

RAILROAD ACCIDENT INVESTIGATION

Report No 3885

THE CHICAGO, ROCK ISLAND AND PACIFIC RAILROAD COMPANY

NORTH ENID, OKLA

JUNE 23, 1960

INTERSTATE COMMERCE COMMISSION

Washington

S U M M A R Y

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DATE	June 23, 1960	
RAILROAD	Chicago, Rock Island and Pacific	
LOCATION	North Enid, Okla	
KIND OF ACCIDENT	Side collision	
EQUIPMENT INVOLVED	Yard locomotive	Passenger train
TRAIN NUMBER		17
LOCOMOTIVE NUMBERS	Diesel-electric unit 744	Diesel-electric units 655, 641B
CONSIST		11 cars
SPEEDS	Standing	53 m p h
OPERATION	Timetable, train orders, automatic block-signal system, yard limits	
TRACK	Single, tangent, 0 30 percent descending grade southward	
WEATHER	Clear	
TIME	3 30 a m	
CASUALTIES	12 injured	
CAUSE	Yard locomotive fouling main track without protection on time of a first-class train	
RECOMMENDATION	That the Chicago, Rock Island and Pacific Railroad Company promptly take necessary steps to obtain compliance with its operating rules and rules governing operation of radio communication system	

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3885

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

THE CHICAGO, ROCK ISLAND AND PACIFIC RAILROAD COMPANY

September 13, 1960

Accident at North End, Okla., on June 23, 1960, caused by a yard locomotive fouling a main track without protection on the time of a first-class train.

