

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

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REPORT OF THE DIRECTOR  
BUREAU OF SAFETY

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ACCIDENT ON THE  
ST. LOUIS SOUTHWESTERN RAILWAY OF TEXAS

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RUSK, TEX.

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NOVEMBER 6, 1937

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INVESTIGATION NO. 2220

SUMMARY

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Inv-2220  
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Railroad: St. Louis Southwestern Railway of Texas

Date: November 6, 1937.

Location: Rusk, Tex.

Kind of accident: Head-end collision

Trains involved: Freight : Passenger

Train numbers: No. 451 : No. 402

Engine numbers: 563 : Motor 11

Consist: 10 cars : Motor and 1 car

Speed: 1-2 m.p.h. : 10-12 m.p.h.

Track: Tangent; 1.09 percent ascending grade.

Weather: Clear

Time: 3:15 p.m.

Casualties: 1 killed, 3 injured

Cause: Failure of No. 402 to operate under control in yard limits. Failure of the crew of No. 451 fully to comply with the terms of Rule 99 with respect to flag protection.

December 10, 1937.

To the Commission:

On November 6, 1937, there was a head-end collision between a freight train and a passenger train on the St. Louis South-western Railway of Texas at Rusk, Tex., which resulted in the fatal injury of one employee, and the injury of one passenger and two persons carried under contract.

#### Location and method of operation

This accident occurred on the Lufkin Sub-division of the Texas Division, which extends between Prestridge and Tyler, Tex., a distance of 101.14 miles. This is a single-track line over which trains are operated by timetable and train orders, no block-signal system being in use.

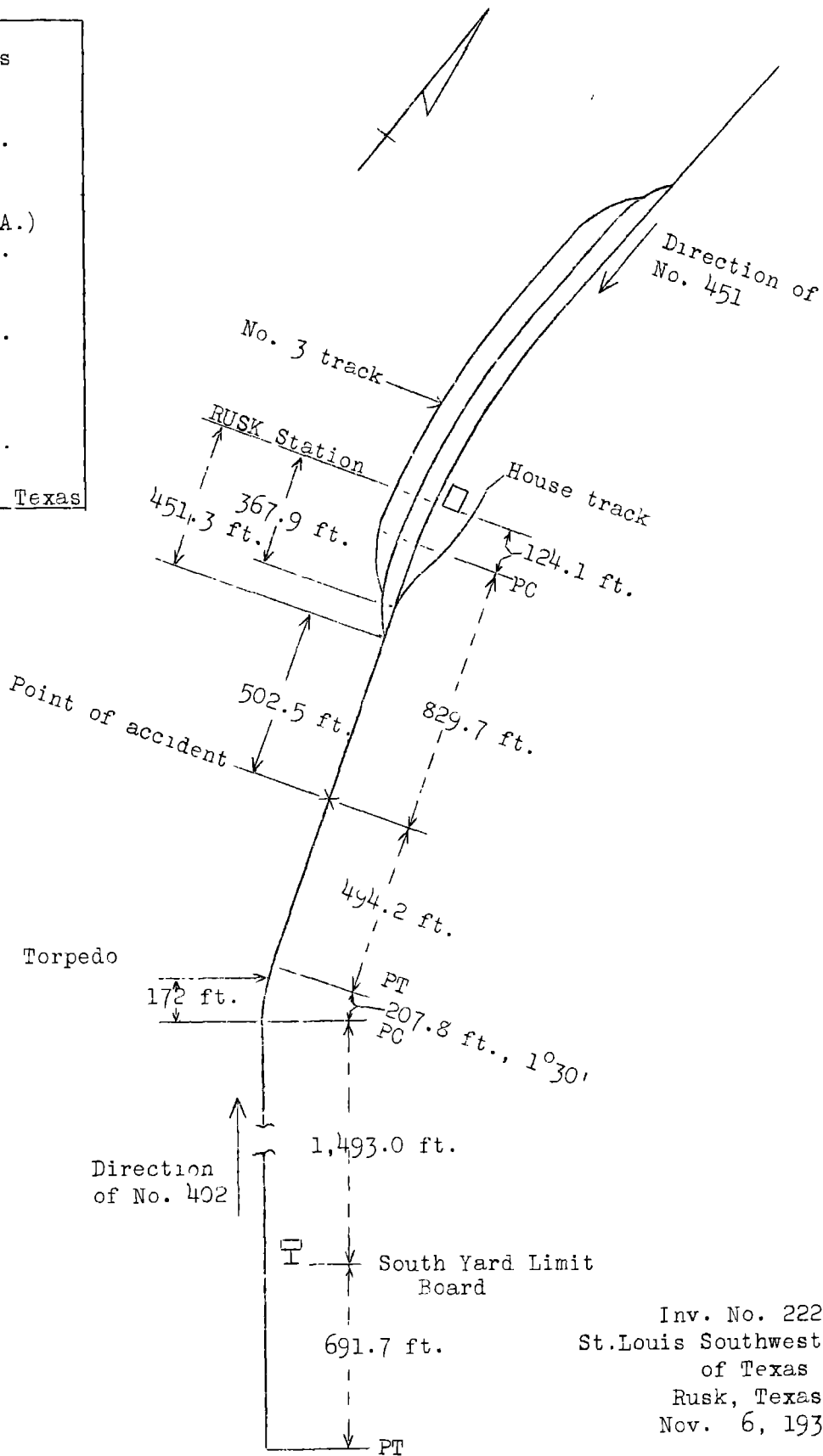
The station at Rusk is on the east side of the main track. A siding parallels the main track on the west side, the south switch being located 451.3 feet south of the station; No. 3 track leads off the siding on the west side and parallels it; the house track is located on the east side of the station, the south switch being located 367.9 feet south of the station. The south yard-limit board is located 3,148.8 feet south of the station.

