

INTERSTATE COMMERCE COMMISSION
WASHINGTON

REPORT NO. 3607
THE NEW YORK, CHICAGO AND ST. LOUIS
RAILROAD COMPANY
IN RE ACCIDENT
NEAR DUNKIRK, N. Y., ON
DECEMBER 28, 1954

SUMMARY

Date: December 23, 1954

Railroad: New York, Chicago and St. Louis

Location: Dunkirk, N. Y.

Kind of accident: Head-end collision

Trains involved: Wrecking : Freight

Train numbers: Extra 776 West : 90

Engine numbers: 776 : 770 and 740

Consists: Wrecking crane, 5 : 65 cars, 3
cars, caboose : cabooses

Estimated speeds: Standing : 15 m. p. h.

Operation: Movements on double track with
current of traffic by signal
indications, movements against
current of traffic by train orders,
movements on track No. 3 by train
orders and manual block-signal
system

Tracks: Three; tangent; 0.49 percent
descending grade westward

Weather: Raining

Time: 2:42 a. m.

Casualties: 24 injured

Cause: Improperly lined route through inter-
locking, which resulted in the move-
ment of a train against the current
of traffic without authority

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3507

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS
UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

THE NEW YORK, CHICAGO AND ST. LOUIS RAILROAD COMPANY

February 11, 1955

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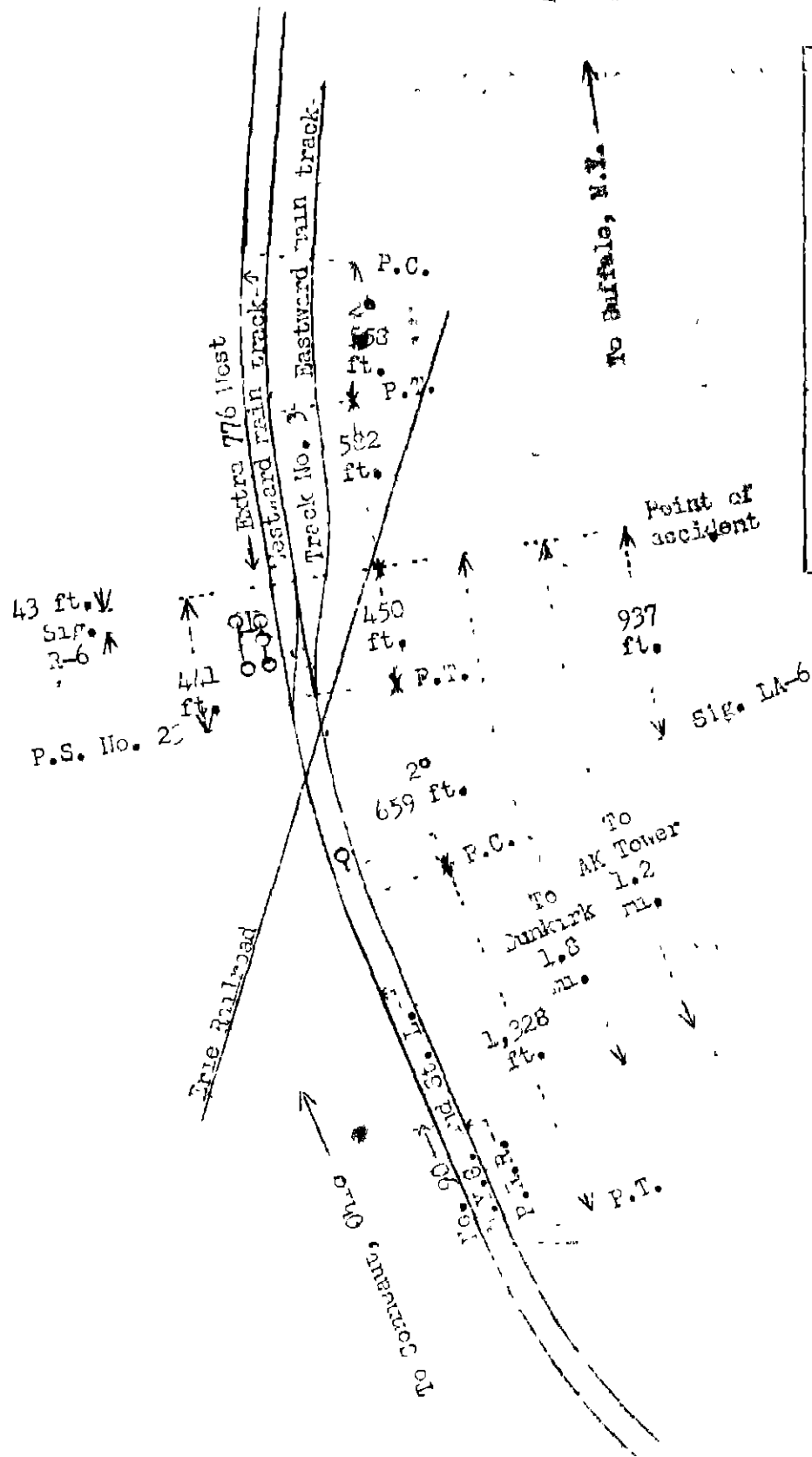
Accident near Dunkirk, N. Y., on December 28, 1954, caused by an improperly lined route through an interlocking, which resulted in the movement of a train against the current of traffic without authority.

