

INTERSTATE COMMERCE COMMISSION

WASHINGTON

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INVESTIGATION NO. 2470

THE ILLINOIS CENTRAL RAILROAD COMPANY

REPORT IN RE ACCIDENT

NEAR TAMAROA, ILL., ON

DECEMBER 20, 1940

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SUMMARY

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Railroad: Illinois Central  
Date: December 20, 1940  
Location: Tamaroa, Ill.  
Kind of accident: Rear-end collision  
Trains involved: Freight : Freight  
Train numbers: Extra 3000 South : Extra 1328 South  
Engine numbers: 3000 : 1328  
Consist: 34 cars, cabooses : 36 cars, cabooses  
Speed: 4 m. p. h. : 18-45 m. p. h.  
Operation: Timetable, train orders and automatic  
block-signal system  
Track: Three; tangent; 0.06 percent ascending  
grade southward  
Weather: Dense fog  
Time: About 8 a. m.  
Casualties: 2 killed; 2 injured  
Cause: Accident caused by failure to operate  
following train in accordance with  
signal indications

INTERSTATE COMMERCE COMMISSION

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INVESTIGATION NO. 2470

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

THE ILLINOIS CENTRAL RAILROAD COMPANY

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February 5, 1941

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Accident near Tamaroa, Ill., on December 20, 1940, caused  
by failure to operate following train in accordance  
with signal indications.

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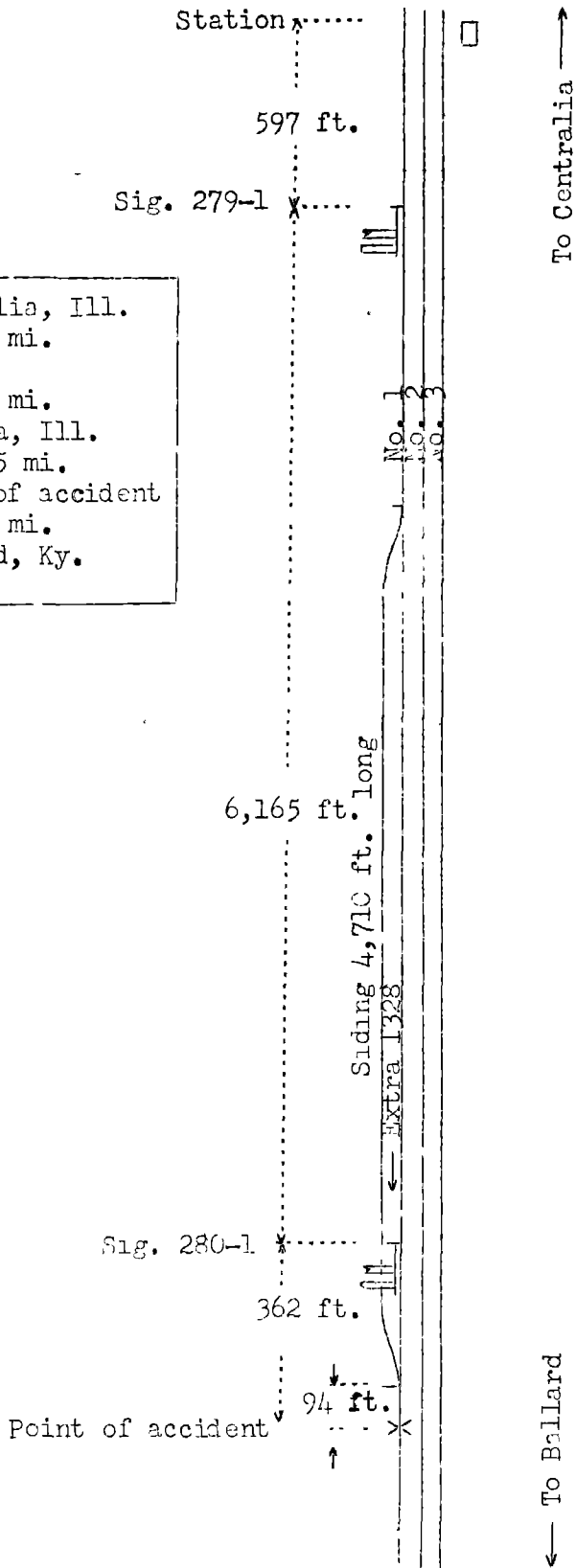
REPORT OF THE COMMISSION<sup>1</sup>

PATTERSON, Commissioner:

On December 20, 1940, there was a rear-end collision between two freight trains on the Illinois Central Railroad near Tamaroa, Ill., which resulted in the death of two employees and the injury of two employees. This accident was investigated in conjunction with the Illinois Commerce Commission.