The accident occurred at a point approximately 953 feet south of the station at Rusk. Approaching this point from the south the track is tangent for a distance of 2,184.7 feet, followed by a  $1^{\circ}30'$  curve to the right 207.8 feet in length and then tangent track 494.2 feet to the point of accident and 829.7 feet beyond. The grade is descending from 0.95 to 2.27 percent for a distance of 5,800 feet, then level track for 500 feet, followed by approximately 1,300 feet of 1.09 percent ascending grade to the point of accident.

Rule 93 reads as follows: "Within yard limits the main tracks may be used, protecting against first class trains. Second and inferior class and extra trains must move within yard limits prepared to stop unless the main track is seen or known to be clear".

Rule 99, in part, reads as follows: "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 fuses. The front of the train must be protected in the same way when necessary by the front brakeman or fireman".

o	Tyler, Texas
	45.56 mi.
x	Rusk (P. of A.)
	4.52 mi.
o	Broughton
	22.65 mi.
o	Wells
	28.41 mi.
o	Prestridge, Texas



Inv. No. 2220  
 St. Louis Southwestern Ry.  
 of Texas  
 Rusk, Texas  
 Nov. 6, 1937

Timetable special instructions provide that "All trains will move under control through Rusk and Lufkin yards, and between Huntington and Prestridge, expecting to find main track occupied by trains of other lines".

Timetable general instructions provide that "Trains required to run under control will run so as to stop within half the range of vision".

The maximum authorized speed for passenger trains in the vicinity of the point of accident is 35 miles per hour on straight track and 30 miles per hour on curves.

The weather was clear at the time of the accident, which occurred at 3:15 p.m.

#### Description

No. 451, a south-bound second-class freight train, consisting of 18 cars and a caboose, hauled by engine 563, was in charge of Conductor Wooley and Engineman Hunter. This train entered the siding at Rusk about 2:55 p.m., after which the engine pulled the 6 leading cars out upon the main track and then backed them into the house track where 4 cars were added. The engine then headed out upon the main track preparatory to backing the 10 cars into the siding and thence to track No. 3. The switch had been lined for the siding and the back-up movement had just started when the engine was struck by No. 402.