REPORT OF THE COMMISSION

CLARKE, Commissioner:

On December 28, 1954, there was a head-end collision between a freight train and a wrecking train on the New York, Chicago and St. Louis Railroad near Dunkirk, N. Y., which resulted in the injury of 12 mechanical department employees of the wrecking crew, and 12 train-service employees. This accident was investigated in conjunction with a representative of the New York Public Service Commission.

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Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Clarke for consideration and disposition.



•	Buffalo, N.Y.
•	3.0 mi.
•	FY Block Sta
•	28.5 mi.
•	Silver Creek
•	7.8 mi.
X	Point of accident
•	0.2 mi.
•	Plate
•	1.0 mi.
•	AK Tower
•	0.6 mi.
•	Dunkirk
•	7.0 mi.
•	Bl Tower, N.Y.
•	66.1 mi.
•	Conant, Ohio

Report No. 3607
 New York, Chicago and St. Louis Railroad
 Dunkirk, N.Y.
 December 28, 1954

Location of Accident and Method of Operation

This accident occurred on that part of the Buffalo Division extending between Buffalo, N. Y., and Conneaut, Ohio, 115.1 miles. Between FY Block Station and BM Tower, N. Y., located, respectively, 3.0 miles and 49.0 miles west of Buffalo, a main track of the Pennsylvania Railroad parallels the main track of the New York, Chicago and St. Louis Railroad on the south. Between these points these tracks are used as double track, over which trains of either railroad moving with the current of traffic are operated by signal indications. Train movements on both tracks are under the jurisdiction of the New York, Chicago and St. Louis Railroad, hereinafter referred to as the Nickel Plate. A track designated as track No. 3, over which trains are operated in either direction by train orders and a manual block-signal system, extends between the two main tracks from Silver Creek, 31.5 miles west of Buffalo, to Plate, 39.5 miles west of Buffalo. The west end of track No. 3 connects with the westward main track within interlocking limits at Plate at switch 23. This switch, which is power-operated, is trailing-point for west-bound movements. The accident occurred on the westward main track at a point 441 feet east of switch 23 and 1.8 miles east of the station at Dunkirk. From the east on the westward main track there is a 2° curve to the left 558 feet in length and a tangent 582 feet to the point of accident and 450 feet westward. From the west on this track there are, in succession, a tangent 1,328 feet in length, a 2° curve to the right 659 feet, and the tangent on which the accident occurred. The grade for west-bound trains is 0.49 percent descending at the point of accident. From the west the grade is 0.51 percent descending throughout a distance of 3,690 feet, then 0.49 percent ascending 675 feet to the point of accident.