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

- Centralia, Ill. 13.9 mi.
- Ashley 13.5 mi.
- Tamaroa, Ill. 1.35 mi.
- ⊠ Point of accident 83.7 mi.
- Ballard, Ky.



Inv. No. 2470  
 Illinois Central Railroad  
 Tamaroa, Ill.  
 December 20, 1940

### Location and Method of Operation

This accident occurred on that part of the St. Louis Division designated as the Centralia District which extends between Centralia, Ill., and Ballard, Ky., a distance of 112.4 miles. In the vicinity of the point of accident this is a 3-track line; these tracks, from west to east are: No. 1, southward main; No. 2, northward high-speed main; and No. 3, northward freight main. On tracks Nos. 1 and 2 trains are operated by timetable, train orders and an automatic block-signal system, and on track No. 3 by timetable and train orders only. The accident occurred on track No. 1 at a point 1.35 miles south of the station at Tamaroa. As the point of accident is approached from the north the track is tangent from the station to the point of accident and a considerable distance beyond. The grade for south-bound trains is 0.06 percent ascending at the point of accident. A siding 4,710 feet in length parallels track No. 1 on the west and its south switch is 1.33 miles south of the station. The accident occurred 94 feet south of the south siding-switch.

Signals 279-1 and 280-1 governing movements on track No. 1 are located on masts at the right of the track, respectively, 6,527 and 362 feet north of the point of accident. Operation of signal 279-1 is automatic when the interlocking station at Tamaroa is unattended and semi-automatic during the period that the interlocking is attended; signal 280-1 is automatic. These signals are of the two-arm, two-position, lower-quadrant, semaphore type, continuously lighted. The involved aspects, indications, names and corresponding rule numbers are as follows:

<u>Aspect</u>	<u>Indication</u>	<u>Name</u>	<u>Rule No.</u>
Green-over-green	Proceed	Clear	284
Green-over-yellow	Proceed at Medium Speed Prepared to Stop at the Next Signal	Approach	283
Red-over-yellow	Stop; Then Proceed	Stop and Proceed	282

#### Definitions.

Medium Speed.--Proceed at a speed reduced to not exceeding one-half the maximum authorized at point involved (not exceeding thirty miles per hour) prepared to stop at the next signal.

Restricted Speed.--Proceed prepared to stop short of train, obstruction, or anything that may require the speed of a train to be reduced.

When the south siding-switch is open, or when the main track south of signal 280-1 is occupied, signal 280-1 displays stop-and-proceed and signal 279-1 displays approach.

During the movement of the trains involved in the vicinity of Tamaroa, the interlocking at that point was attended.

Transportation rules read in whole or in part as follows:

11. A train finding a fusee burning on or near its track must stop and extinguish the fusee, and then proceed at restricted speed.

34. All members of train and engine crews must, when practicable, communicate to each other by its name the indication of all signals affecting the movement of their train.

99. \* \* \*

When a train is moving under circumstances in which it may be overtaken by another train, the flagman must take such action as may be necessary to insure full protection. By night, or by day when the view is obscured, lighted fusees must be thrown off at proper intervals.

When day signals cannot be plainly seen, owing to weather or other conditions, night signals must also be used. Conductors and enginemen are responsible for the protection of their trains.

#### ENGINEMEN

993. During foggy or stormy weather must not attempt to recover lost time; take extraordinary precautions, both at switches and at all places where authority to proceed depends upon signals.

Time-table special instructions read in part as follows:

282. On two or more tracks, \* \* \* Trains may pass a "Stop and Proceed" signal without stopping, proceeding at restricted speed not exceeding (15) miles per hour.

In the vicinity of the point of accident the maximum authorized speed for the trains involved is 40 miles per hour.

There was a dense fog at the time of the accident, which occurred about 8 a. m.

#### Description

Extra 3000, a south-bound freight train, with Conductor Vaughn and Engineman Barton in charge, consisted of engine 3000, 84 empty cars and a caboose. This train departed from Centralia, 27.4 miles north of Tamaroa, at 5:42 a. m., according to the train sheet, and entered the siding at Tamaroa to clear for Second 9, a south-bound express and mail train. Soon afterward Extra 3000 entered the southward main track at the south siding-switch, and, while it was moving at a speed estimated at 4 miles per hour, its rear end was struck by Extra 1328 South.

Extra 1328, a south-bound freight train, with Conductor Sissom and Engineman Alstat in charge, consisted of engine 1328, 36 empty cars and a caboose. This train departed from Centralia at 7:15 a. m., according to the train sheet, passed Ashley, 13.44 miles north of Tamaroa, at 7:40 a. m., passed signal 279-1, which displayed green-over-yellow, passed signal 280-1, which displayed red-over-yellow, and, while moving at a speed variously estimated at 18 to 45 miles per hour, collided with the rear end of Extra 3000.