No. 402, a north-bound first-class passenger train, consisting of gas-electric motor 11 and one combination mail and express car, was in charge of Conductor Sparks and Engineman Satterfield. This train departed from Wells, the last reporting station, 27.17 miles south of Rusk, at 2:10 p.m., according to the train sheet, one minute late, and collided with the forward portion of No. 451 while traveling at a speed estimated to have been between 10 and 12 miles per hour.

Engine 563 was separated from motor 11 by a distance of several feet when both stopped after the impact. The front of engine 563 was slightly damaged. The rear pair of wheels of the leading truck of motor 11 was derailed; the body transom was driven back a distance of 6 feet 4 inches and the front end was badly damaged.

The employee who was fatally injured was the engineman of No. 402.

### Summary of evidence

Conductor Sparks, of No. 402, stated that the brakes functioned properly en route and he heard no complaint on the part of the engineman concerning any unusual condition of the motor. When proceeding down the hill approaching Rusk, the motor was coasting at a speed of fully 35 miles per hour. The brakes were applied in service approximately 800 to 1,000 feet north of the south yard-limit board, and shortly thereafter he heard the explosion of one torpedo and the acknowledgment on the motor whistle made by the engineman. At this time the speed was about 30 miles per hour and the brakes were still applied in service. He immediately looked out the window and saw a flagman at about the torpedo location on the engineman's side, but could not remember whether the flagman had a flag. The conductor estimated the speed of his train at about 10 miles per hour at the time of the accident, which occurred about 3:13 p.m. The weather was clear and the sun was shining. It was his opinion that the flagman was not out a sufficient distance; however, he thought the accident would have been averted had the engineman applied the brakes when No. 451 came into his view.

Brakeman Campbell, of No. 402, said that the brakes worked properly en route and that they were applied near the south yard-limit board and shortly thereafter he heard the explosion of one torpedo. He went to the platform and looked out on the engineman's side and observed the engineman on his seatbox with part of his body out of the window and looking ahead. The brakeman also observed a flagman about 3 or 4 rail lengths to the rear of No. 402 and running toward it. He did not observe whether the flagman had a flag and did not remember whether the engineman answered a flag or made a further application of the brakes. Brakeman Campbell could not estimate the speed at any point except that he thought it was about 8 or 10 miles per hour at the time of the collision. It was his opinion that No. 402 was not properly flagged.

Engineman Hunter, of No. 451, stated that his train arrived in the clear on the siding at Rusk at 2:55 p.m. The six leading cars were cut off about 2:58 or 3:00 p.m. and the swing brakeman gave the head brakeman a signal to go and flag; the latter lined the south switch for the main track, procured his red flag and boarded the pilot of the engine. When the engine stopped on the main track preparatory to backing into the house track, which was at about 3:02 p.m., the brakeman proceeded southward. Four cars were picked up on the house track and then about 3:05 p.m. the engineman saw the flagman walking southward at a point from 525 to 612 feet south of his engine. The 10 cars were pulled to the main track preparatory to shoving them into the siding. He did not see No. 402 approaching until the cut stopped clear of the

south switch of the siding. After releasing the brakes and reversing the engine he saw the brakeman flagging No. 402. Due to a brake sticking on a car and the necessity of taking slack, he was unable to back away faster and had moved only about a half car length when the accident occurred, which was at 3:15 p.m. He estimated the speed of No. 402 at the time of impact to be between 10 and 12 miles per hour and the speed of his own engine 1 or 2 miles per hour. Engineman Hunter was of the opinion that the engineman of No. 402 could have seen the flagging signal a sufficient distance south of the flagman to have stopped his train, as the track was straight, weather clear and there were no obstructions. It was his opinion that his engine was fully protected in accordance with rule 99.