Interlocking signals R-6, governing west-bound movements on the westward main track, and LA-6, governing east-bound movements on that track, are located, respectively, 43 feet and 937 feet west of the point of accident. These signals are of the color-light type. Signal LA-6 is of the dwarf type and displays two aspects. Aspects applicable to this investigation and the corresponding indications and names are as follows:

<u>Signal</u>	<u>Aspect</u>	<u>Indication</u>	<u>Name</u>
R-6	Red-over-red	Stop.	Stop.
LA-6	Yellow	Proceed at restricted speed.	Restricting.

Signal LA-6 displays yellow as its most favorable aspect. When the routes within interlocking limits are unoccupied and the code is transmitted to cause this signal to display an aspect to proceed, the same aspect is displayed whether switch 23 is lined for a movement on the westward main track or for a diverging movement to track No. 3.

Interlocking limits at Plate extend between signals R-6 and LA-6 on the westward main track and westward from a point 398 feet east of switch 23 on track No. 3. The interlocking is of the all-relay type and is controlled from the interlocking station at AK Tower, 1.0 mile west of Plate. Time, route, and indication locking are provided. After a train enters the first track section of a route which has been established and for which a signal aspect to proceed has been displayed, route locking prevents the manipulation of any switch within the route until after the train has cleared the interlocking limits. To operate a power-operated switch the operator is required to move the switch lever to the desired position and then depress a code starting button which initiates transmission of the code that causes the switch to be actuated. A signal lever must be moved and a code transmitted in a similar manner to cause a signal to display an aspect to proceed. Indicator lights on the control panel display a green light when a switch is locked in normal position and a yellow light when a switch is locked in reverse position.

Timetable special instructions read in part as follows:

20. MODIFICATIONS AND ADDITIONS TO RULES.

DEFINITIONS

* * *

Restricted Speed--Proceed prepared to stop short of train, obstruction or switch not properly lined and to lock out for broken rail, but not exceeding 15 miles per hour.

* * *

21. SPECIAL INSTRUCTIONS GOVERNING OPERATION OF
BB DOUBLE.

(a) Nickel Plate and P.R.R. main tracks between FY Block Station and BM Tower will be operated as double track.

(b) All trains and engines moving over BB Double will move with the current of traffic by block signals whose indications will supersede the superiority of trains.

* * *

22. SPECIAL INSTRUCTIONS IN CONNECTION WITH MANUAL
BLOCK SYSTEM TERRITORY.

* * *

(b) In issuing train orders the initials and numbers of engines must be shown, P.R.R. for Pennsylvania Engines and N.P. for Nickel Plate Engines.

* * *

The maximum authorized speed for freight trains on the westward main track is 60 miles per hour, but it is reduced to 40 miles per hour between Dunkirk passenger station and Plate, and to 35 miles per hour over the turnouts at the west end of track No. 3.

Description of Accident

Extra 776 West, a west bound Nickel Plate wrecking train, consisted of steam locomotive 776, a wrecking crane, three auxiliary wrecking equipment cars, one bunk car, one wrecking-crew dining car, and a caboose, in the order named. This train passed Silver Creek, the last open office, at 1:04 a. m. and stopped on the westward main track about 1:15 a. m. with the front end of the locomotive 43 feet east of signal R-6, which indicated Stop. About 1 hour 30 minutes later the front end was struck by No. 90.