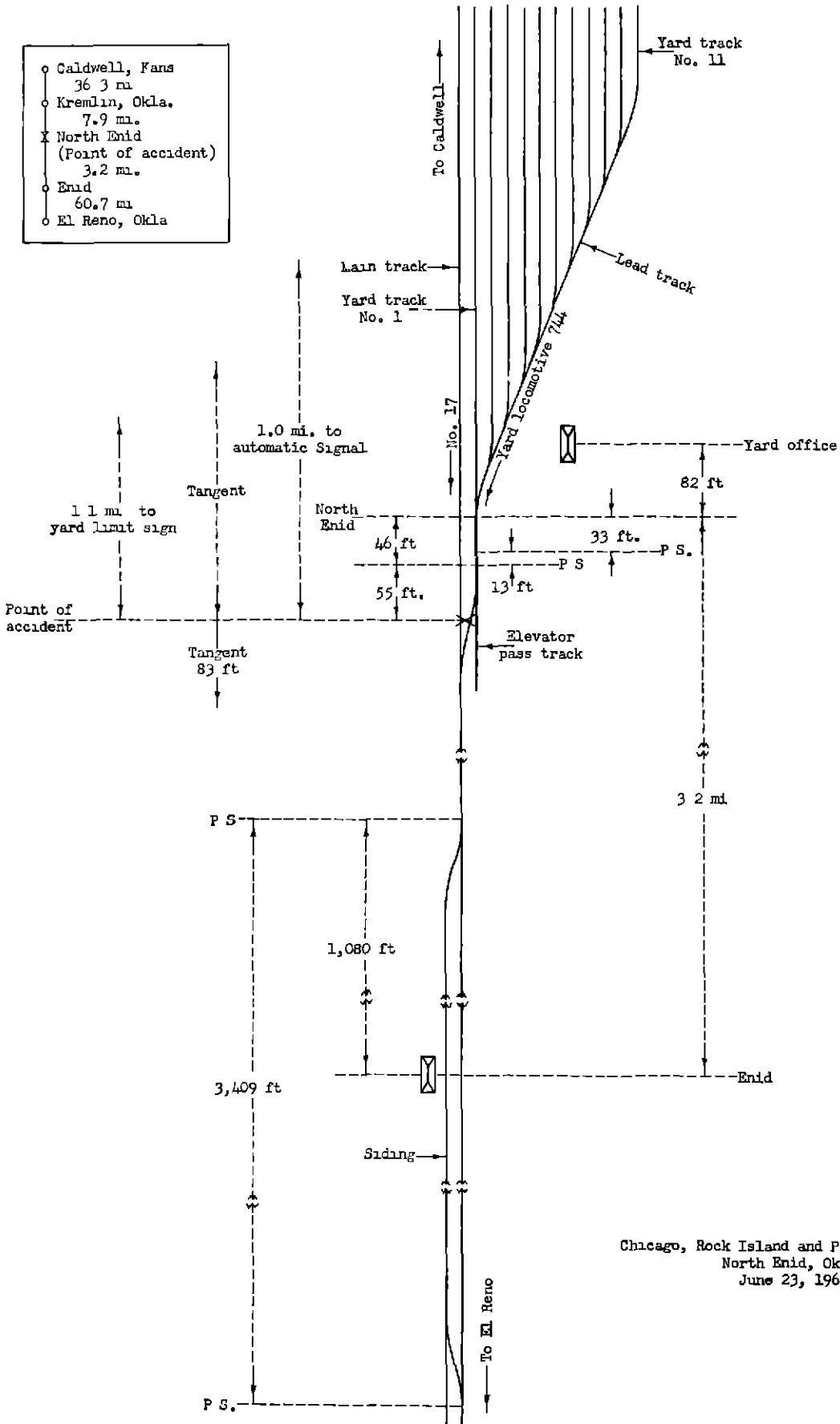
REPORT OF THE COMMISSION¹

HUTCHINSON, Commissioner

On June 23, 1960, at North End, Okla., there was a side collision between a yard locomotive and a passenger train on the Chicago, Rock Island and Pacific Railroad, which resulted in the injury of 10 passengers and 2 train-service employees.

¹ Under authority of section 17 (2) of the *Interstate Commerce Act* the above-entitled proceeding was referred by the Commission to Commissioner Hutchinson for consideration and disposition.

- Caldwell, Kans
36.3 mi.
- Kremlin, Okla.
7.9 mi.
- X North Enid
(Point of accident)
3.2 mi.
- Enid
60.7 mi
- El Reno, Okla



Chicago, Rock Island and Pacific Railroad
 North Enid, Okla.
 June 23, 1960

Location of Accident and Method of Operation

This accident occurred on that part of the Southern Division extending between Caldwell, Kans., and El Reno, Okla., 108.1 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 an automatic block-signal system. At North Enid, Okla., 44.2 miles south of Caldwell, a system of 11 yard tracks parallels the main track on the east as shown in the sketch. Eastward from the main track the yard tracks are numbered 1 to 11, successively. Track No. 1 is 4,800 feet in length and its south end is located 33 feet south of the station sign. A lead track connects the south ends of the 11 yard tracks and extends southward to a point where it connects with an auxiliary track designated as the elevator pass track. This portion of the lead track, and the elevator pass track, parallel the main track on the east at a distance of about 10 feet. A crossover about 185 feet in length connects the lead and the elevator pass tracks with the main track. The north switch of this crossover is facing-point for southbound movements on the lead track and is located 13 feet south of the south switch of track No. 1. Yard limit signs are located about 1.1 miles north and 4 miles south of the station point.

The accident occurred within yard limits at the fouling point of the main track and the crossover at North Enid, 55 feet south of the north switch of the crossover. From the north the main track is tangent for a considerable distance north of the point of accident and 83 feet southward. The grade for southbound trains in the vicinity of the point of accident is 0.30 percent descending.

A yard office is located 82 feet north of the station sign at North Enid and about 100 feet east of the main track.

At Enid, 3.2 miles south of North Enid, a siding for passenger trains parallels the main track on the west. This siding is 3,409 feet in length and its north switch is 1,080 feet north of the station.

An automatic block-signal, governing southbound movements on the main track, is located about 1 mile north of the point of accident.

The switches of the crossover involved are hand operated and are not electrically locked. The switch stand at the north switch of the crossover is of the low-stand vertical-throw type and is located 9 feet 10 inches east of the centerline of the track. It is equipped with a circular yellow target 10 inches in diameter, and with an oil-burning switch lamp having yellow and green lenses mounted above the target. The centers of the target and the lenses of the switch lamp are, respectively, about 3 inches and 18 inches above the level of the tops of the rails. When the switch is in reverse position for movement from the lead track to the main track, the target and a yellow lens of the switch lamp are displayed in the direction of the approaching movement.