The caboose of Extra 3000 was derailed and demolished. The first seven cars ahead of the caboose were derailed and two were demolished. The rear truck of the eighth car ahead of the caboose was derailed. Engine 1328 and its tender stopped on their left sides on track No. 2 about 400 feet south of the point of accident, and were badly damaged. The first eight cars of Extra 1328 were derailed. The front truck of the ninth car was derailed. Of the derailed cars of both trains, 12 stopped in various positions across the three main tracks, and 3 stopped west of the tracks.

The employees killed were the conductor of Extra 3000 and the engineman of Extra 1328, and the employees injured were the conductor and the fireman of Extra 1328.

#### Summary of Evidence

Engineman Barton, of Extra 3000, stated that fog was encountered about 2 miles north of Tamaroa and it became more dense as his train moved southward. Signal 279-1 displayed

clear. His train entered the north siding-switch to clear for Second 9, and stopped on the siding at 7:04 a. m., with the engine standing about 4 car lengths north of the south siding-switch. At this time he observed that signal 280-1 displayed clear until Second 9 passed on track No. 1 at 7:47 a. m., after which time the indication changed to stop-and-proceed. The front brakeman opened the south siding-switch, and signal 280-1 continued to display stop-and-proceed, then Extra 3000 started to move from the siding to track No. 1. The engineman said that his engine passed the switch at 7:49 a. m., and because of the fog he dropped a 10-minute lighted fusee near the switch on the right side of track No. 1 so that the flagman could locate the switch without difficulty. The fog was so dense that the reflection from the fusee disappeared from his view when the engine was not more than 5 car lengths south of it and he remarked about this to the fireman. The engineman worked steam until his engine was a considerable distance south of the siding switch, then closed the throttle and drifted until he thought the rear of the train was on the main track. He then sounded a proceed whistle signal and again started to work steam, but the brakes becoming applied from the rear indicated that the flagman was unable to board the caboose. The engineman made a full-service brake-pipe reduction to ascertain if all brakes would release properly, then again started the train. The train had attained a speed of about 4 miles per hour when the air brakes became applied and the train stopped about 7:58 a. m. He thought his train consumed 8 or 9 minutes in moving from the siding to the main track. It is customary for a flagman to provide flag protection when a train moves from a siding to the main track, and he depended upon the conductor and the flagman to provide such protection in this case. He said that enginemen are instructed by officials to run at reduced speed during foggy and stormy weather. In his opinion the braking distance between signals 279-1 and 280-1 is sufficient in which to stop a freight train from a speed of 40 miles per hour, if action is taken at signal 279-1.

The statements of Fireman Morgan and Front Brakeman Corzine, of Extra 3000, practically corroborated the statement of Engineman Barton.

Flagman Evilsizer, of Extra 3000, stated that because of dense fog when Second 9 approached Tamaroa, he could not see the headlight until the engine reached a point about 10 car lengths north of the caboose. After Second 9 passed at 7:47 a. m. he turned the caboose markers to display red to the rear and placed two torpedoes on the west rail of track No. 1 opposite the caboose. The train started to move southward and about 2 or 3 car lengths south of the torpedoes he threw a lighted



10-minute fusee to the west side of track No. 1. When the caboose had proceeded about 10 car lengths farther the fusee disappeared from his view. The flagman remained on the rear platform, and when the caboose reached a point about 15 car lengths north of signal 280-1 he threw off another lighted 10-minute fusee to the west side of track No. 1. When the caboose entered track No. 1 he lined the south siding-switch to normal position, then picked up the fusee which the engineman had dropped at the switch; this fusee was consumed about two-thirds its length. As he boarded the rear end of the caboose he looked back and saw the headlight of Extra 1328, which was not more than 10 car lengths distant. He called a warning to the conductor, who was in the cupola, and the flagman jumped just prior to the accident. He estimated that the speed of Extra 1328 was 40 or 45 miles per hour when the accident occurred. The rules permit trains to pass signals displaying stop-and-proceed at a speed not exceeding 15 miles per hour but crews must look out for trains or obstruction. He said that if Extra 1328 had been operated in compliance with these provisions the accident would have been averted. He did not hear any torpedo exploded nor did he hear the engine whistle of Extra 1328 sounded in acknowledgement of either of the two fusees that he threw off. When he lined the south siding-switch he could not see the lighted fusee which he had thrown off about 15 car lengths north of signal 280-1. Since the fusees lighted were of the 10-minute type and since his train did not consume 10 minutes in moving from the siding to track No. 1, he thought that both fusees should have been burning when Extra 1328 approached them.

