

Inv-2410

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT OF THE DIRECTOR
BUREAU OF SAFETY

ACCIDENT ON THE
NEW YORK, CHICAGO & ST. LOUIS RAILROAD

BLAINE, IND.

JANUARY 13, 1940

INVESTIGATION NO. 2410

SUMMARY

Inv-2410

Railroad: New York, Chicago & St. Louis
Date: January 19, 1940
Location: Blaine, Ind.
Kind of accident: Head-end collision
Trains involved: Passenger : Freight
Train numbers: 21 : 66
Engine numbers: 154 : 605
Consist: 3 cars : 46 cars and
caboose
Speed: 5-20 m.p.h. : 35 m.p.h.
Operation: Timetable, train orders and manual
block system for following move-
ments only
Track: Single; tangent; 0.14 percent
descending grade eastward
Weather: Clear
Time: 2:48 p.m.
Casualties: 9 injured
Cause: Failure to copy a train order
properly and failure to detect
the error during repetition of
order

March 1, 1940.

To the Commission:

On January 19, 1940, there was a head-end collision between a passenger train and a freight train on the New York, Chicago & St. Louis Railroad at Blaine, Ind., which resulted in the injury of three passengers, one railway mail clerk, four employees on duty, and one employee off duty. This accident was investigated in conjunction with the Public Service Commission of Indiana.

Location and Method of Operation

This accident occurred on that part of the Sandusky Division which extends between South Lima, Ohio, and Frankfort Yard, Ind., a distance of 144.4 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 for following movements only. Train orders are transmitted by telephone. At Blaine a siding 4,268 feet in length parallels the main track on the south. The accident occurred on the main track at a point 420 feet east of the west siding-switch. Approaching from the east there is a 1°04' curve to the left 446.5 feet in length which is followed by a tangent about 5,360 feet in length to the point of accident. Approaching from the west there are, in succession, a tangent about 3,600 feet in length, a 1° curve to the right 534 feet in length, and a tangent 1,415 feet in length to the point of accident. The grade is slightly undulating and is 0.14 percent descending eastward at the point of accident.

Rules 202, 209, and 211 of the Operating Department read in whole or in part as follows:

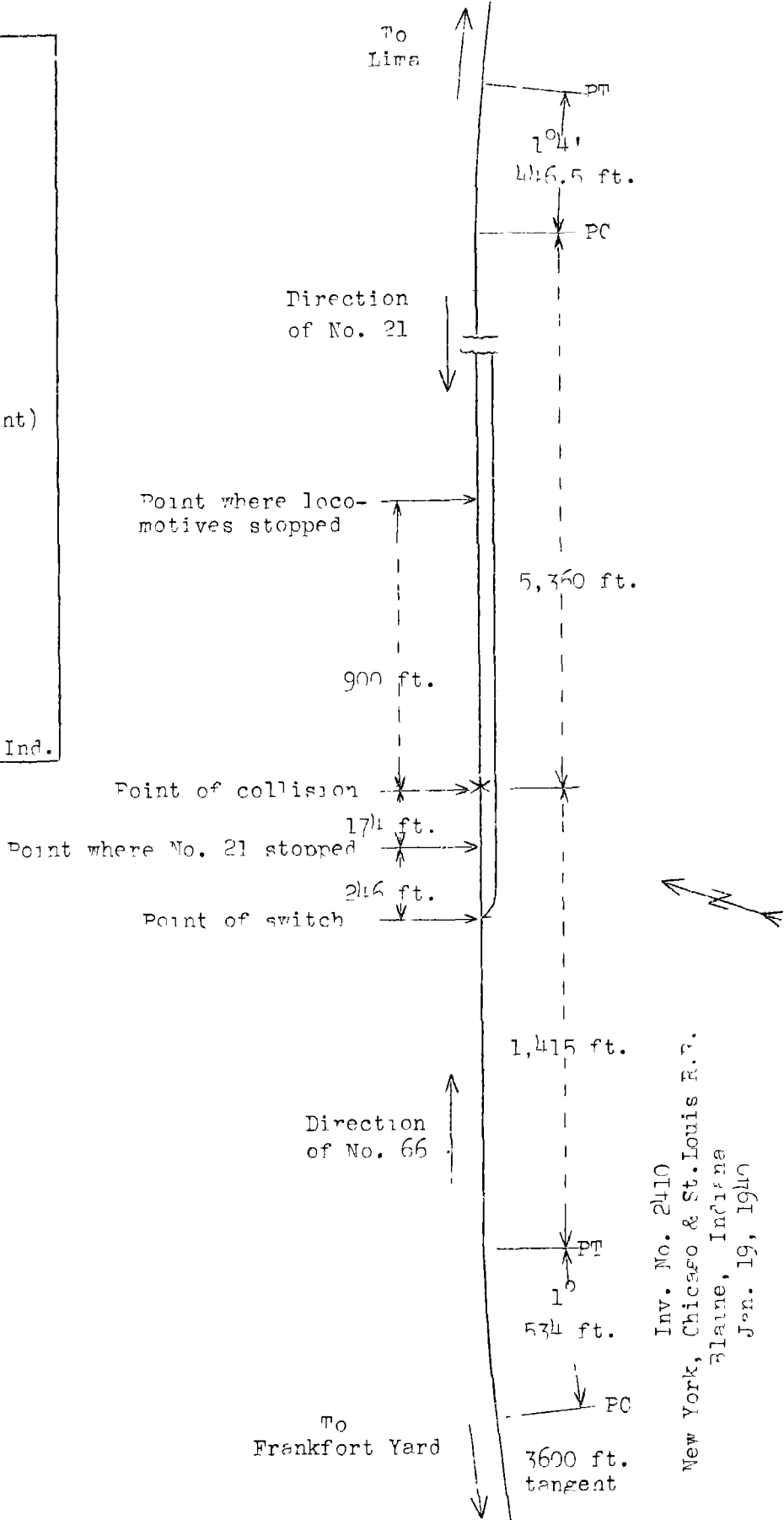
202: Each train order must be given in the same words to all employes or trains addressed.

209: Operators receiving train orders must write them in manifold during transmission. * * *

211: * * * Each operator receiving the order should observe whether the others repeat correctly. * * *

The maximum authorized speed for freight trains is 50 miles per hour.

o	South Lima, Ohio
	29.6 mi.
o	Celina
	25.9 mi.
o	Portland
	4.6 mi.
x	Blaine, Indiana (Point of accident)
	6.3 mi.
o	Red Key
	33.2 mi.
o	Alexandria
	44.8 mi.
o	Frankfort Yard, Ind.



The weather was clear at the time of accident, which occurred about 2:48 p.m.

Description

No. 21, a west-bound passenger train, with Conductor Miller and Engineman Parker in charge, consisted of engine 154, one baggage car, one mail and coach car, and one coach, in the order named; all cars were of steel-underframe construction. This train departed from South Lima, 60.1 miles east of Blaine, at 1:05 p.m., according to the train sheet, 1 hour 7 minutes late. At Celina, 30.5 miles east of Blaine, the crew received a copy of train order No. 70, Form 19, which read as follows:

No two one 21 Eng 154 take siding meet
No six six 66 Eng 605 at Portland

This train left Celina at 1:55 p.m., 1 hour 11 minutes late, and at Portland, 4.6 miles east of Blaine, the crew received three train orders, one of which was order No. 77, Form 19, reading as follows:

No two one 21 Eng 154 meet No six six
66 Eng 605 at Blaine instead of Portland

This train left Portland at 2:36 p.m., 1 hour 7 minutes late, and stopped on the main track clear of the west siding-switch at Blaine about 2:46 p.m. About 1 minute after the train stopped the engine crew saw No. 66 approaching at an excessive rate of speed; in an effort to prevent a collision, a backward movement was started and a speed of 5 to 20 miles per hour had been attained when it was struck by No. 66.