This carrier's operating rules read in part as follows:

93 Yard Limit Rule—Within yard limits (designated by yard limit signs), the main track may be used, clearing first-class trains at the time shown at the next station in direction of the approaching first-class train, * * *

If not clear by the time required, train or engine must be protected at that time as prescribed by Rule 99.

Within yard limits, the main track may be used without protecting against second and inferior class trains, extra trains and engines.

99 Flagging Rule — ***

When a train stops under circumstances in which it may be overtaken by another train, the flagman must go back immediately with flagman's signals a sufficient distance to insure full protection placing two torpedoes and when necessary, in addition, displaying lighted red fuseses ***

99 (e) Within ABS territory, a train or engine must not enter or foul a main track at a non-electrically locked hand operated or a spring switch until proper protection has been afforded against following trains, except

(1) When protection is not required by Rule 93

This carrier's rules and instructions governing the operation of its radio communication system read in part as follows

1 These rules do not modify or supersede any rule in the Uniform Code of Operating Rules, supplement thereto, or special instructions supplementary thereto ***

The railroad communication system must not be used in any manner which would cause a violation of such Uniform Code of Operating Rules supplement thereto or special instructions supplementary thereto, ***

The maximum authorized speed for passenger trains in the vicinity of the ... of ... is 70 miles per hour

Description of Accidents

About 3:20 p.m., yard locomotive 744 a road switcher type diesel engine ... of the ... department near the south end, entered the lead track at the ... track at ... with ... and ... the ... switch ... No. 3 ... later ... on the ... track ...

... 4 B ... 2 1/2 ... 3 minutes ... while moving at a speed of 53 miles per hour ... struck yard locomotive 744

The yard locomotive was derailed and moved about 90 feet southward by the force of the impact. It stopped upright on the structure of the crossover and in line with the main track. It was considerably damaged.

No. 17 stopped with the front end 774 feet south of the point of accident. The 3rd to the 8th cars, inclusive, were derailed. There were no separations between units of the train. The derailed cars stopped upright in leaning positions on the west side of the main track structure, and in line with the main track. Both diesel-electric units were slightly damaged, and the 1st and 2nd cars were somewhat damaged. Of the 6 derailed cars, 4 were heavily damaged and 2 were considerably damaged.

The engineer and the fireman of the yard locomotive were injured.

The weather was clear at the time of the accident, which occurred about 3:30 a. m.

The locomotive of No. 17, the yard locomotive, and the yard office at North End, were provided with radio-telephone equipment.

At the time of the accident, track No. 1 of the yard at North End was almost fully occupied by freight cars.

Discussion

According to the timetable, No. 17 is scheduled to pass Kremlin, the next station north of North End where time is shown at 3:16 a. m., and to pass North End at 3:29 a. m. On the day of the accident the train dispatcher had issued a train order which required this train to meet No. 18, a northbound fast-passenger train, at End. Under the provisions of this order, No. 18, the superior train in any direction, was required to wait on the main track at End until No. 17 entered the north switch of the siding there and cleared the main track. About 3:15 a. m. a trainmaster in the yard office at North End was informed that a baggage car was occupying the siding at End and would interfere with the movement of No. 17 when that train entered the siding as required by the train order. Upon receiving this information the trainmaster communicated with the train dispatcher to find out how to proceed in order to arrange for Nos. 17 and 18 to meet at some point other than End. The train dispatcher declined this request and the trainmaster at No. 17 was then closely approaching North End. The trainmaster said that on 3:20 a. m. or 3:25 a. m., after concluding his conversation with the train dispatcher, he communicated with the engineer of No. 17 by means of a radio-telephone and advised him of the baggage car on the siding at End. He said that he was not sure if he placed that information in the radio-telephone record book of No. 17 or if he told the crew verbally. He said that the engineer acknowledged that he had received this information and that he would advise the crew of it only for the purpose of clearing the siding and clearing the main track. He said that he did not place the information in the radio-telephone record book of No. 17 to advise the crew of it.