Fireman Shingleton, of Extra 1328, stated that at Centralia a terminal air-brake test was made and the brakes functioned properly en route. As the train approached Tamaroa the speed was about 30 miles per hour and he was on the left seatbox maintaining a lookout; the engineman was seated in his usual position maintaining a lookout ahead. At signal 279-1 the engineman called its aspect as green-over-yellow; however, because of fog the fireman did not see this signal. The fireman warned the engineman to reduce speed because a train might be on the siding. The engineman made a light brake-pipe reduction, which reduced speed to 18 or 22 miles per hour, then he released; the throttle remained open. When the engine was about 7 car lengths south of the north siding-switch, the engineman said that the siding was unoccupied; this was the last comment he heard the engineman make. When the train neared signal 280-1 the engineman, who was looking ahead, did not call its indication. The fireman was maintaining a lookout ahead but did not see the signal. The first he knew of a train immediately ahead was when he saw the marker of Extra 3000 at a distance of about 4 or 5 car

lengths. At this time the speed was about 18 miles per hour and he jumped off the engine. The engineman did not take action to stop the train. The fireman said that in the vicinity of the point of accident he did not observe a lighted fusee nor hear a torpedo explode. The fireman said there was nothing wrong with the mechanical condition of the engine. The maximum authorized speed for his train in this territory is 40 miles per hour and the distance between signals 279-1 and 280-1 was sufficient in which to stop his train. Under the rules, after the engineman observed that signal 279-1 displayed green-over-yellow he should have reduced speed to not exceeding 20 miles per hour and operated his train so as to pass a signal displaying stop-and-proceed at not exceeding 10 miles per hour prepared to stop short of train or obstruction. The fireman said that if the rules had been complied with the accident could have been averted. If he had heard torpedoes explode or had observed signal 280-1 displaying stop-and-proceed he would have advised the engineman to take further action to control the speed of the train.

Conductor Sisson, of Extra 1328, stated that as the train approached the point where the accident occurred he was in the cupola of the caboose and the speed was about 25 or 30 miles per hour. There was a dense fog which restricted the view of signals to about 175 feet. Brake-pipe pressure of 70 pounds was being maintained. A light brake-pipe reduction was made in the vicinity of Tamaroa, then released; no other brake-pipe reduction was made prior to the accident. The first intimation he had of anything being wrong was the stopping of the train abruptly from a speed of 25 or 30 miles per hour. After the accident occurred he proceeded southward along the east side of the train, and observed a lighted fusee on the west side of the train at a point about 5 or 6 car lengths north of signal 280-1. The rules require that when a lighted fusee is on the track or near it, a train must be stopped, and the fusee must be extinguished, then the train may proceed at restricted speed. When a train enters the main track from a siding, employees are instructed to place torpedoes and fusees on the main track before such movement is made.

Front Brakeman Caraker, of Extra 1328, stated that when his train was approaching the point where the accident occurred he was in the cupola of the caboose, and the speed was about 30 miles per hour. Fog restricted visibility to a distance of 3 car lengths. In the vicinity of Tamaroa he observed, as indicated by the caboose gauge, that a brake-pipe reduction of 5 pounds was made, then released. No other application was made prior to the collision, which occurred at 8 or 8:01 a. m.

Immediately after the accident occurred he proceeded toward the front of the train and observed a lighted fusee on the west side of track No. 1 at a point about 27 car lengths north of the point of accident.

Flagman Faulkner, of Extra 1328, stated that as his train approached Tamaroa he felt the air brakes become applied, then they were released. A fog, which became more dense as his train proceeded southward, considerably restricted visibility. The speed was about 30 miles per hour at the time the accident occurred. Immediately afterward he proceeded back to provide flag protection and observed a burning fusee near the front end of his train and at the west side of track No. 1, but he did not observe any fusee between his caboose and the station at Tamaroa; however, he observed that signal 279-1 displayed stop.

Agent-Operator Mathis, at Tamaroa, stated that when he reported for duty about 7 a. m. a haze was settling. When Second 9 passed the station at 7:47 a. m. and when Extra 1328 passed at 7:57 a. m., the fog was dense and visibility was restricted to about 150 feet. When Extra 1328 passed the station the headlight was lighted, steam was being worked, and the engine whistle was sounded for the road crossings. About 1 or 1-1/2 hours after the accident occurred he observed that signal 279-1 displayed stop.