No. 66, an east-bound second-class freight train, with Conductor King and Engineman Locke in charge, consisted of engine 605, 45 loaded cars, 1 empty car and a caboose. This train departed from Frankfort Yard, 84.3 miles west of Blaine, at 12:16 p.m., according to the train sheet, 6 hours 56 minutes late. At Alexandria, 39.5 miles west of Blaine, the crew received a copy of order No. 70, Form 19, previously quoted, and the train passed this point at 1:31 p.m., 5 hours 53 minutes late. At Red Key, 6.3 miles west of Blaine, the crew received two orders, one of which was order No. 77 reading as follows:

No two one 21 Eng 154 take siding meet
No six six 66 Eng 605 at Blaine instead
of Portland

The train passed Red Key at 2:39 p.m., 5 hours 28 minutes late, and at Blaine, while moving at a speed estimated to have been 35 miles per hour, collided with No. 21.

Both engines stopped approximately 300 feet east of the point of collision; they were wedged together and badly damaged, but remained attached to their respective trains. The engine truck of engine 154 was derailed and forced backward under the engine, which caused the driving wheels to be raised several inches above the rail. The engine truck of engine 605 and the front wheels of the tender were derailed. Some seats in the coach were torn loose.

The train-service employees injured were the enginemen and the firemen of both engines.

Summary of Evidence

Engineman Parker, of No. 21, stated that a terminal air-brake test was made at Lima and the brakes functioned properly en route. At Celina he received train order No. 70 which required No. 21 to take siding and to meet No. 66 at Portland. At Portland, order No. 77, which required No. 21 to meet No. 66 at Blaine instead of Portland, was received; this order did not require No. 21 to take siding. He said that his train stopped at Elcine on the main track clear of the west switch, which, according to his order, would be used by No. 66 in taking siding at Blaine. Observing No. 66 approaching so rapidly that he thought it would be unable to stop clear of the siding switch, he reversed his engine and had attained a speed of about 15 miles per hour when the collision occurred.

Fireman Haney, of No. 21, corroborated the statement of Engineman Parker relative to the train orders received on the day of the accident. He said that soon after his train arrived at Blaine, he saw No. 66 approaching at a speed he estimated to have been 55 or 60 miles per hour. The brakeman of his crew was hurrying forward to line the switch for No. 66 to enter the siding, but he was still some distance from the switch when No. 66 passed him. The fireman said that his engineman started the engine in backward motion in an effort to prevent the collision. He estimated the backward movement had attained a speed of 15 or 20 miles per hour when the collision occurred.

Conductor Miller, of No. 21, stated that he was in the telegraph office at Portland when Operator Johnson copied order No. 77 and he observed no undue haste or anxiety on the part of the operator in copying and delivering the order. He did not hear the operator repeat the order, as he was engaged in conversation with the second-trick operator at the time. He said that the order changed the meeting point with No. 66 from Portland to Blaine but did not require No. 21 to take siding. When he received the order from the operator he read it aloud and remarked that his train would hold the main track at Blaine. After he delivered a copy of the order to the engineman, the train moved from Portland to the west siding-switch at Blaine

and stood about 2 minutes on the main track when a backward movement was started; he thought a speed of 5 or 6 miles per hour had been attained when the collision occurred.

Brakeman Young, of No. 21, stated that after his train stopped at Blaine on the main track clear of the west siding-switch he started forward to line the switch for the siding but had gone only a short distance when he saw No. 66 approaching rapidly. He then started to run toward the switch but, seeing that he could not reach it in time, he shouted to his engine-man to back up. He thought that the speed of the backward movement was from 4 to 6 miles per hour when the collision occurred.

Engineman Locke, of No. 66, stated that a terminal air-brake test was made at Frankfort Yard and the brakes functioned properly en route. He said that order No. 70 established a meeting point with No. 21 at Portland and required No. 21 to enter the siding. At Red Key he received an order which changed the meeting point to Blaine and required No. 21 to enter the siding at that point. Approaching Blaine the speed of his train was about 55 miles per hour; the weather was clear, but he was not aware that No. 21 was on the main track until he reached a point about 1,000 feet west of the switch. He then applied the brakes in emergency and closed the throttle; he dropped to the ground a moment before the collision occurred.

The statement of Fireman Schulich, of No. 63, did not add anything of importance.