No. 90, an east-bound second-class Nickel Plate freight train, consisted of steam locomotives 770 and 740, 65 cars, and 3 cabooses. This train departed from Conneaut at 12:37 a. m., 5 hours 47 minutes late. At BM Tower members of the crew received copies of train order No. 5 reading in part as follows:

NP Eng 770 Seven Seven Naught East has right over opposing trains on Westward Track BM Tower to Plate and use No 3 Three Track Plate to Silver Creek.
* * *

The train was diverted to the westward main track at BM Tower and passed that point at 2:24 a. m., 5 hours 44 minutes late. At AK Tower the crew received manual-block authority for movement from Plate to Silver Creek on track No. 3. The train passed AK Tower at 2 40 a. m., according to the dispatcher's record of the movement of trains, passed signal LA-6, which indicated Proceed-at-restricted-speed, passed switch 23, where it should have been diverted to track No. 3, continued eastward on the westward main track, and while moving at a speed variously estimated as from 10 to 15 miles per hour it struck Extra 776 West.

The locomotive and tender of Extra 776 West were derailed. They stopped upright and approximately in line with the track, with the front of the locomotive 207 feet east of the point of collision. A separation occurred between the tender and the wrecking crane, and the rear portion of the train stopped with the crane about 100 feet east of the tender. The locomotive was considerably damaged, the crane was somewhat damaged, and the third car to the rear of the crane was destroyed. Both locomotives of No. 90 and their tenders were derailed. They stopped upright and approximately in line with the track, with the front end of the first locomotive against the front end of the locomotive of Extra 776 West. The front truck of the second car and all trucks of the seventh to the fourteenth cars, inclusive, were derailed. The derailed cars stopped in various positions on or near the track. Both locomotives were considerably damaged. Four of the derailed cars were demolished, and three derailed cars were destroyed by fire after inflammable material in the wreckage became ignited. Three other cars of this train were somewhat damaged.

The engineer of the first locomotive, the firemen of both locomotives, the front brakeman, the swing brakeman, and the flagman of No. 90, and the engineer, the fireman, the conductor, the front brakeman, the swing brakeman, and the flagman of Extra 776 West were injured.

It was raining at the time of the accident, which occurred about 2:42 a. m.

Discussion

Because the eastward main track east of BM Tower was occupied by an east-bound train which was being delayed due to a defective car, No. 90 was authorized by train order to operate against the current of traffic on the westward main track between BM Tower and Plate and to use track No. 3 between Plate and Silver Creek. As No. 90 was approaching the point where the accident occurred the enginemen were maintaining a lookout ahead from their respective positions in the cab of each locomotive. The front brakeman was seated behind the fireman in the cab of the first locomotive, and the other members of the train crew were in the caboose. The headlight was lighted brightly. The brakes of this train had been tested and had functioned properly when used en route. At AK Tower members of the crew had received copies of Clearance Form A which contained block authority for movement on track No. 3. The engineer of the first locomotive said that he made a service application of the brakes when the locomotive was approximately 3,600 feet west of signal LA-6 at Plate. The speed was reduced from between 20 and 25 miles per hour to 10 or 12 miles per hour, as estimated by the engineer. Signal LA-6 indicated Proceed-at-restricted-speed and the indication was called by members of the crew on the locomotive. The throttle of the first locomotive, which had been in drifting position, was then opened slightly, and the speed increased to 14 or 15 miles per hour, as estimated by the engineer. The members of the crew on the first locomotive said that they did not observe the position of switch 23 as their train approached it. The engineer said that he expected the switch to be lined for movement to track No. 3. He first became aware that the route was not properly lined when the front end of his locomotive passed the switch and continued on the westward main track instead of diverging to track No. 3. He immediately moved the brake valve to emergency position and closed the throttle, but the collision occurred before the speed of the train was materially reduced. He estimated that his locomotive was approximately 150 feet distant from the opposing train when the brakes were applied. The fireman said that the emergency brake application was made about the time he became aware that the train was routed to the westward main track. He thought that the cab of the locomotive was then passing over the switch. The engineer of the second locomotive said that at Plate the throttle of his locomotive had been moved from drifting position to closed position. He said that he did not see the position of switch 23 before the first locomotive reached it. He estimated that the speed was about 12 miles per hour when the brakes were applied in emergency.