Since the radio-telephone equipment was not in use at the time of the accident, it is probable that the crew of No. 17 was not advised of the presence of the baggage car on the siding at End. It is also probable that the crew of No. 17 was not advised of the presence of the baggage car on the siding at End. It is also probable that the crew of No. 17 was not advised of the presence of the baggage car on the siding at End.

man a yard conductor and two yard brakemen. The conductor of this crew then proceeded to the yard office to obtain further switching assignments. He said that after entering the yard office he overheard the trainmaster's conversation by radio-telephone with the engineer of No. 17, and that when this conversation was completed the trainmaster instructed him to hurry with the yard locomotive and proceed from North Enid to Enid ahead of No. 17 to remove the baggage car from the siding. He said that when the trainmaster instructed him to hurry with this movement, he did not think of providing flag protection against No. 17, but immediately left the yard office, ran to the crossover connecting the lead track to the main track and began to line the switches of the crossover for movement of the yard locomotive to Enid on the main track. As the conductor was running toward the crossover he gave a signal for the yard locomotive to proceed southward on the lead track. He said that after he arrived at the crossover, he looked northward along the main track, observed that no southbound train was approaching, and then lined the north switch of the crossover for movement of the yard locomotive to the main track. He said that he was en route to line the south switch of the crossover for this movement when the yard locomotive entered the north switch of the crossover and fouled the main track, and that he was unaware of the approach of No. 17 until immediately before the collision occurred.

The engineer of yard locomotive 744 said that shortly after the conductor left the locomotive on the lead track and entered the yard office, he heard the trainmaster inform the engineer of No. 17 by radio-telephone that a yard locomotive would proceed ahead of No. 17 from North Enid to remove a baggage car from the siding at Enid. Soon afterward he observed the conductor leave the yard office and give a signal for the yard locomotive to move southward on the lead track. The engineer said that his attention was then diverted from the conductor while he operated the controls and caused the headlight at the south end of the locomotive to become lighted dimly. He said that as the yard locomotive started to move southward on the lead track he observed that the north switch of the crossover was lined in normal position for movement from the lead track to the elevator pass track, and that he assumed the yard locomotive would proceed to Enid via the latter track. He said that he did not observe the conductor line the north switch of the crossover, and that as the locomotive approached, a member of the crew standing on the ground adjacent to the switch blocked his view of the switch target and lamp. He said that he was unaware that the switch had been lined for a diverging movement until the locomotive entered the crossover. He immediately became concerned and applied the independent brake and the locomotive stopped, fouling the main track. He said that about the same time the fireman called a warning and he was operating the controls in an effort to move the locomotive northward clear of the main track when the collision occurred. The fireman said that as the locomotive moved southward on the lead track he was maintaining a lookout in the direction of movement and his view of the main track was obstructed by cars occupying track No. 1. Because of curvature of the lead track and the hood structure at the rear of the locomotive his view was considerably restricted and he did not observe the position of the crossover switch and did not see the conductor or either of the yard brakemen at this time. He said that he knew No. 17 was overdue but he was unaware of the destination of the movement of his locomotive. When the locomotive entered the crossover and was stopped he observed No. 17 approaching and immediately called a warning to the engineer, then moved to the opposite side of the control compartment before the collision occurred.

The yard brakeman who was assigned to uncouple cars when the crew performed switching service, was on the steps on the righthand side at the rear of the locomotive as it approached the crossover. He said that he saw the conductor line the north crossover switch for movement to the main track and proceed toward the south switch of the crossover. The yard brakeman then diverted

his attention in another direction. He was aware of the schedule time of No. 17 at this point but did not ascertain if this train was then overdue. He said that when the locomotive fouled the main track he became aware that a train was approaching and jumped off the steps of the locomotive about the time that the collision occurred.

The other yard brakeman had proceeded to the yard office while the locomotive was stopped on the lead track and he overheard a part of the trainmaster's radio-telephone conversation with the engineer of No. 17. He understood from this conversation that the yard locomotive was to precede No. 17 on the main track from North Enid to Enid. He said that he had returned to the vicinity of the rear end of the locomotive when he observed the conductor emerge from the yard office, give a signal for the locomotive to move southward, and then run toward the north switch of the crossover. He said that the conductor shouted instructions for the locomotive to be moved quickly to the main track and he thought the conductor had received authorization for the movement on the time of No. 17. The yard brakeman then proceeded toward the north crossover switch. He said that he intended to restore the switch to normal position when the movement was completed and he was in the immediate vicinity of this switch when the accident occurred.