Conductor King, of No. 66, stated that he received an order at Alexandria to meet No. 21 at Portland; this order required No. 21 to enter the siding. At Red Key he received order No. 77, which changed the meeting point with No. 21 to Blaine instead of Portland; this order also required No. 21 to take siding. Approaching Blaine the speed was about 50 miles per hour. He felt an emergency application of the brakes when at a point about 50 or 60 car lengths west of the point of accident.

Brakeman Brown, of No. 66, corroborated the statements of the engineman and the conductor relative to the train orders they received. He estimated that the speed of his train approaching Blaine was about 50 miles per hour, and about 35 miles per hour at the time of the collision.

Flagman Hawkins, of No. 66, estimated that the speed of his train approaching Blaine was about 50 miles per hour. He corroborated the testimony of other members of his crew relative to the train orders received.

Operator Johnson, who was on duty at Portland the day of the accident, stated that while he was on the station platform delivering orders and mail to No. 21 he was informed by the second-trick operator that the dispatcher had another order for that train, and after notifying the conductor to that effect, he returned to the office. When he reported to the dispatcher on the train telephone, the dispatcher told him that the operator at Red Key had already copied the order and for him to copy it as that operator repeated it. The operator at Red Key repeated the order more rapidly than he could copy it and he had written only a few words of the body of the order on the manifold when the operator at Red Key finished the repetition, and he, confident that he had the remainder of the order fixed firmly in his mind, continued to write the order from memory before he repeated it to the dispatcher. He was positive that he repeated the order to the dispatcher as he had it written on the manifold. Immediately after repeating the order, he tore copies from the manifold and delivered them to the conductor of No. 21, who was standing behind him. He said that after the departure of No. 21, copies of the order and the clearance were lying on the table and, in checking them, it occurred to him that order No. 70, which he had delivered previously to No. 21, had required that train to take siding at Portland, and that order No. 77, which he had last delivered to the conductor, had not contained that requirement. He consulted the dispatcher, who informed him that order No. 77 should have read "take siding." The dispatcher then attempted to stop No. 66 at Red Key but was informed that it had passed that station. He told Operator Johnson to telephone someone at Blaine to stop No. 21, but when communication was established with Blaine, No. 21 had already passed that point. He stated that, in addition to the conductor, Operator Allison, the second-trick operator, was in the office at Portland when he copied, repeated, and delivered order No. 77. He thought that if the order had been transmitted to him by the dispatcher in the usual manner, the error would not have occurred.

Operator Allison, who was in the telegraph office at Portland preparatory to going on duty at 3 p.m. the day of the accident, stated that when he learned the dispatcher wished to give No. 21 another order he informed Operator Johnson, who was on the platform delivering orders and mail to No. 21. He said that Operator Johnson and Conductor Miller came to the office and while the operator copied the order the conductor stood near him, and he, himself, stood behind the conductor. Although he could not see the order as written, he distinctly heard Operator Johnson repeat the order without including the words "take siding." He said that almost immediately after the order was repeated Operator Johnson tore copies of the order from the manifold and delivered them to the conductor.

Operator Ford, who was on duty at Red Key the day of the accident, stated that when he repeated order No. 77 to the dis-

patcher he was not aware that the operator at Portland was copying it during his repetition. He said that when he was instructed to copy order No. 77, No. 66 was not far distant and he had another order ready to deliver to it. After copying, repeating, and receiving complete to order No. 77, he was busy assembling copies of the two orders and a corrected clearance form and placing them in hoops in order not to stop No. 66; therefore, he did not listen to the operator at Portland repeating the order. He said that he received complete to order No. 77 at 2:34 p.m. and No. 66 passed Red Key 4 minutes later.