When Extra 776 West arrived at Plate an east-bound Pennsylvania freight train was being operated over the westward main track from BM Tower to Plate. This train passed Plate about 1:25 a. m. and was diverted to track No. 3 at that point. None of the members of the crew of Extra 776 West observed the position of switch 23 after this train passed. Immediately before the accident occurred the enginemen were in their respective positions in the cab of the locomotive, and the other members of the crew were in various locations in or near the cars at the rear of the train. The independent brake was applied, and the automatic brake valve was in running position. The classification lights of the locomotive were lighted, and the headlight was extinguished. As No. 90 was closely approaching switch 23 the rays of the headlight were cast on the switch, and the fireman of Extra 776 West observed that it was lined for movement on the westward main track. He called a warning, and he and the engineer alighted from the locomotive immediately before the collision occurred.

The operator at AK Tower said that soon after No. 90 passed BM Tower he moved the lever controlling switch 23 to reverse position, the position for movement from the westward main track to track No. 3 at Plate, and depressed the starting button. He said that he was copying a train order at the time the code was transmitted. The control panel was located behind him as he sat at the desk, and he did not notice the position of the switch as indicated by the lights on the panel. Later he operated the lever controlling signal LA-6 and depressed the starting button. The lights on the panel then indicated that signal LA-6 was displaying an aspect to proceed. The operator said that after he operated the switch lever he immediately became engaged with other duties and did not check the position of the switch until after the accident occurred. He left the interlocking station to deliver copies of a Clearance Form A to the crew of No. 90 and to inspect an east-bound train which was moving on the eastward main track. When he returned he found that the visual indicators indicated that switch 23 was locked in normal position although the switch lever appeared to be in reverse position. He thought this condition resulted either because there was a defective condition of the interlocking or because the switch lever had not been in full reverse position at the time he depressed the starting button. If the switch lever is not moved far enough toward reverse position to make contact in that position, transmission of a code will not actuate the switch. The operator said that after the accident occurred he restored the switch lever to normal position to

correspond with the indicated position of the switch. The signal maintainer said that the lever was in normal position when he arrived at the interlocking station about 1 hour 20 minutes after the accident occurred.

After the accident occurred switch 23 was found to be locked in normal position, and the positions of the relays indicated that the switch had last been coded to that position. Inspection and tests of the signal apparatus involved disclosed no defective condition.

The investigation disclosed that an east-bound Pennsylvania freight train was routed from the westward main track to track No. 3 at Plate about 1 hour 15 minutes before the accident occurred. At that time the switches and signals involved functioned as intended. Apparently after this train passed Plate, switch 23 was restored to normal position, and when the operator lined the route for No. 90 he caused signal LA-6 to indicate Proceed-at-restricted-speed while the switch was in normal position instead of reverse position as intended. The operator at AK Tower had been assigned at that station since September 23, 1954.

In this territory movements against the current of traffic and on track No. 3 are authorized by train order. Signal LA-6 governs the use of the routes of the interlocking at Plate but does not convey authority for movements beyond the interlocking limits. In the instant case train order No. 5 required No. 90 to use the westward main track from BV Tower to Plate and to enter track No. 3 at Plate. The indication of signal LA-6 authorized the train to move through the interlocking and required that the speed of the train be so controlled that it could be stopped short of another train or a switch not properly lined. Switch 23 was not properly lined for the intended movement, and this train proceeded without authority beyond the interlocking limits against the current of traffic to the point at which it struck Extra 776 West.

Cause

This accident was caused by an improperly lined route through an interlocking, which resulted in the movement of a train against the current of traffic without authority.

Dated at Washington, D. C., this eleventh day of February, 1955.

By the Commission, Commissioner Clarke.

(SEAL)

GEORGE W. LAIRD,
Secretary.