As No. 17 was approaching the point where the accident occurred, its speed was about 77 miles per hour. The enginemen were in the control compartment at the front of the locomotive, and the other members of the crew were at various locations in the cars. The brakes had been tested and had functioned properly when used en route. The conventional headlight and the oscillating headlight were lighted. As the train was approaching North Enid the engineer heard the trainmaster calling by radio-telephone. He said that when he responded to the call, he was informed that a yard locomotive was removing a baggage car from the siding at Enid. He said that he acknowledged this information, and that he had understood the yard locomotive was already at Enid and engaged in removing the baggage car from the siding. He said the southward automatic block-signal located about 1 mile north of the point of accident was indicating Proceed as the locomotive entered the block, and that about this time he initiated a light service application of the brakes to reduce the speed of the train while passing North Enid. As the speed of the train was being reduced, the engineer observed the yard locomotive moving slowly southward on the lead track toward the crossover, and as the train closely approached the crossover he observed the yard locomotive enter the crossover and foul the main track. He immediately initiated an emergency application of the brakes. The speed of the train was reduced to about 53 miles per hour when the collision occurred.

The investigation disclosed that the fireman, the yard conductor, and one of the yard brakemen involved had limited experience in railroad service. The fireman had three months experience in that capacity. The yard conductor had about eight months experience in yard service during which he had served 7 days as conductor prior to the day of the accident. One yard brakeman, without previous railroad experience, had been employed 17 days, and the other yard brakeman, who had considerable experience in that capacity in yard service on other railroads, had been employed by this carrier a total of 11 days at this point prior to the day of the accident.

The controlling circuits of the signal system are so arranged that when the north switch of the crossover is lined for a crossover movement, the automatic block-signal governing southbound movements in the block in which the accident occurred is caused to display its most restrictive aspect. The enginemen of No. 17 said that this signal indicated Proceed at the time their locomotive entered the block which it governs. Under these circumstances it is evident that the north crossover switch was in normal position at that time, and that this switch was operated and the

yard locomotive entered the crossover and fouled the main track while No 17 was moving between the signal and the point where the accident occurred

The rules of this carrier provide that within yard limits the main track may be used, clearing first-class trains at the time shown at the next station in direction of the approaching first-class train. Within yard limits in automatic block-signal territory, a train or engine must not enter or foul a main track at a non-electrically locked hand-operated switch until proper protection has been provided against following trains, as prescribed by Rule 99, except when such protection is not required by the yard-limit rule. The rules governing operation of the railroad radio communication system provide that such system must not be used in any manner which would cause a violation of the operating rules. In the instant case the north crossover switch was lined for movement to the main track and yard locomotive 744 entered the crossover and fouled the main track after No 17 was due to leave Kremlin, and before protection as prescribed by Rule 99 was provided. In addition, with respect to the use of the communication system, after oral instructions were issued for yard locomotive 744 to precede No 17 to Enid, the radio communication system was used in the presence of the yard conductor to transmit information as to the intended movement to the engineer of No 17. The engineer of that train acknowledged receipt of this message but he derived from it an erroneous impression that the yard locomotive already had arrived at the siding at Enid. Under the provisions of a time order, No 18, which was superior to No 17, was required to wait at south absolute signal Enid until 3 35 a m, and the yard locomotive involved was required to clear this time. Considering the purpose of the movement, the time at which instructions for this movement were issued to the yard conductor, and the subsequent communication by radio-telephone of this information to the engineer of No 17, it is evident that it was intended to move yard locomotive 744 to Enid ahead of No 17 and on the time of that train, against the schedule of No 18 without other protection than the authority contained in a train order previously issued to members of the crew of No 17, among others, which authorized that train to proceed to Enid to meet the superior train. This did not constitute adequate protection for the movement of the yard locomotive with respect to either of these trains. The use of the radio communication system in the manner here involved was contributory to the violation of the operating rules which resulted in this accident.

Cause

This accident was caused by a yard locomotive fouling the main track without protection on the time of a first-class train.

Recommendation

It is recommended that the Chicago, Rock Island and Pacific Railroad Company promptly take necessary steps to obtain compliance with its operating rules and rules governing operation of radio communication system.

Dated at Washington, D C, this thirteenth day of September, 1960

By the Commission, Commissioner Hutchinson

(SEAL)

HAROLD D McCOY,
Secretary

Interstate Commerce Commission

Washington 25, D. C.

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