Car Inspector Sanders, at Centralia, stated that he conducted a terminal air-brake test of Extra 1328 and all brakes functioned properly; the brake-cylinder piston-travel was within the prescribed limits.

General Foreman West stated that he inspected engine 1328 about 9:30 a. m. at the scene of the accident. The throttle was closed, the automatic brake valve in release position, the straight-air brake valve in application position, and the reverse lever in position for forward motion. He attached no particular significance to the position of the throttle and the brake-valve handles, as they could have been disturbed subsequent to the accident. Tests made subsequent to the accident disclosed that the air-brake equipment was in suitable condition for service.

Wrecking Foreman Young stated that an air-brake test of the rear 27 cars of Extra 1328 disclosed that the piston travel of these cars varied between a minimum of 7 inches and a maximum of 8-3/4 inches.

Traveling Engineer Hake stated that in the vicinity of the point of accident a train similar to Extra 1328 could be stopped from a speed of 40 miles per hour by a service brake application in 1,800 feet and by an emergency application in 600 feet.

Signal Maintainer Von Batson stated that when he last inspected signal 273-1, on December 11, and signal 280-1, on December 16, they were functioning properly.

Signal Testman Wasmer stated that about 11 p. m., December 20, he made a detailed check of the signal equipment involved and the signals were found to be functioning properly.

Superintendent McEwen stated that employees are instructed to operate trains with caution during foggy or stormy weather. When fog prevails throughout a considerable distance the dispatchers issue message bulletins concerning the condition of weather; however, in this instance fog at Tamaroa was a local condition only and had existed but a short time prior to the accident. When trains encounter local fog unexpectedly they should operate in compliance with the rules. He said that surprise tests are conducted by displaying restrictive signal indications. His opinion, based on observation, was that enginemen obey the rules.

#### Observations of the Commission's Inspectors

Subsequent to the accident a detailed test of all signal equipment involved was made and the Commission's inspectors observed that the signals functioned properly and the aspects were good. Inspection of the engine disclosed that it was in safe and suitable condition for service.

#### Discussion

According to the evidence, Extra 3000 South had entered the siding at Tamaroa to clear for Second 9, a south-bound express mail train, which passed the south siding-switch on track No. 1 about 7:43 a. m. Immediately afterward, Extra 3000 began to enter track No. 1 at the south siding-switch and about 12 minutes later when it was moving at a speed of about 4 miles per hour its rear end was struck by Extra 1328 South at a point 94 feet south of this switch. A dense fog restricting visibility to a distance of about 175 feet prevailed at the point of accident and throughout a distance of 2 miles immediately north thereof.

Under the rules, Extra 3000 was required to furnish flag protection during the time it was moving from the siding to the

main track and afterward until it had attained sufficient speed that it would not be overtaken by another train. According to the statement of the flagman of this train, he placed two torpedoes on the west rail of track No. 1 opposite the point where his caboose stood on the siding, dropped a burning 10-minute fusee 2 or 3 car lengths farther south on the west side of track No. 1, and dropped another burning 10-minute fusee about 1,000 feet north of the south siding-switch on the west side of track No. 1. As the front brakeman of the following train was in the caboose and the conductor of the preceding train and the engineer of the following train were killed in the accident, the flagman of the preceding train and the fireman of the following train were the only surviving witnesses near the point of impact. According to the statement of the fireman of the following train, he did not hear a torpedo exploded and he did not see a burning fusee. On the other hand, immediately after the accident occurred, the conductor, the flagman and the front brakeman of the following train saw a burning fusee but their estimates of its location varied from a point about 1,400 feet north of the south switch to a point near the south switch; however, they did not see a fusee at the location where the flagman of the preceding train placed the first fusee, but it is probable that this fusee had been dropped more than 10 minutes and had burned out before they made these observations.

At signal 279-1, Extra 1328 received a green-over-yellow aspect, which required this train to approach signal 280-1 expecting to find it displaying red-over-yellow; at the latter signal this train received a red-over-yellow aspect, which required it to proceed at a speed of not more than 15 miles per hour and to be prepared to stop short of train or obstruction. Nevertheless, according to the evidence, Extra 1328 was moving at a speed variously estimated from 13 to 45 miles per hour when it struck the rear end of Extra 3000 at a point 456 feet south of signal 280-1. Subsequent to the accident tests of the signals involved disclosed that they were functioning as intended. No defect that might have contributed to the cause of the accident was disclosed in engine 1328 or in the air-brake system of the following train.

#### Cause

It is found that this accident was caused by failure to operate the following train in accordance with signal indications.

Dated at Washington, D. C., this fifth day of February, 1941.

By the Commission, Commissioner Patterson.

(SEAL)

W. P. BARTEL,  
Secretary.