position and start to rise from his seat. He himself started back toward the small door leading to the baggage compartment and had just reached it when the collision occurred.

Division Freight Agent McCafferty, who was in the passenger compartment of motor-car 17, stated that the train was moving at a speed of about 20 miles per hour when he felt an application of the air brakes, which was followed almost instantly by the crash.

At the time of the accident a yard engine was engaged in switching movements on the Erie Railroad, the tracks of which parallel the Lehigh Valley tracks on the south; this yard engine was about 400 feet from the point of accident at the time of its occurrence. All five members of this crew saw Extra 17 approaching at a speed of 30 or 40 miles per hour, and stated no reduction in speed at any time was observed. They estimated the time of the accident as 10:35 a.m. One member of this crew stated that he watched Extra 17 as it moved a distance of about 900 feet, and then suddenly he saw two coal cars and a Diesel engine; these cars were standing and were about 40 feet from the motor train when he first saw them.

Dispatcher Tappan, on duty from 8 a.m. to 4 p.m., January 27, stated that he notified the operator at Rochester freight house that motor-car 17 was en route to Rochester that morning, but he did not have any conversation with any member of the yard crew in regard to motor-car 17, nor did he know that yard engine 130 was making the movement involved. He stated that, under the yard-limit rule, Extra 17 was required to move prepared to stop within the distance the track was seen to be clear.

General Electrical Foreman Bidwell inspected the equipment at the scene of the accident before it was removed. The throttle on motor-car 17 was closed and the brake valve was in emergency position. The throttle on Diesel engine 130 was closed, but it was impossible to see the brake valve at that time.

Observations of the Commission's Inspectors

The Commission's inspectors observed tests, made on February 1 under the supervision of railroad officials, to ascertain the distances in which a motor train similar to the one involved in this accident, moving at various speeds, could be stopped. Motor-car 36 and coach T-73 were used in these tests; the motor-car was of the same type and of the same weight as motor-car 17; the coach, however, was 39,623 pounds lighter than the coach involved. The train moved at a speed of about 25 miles per hour in a westerly direction toward the point of accident; at the east end of the tangent track an emergency application of the brakes was made and the train stopped in a distance of 414 feet; when a full-service application of the brakes was made, the train moved the same distance before stopping. When the train was moving at a speed of 35 miles per hour, an emergency application was made and the train stopped in a distance of 617 feet; when a full-service application was made, it stopped in a distance of 650 feet.

Discussion

According to the evidence, the yard engine was en route to Elmwood Avenue which is located within yard limits, 4,030 feet west of the east yard-limit board, and was moving at a speed of not more than 18 miles per hour when Extra 17 was seen rounding the curve east of the point of accident. The engineman of the yard engine immediately shut off the power and applied the brakes in emergency; the yard engine was either stopped or practically stopped when the collision occurred.

The weight of evidence indicates that Extra 17 was moving at a speed of from 30 to 40 miles per hour as it rounded the curve east of the point of accident and that an emergency application of the air brakes was made very shortly before the collision occurred. The engineman of Extra 17 stated that he approached the curve east of the point of accident at a speed of 30 miles per hour but on the curve the speed was reduced to 20 miles per hour. Other employees on the train did not feel an application of the brakes at any time until immediately before the collision; they estimated that the speed just prior to the accident was about 20 miles per hour.

In the tests to determine stopping distances which were made subsequent to the accident, the car used was materially lighter in weight than the car in the motor train involved; however, this test train was stopped by an emergency application of the brakes from a speed of 25 miles per hour in a distance of 414 feet, whereas the engineman of Extra 17 had an unobstructed view a distance of 792 feet to the point of accident.

Under the provisions of the yard-limit rule, second-class and extra trains and yard engines are required to move within yard limits prepared to stop unless the main track is seen or known to be clear, and the evidence indicates that if the engineman had been operating his train under control in accordance with these provisions, this accident would not have occurred. Under the rules Extra 17 had a clear block from Mortimer to the yard-limit board only; the yard-limit rule governed the operation of this train from the yard-limit board to Rochester station. According to the statement of the engineman of Extra 17 he did not appear to be familiar with the provisions of the yard-limit rule, nor did he seem to understand what rights were conferred upon his train when he received a clear signal at Mortimer. He stated that a clear signal at Mortimer meant that he had clear track to the station at Rochester and that he could operate his train at a speed of 20 miles per hour through the yard limits. He thought that under the provisions of the yard-limit rule the crew of a yard engine using the main track within yard limits should furnish flag protection, but he understood that he should have proceeded prepared to stop short of an obstruction; however, other employees involved appeared to have a proper understanding of this rule. It is the duty of operating officials to instruct all employees so that they will have a proper understanding of the rules. If the engineman of Extra 17 had understood the yard-limit rule, it is probable that this accident would not have occurred.

Conclusion

This accident was caused by failure to operate Extra 17 under proper control within yard limits.

Respectfully submitted,

S. N. MILLS,

Director.