Dispatcher Owens stated that he first issued an order instructing No. 21 to take siding and to meet No. 66 at Portland. Later, he issued order No. 77 to No. 66 at Red Key and to No. 21 at Portland instructing No. 21 to take siding and to meet No. 66 at Blaine instead of Portland. When he rang these offices on the telephone someone at Portland advised him that he would call the operator who was outside attending to his duties with No. 21. In the meantime he commenced transmitting the order to the operator at Red Key. When the operator at Portland came on the telephone he instructed him to copy the order as the operator at Red Key repeated it. He thought that the operator at Red Key repeated the order slowly enough for the operator at Portland to copy it readily. After the operator at Red Key received complete to the order, the operator at Portland repeated it and received complete, and a moment later reported the departure of No. 21. After a brief interval the operator at Portland again came on the telephone to remark that No. 21 was allowed to hold the main track at Blaine whereas, in the previous order, No. 21 had been required to take siding at Portland. When he informed the operator that No. 21 was to take siding at Blaine the operator told him that the copies of order No. 77 which he delivered to No. 21 did not contain that provision. He then called Red Key in an effort to stop No. 66 but was informed that No. 66 had passed that point. He then instructed the operator at Portland to telephone a store at Blaine, in an effort to have No. 21 stopped, but when telephone communication was finally established with the store he was informed that No. 21 had already passed. The dispatcher stated that he always checks carefully and underscores each word of an order as it is being repeated and in this instance he felt certain that the operator at Portland repeated it the same as it was recorded in the train-order book. The operator repeated in a low voice but not indistinctly. If the operator erred in repeating and he did not detect the error he could not explain the mistake. He was not overworked at the time nor disturbed by others in the office.

During the 30-day period prior to the day of the accident, there was an average of 18.6 trains per day operated over this line.

Discussion

According to the evidence, the copy of order No. 77 held by the crew of No. 66 required No. 21 to take siding at Blaine; however, the copy bearing the same number held by No. 21 did not require that train to take siding and, since No. 21 was a first-class train and No. 66 a second-class train, No. 21 was authorized to hold the main track. This discrepancy in the copies of the order held by these trains resulted in both trains being authorized to hold the main track at Blaine.

Order No. 70 established a meeting point between No. 21 and No. 66 at Portland and required No. 21 to take siding. Later, the dispatcher issued order No. 77, changing the meeting point to Blaine and this order also required No. 21 to take siding. Order No. 77 was issued to Portland for No. 21 and to Red Key for No. 66. When the dispatcher was issuing the order the operator at Portland was not available at the moment as No. 21 was at his station, and, to avoid stopping No. 66, he transmitted the order to the operator at Red Key, intending to re-transmit the order to the operator at Portland as soon as he came to the telephone. While the dispatcher was transmitting the order to the operator at Red Key, the operator at Portland came to the telephone and was instructed to copy the order while the operator at Red Key repeated it. The operator at Red Key repeated the order more rapidly than the operator at Portland could copy it, and the latter succeeded in writing only a few words of the body of the order on the manifold by the time the repetition was finished. The operator at Portland, confident that he had the wording of the order fixed firmly in his mind, continued to write the remainder of the order from memory, but, in doing so, he omitted the words "take siding." He was positive in his statement that he had not repeated the order until he had completed writing it, and that he had repeated it as he had it written; the second-trick operator, who was in the office, heard the operator involved repeat the order and then saw him tear copies from the manifold almost immediately and deliver them to the conductor.

The dispatcher, who was an experienced employee, felt certain that the operator at Portland had repeated the order as it was recorded in the train-order book. He said that he followed the practice of carefully checking and underscoring each word of the order at the time it was repeated, and that if the operator erred in writing the order and he did not detect the error during repetition, he could not explain the mistake. He was not overworked at the time nor disturbed by others in the office. The rules required that the operator at Red Key should observe whether the operator at Portland repeated the order correctly but in order to avoid stopping No. 66 the operator at Red Key left the telephone as soon as he received complete to order No. 77 and prepared the orders and a corrected clearance card for delivery to No. 66.

On this line, following movements are blocked manually but the manual block system is not used for opposing movements, such movements being governed by timetable and train orders. If the manual block system had included adequate provision for blocking opposing movements, it is probable that this accident would have been averted. In view of the density of traffic on this line, which averaged 18.6 trains per day during the 30-day period preceding the day of the accident, it appears that additional protection for opposing movements is warranted.

Conclusion

This accident was caused by failure to copy a train order properly and by failure to detect the error during the repetition of the order.

Recommendation .

It is recommended that responsible officials of this railroad give consideration to the need of additional protection for opposing train movements.

Respectfully submitted,

S. N. MILLS,

Director.