Fireman Phillips, of No. 451, stated that it was about 3:05 p.m. when the engine headed out upon the main track the first time and the head brakeman was on the pilot. He said 8 or 10 minutes were consumed in picking up the cars on the house track. When leaving the house track he observed No. 402 coming down the hill rather fast and the brakeman was flagging when that train was a considerable distance south of him and then he saw the brakeman put a torpedo on the rail. The fireman heard the explosion of one torpedo and only one blast of the motor whistle which he took to be the station whistle signal. He thought the brakeman was out a sufficient distance under the conditions.

Head Brakeman Shoemaker, of No. 451, corroborated the statement of Engineman Hunter concerning events up to the time of backing into the house track. The head brakeman said it was about 3:07 1/2 p.m. when this movement was made, which was the time he started out to flag. When he heard No. 402 approaching in the distance he placed the only torpedo he had on the rail and when that train came into his view about three-fourths mile distant, he began to flag, at which time he was located about 1,100 feet south of the south switch. When he started out to flag he had a red flag on a staff and two torpedoes but one of the torpedoes was lost en route to the flagging point. When his flagging signal was not acknowledged he walked farther south and the engineman did not acknowledge the signal until the train had reached a point within 175 feet of him. The train passed him at a speed of about 30 miles per hour. After the accident he asked the engineman of No. 402 why he failed to stop and the engineman replied in effect that he could not stop coming down the hill in that manner. The head brakeman was of the opinion that he flagged properly but said that he could have gone possibly 175 feet farther south within the time at his disposal. Brakeman Shoemaker stated that in comparing his watch with the standard clock at Tyler he noted that his watch was 2 1/2 minutes slow and his times are based on those shown by his watch.

Conductor Woolley, of No. 451, corroborated the statement of Engineman Hunter concerning the movements at Rusk. The conductor said that the engine was backing into the house track when he observed the head brakeman at a point 15 or 20 car lengths south of the siding. When proceeding from the house track the conductor heard No. 402 approaching in the distance and then heard that train acknowledge a flag signal just before or simultaneously with the explosion of a torpedo. After the accident he went to see where the torpedo exploded and found that it was 17 rail lengths, or 561 feet, south of the point of accident. He made a vision test at the location of the exploded torpedo and found that he could see for more than a half-mile southward. It was his opinion that the head brakeman could have gone farther south; however he thought the movement, which was a customary one, was properly protected against No. 402.

Swing Brakeman Overleese, of No. 451, stated that it had been the practice to switch in Rusk yard on the time of overdue first-class trains under flag protection and that No. 402 had been flagged many times under similar conditions and that always before the train had approached under control. It was his opinion that No. 402 was properly flagged as to distance considering rules covering Rusk yard, but he thought the flagman had ample opportunity to go farther south if it had been necessary.

Rear Brakeman Sinclair, of No. 451, was located about 15 feet north of the siding switch just after the cut of cars was pulled from the house track. About this time he heard No. 402 acknowledge a flag signal and about 45 seconds thereafter he heard the explosion of a torpedo. It was his opinion that the accident was caused by the failure of the engineman of No. 402 to operate under control within Rusk Yard limits.

Superintendent of Motor Cars Jenkins stated that he tested the brakes on motor 11 and the combination car at Tyler the morning of the accident and they were working properly at that time.

#### Observations of the Commission's Inspectors

The view of an engineman of a north-bound train was not obstructed by the 1<sup>0</sup>30' right curve, which was only 207 feet in length, and an engineman sitting on the seatbox of a motor car could see the general outline of a locomotive and both rails for a distance of a mile from the point where the locomotive of No. 451 was standing before it started to back up just prior to the collision. From a distance of 878 feet the entire front end of the locomotive together with its entire superstructure could have been seen by the engineman of an approaching motor.



Motor 11 is of the gas-electric type, built in 1914, its light weight being 105,500 pounds. It was equipped with M-22 engineer's brake valve and both motor and trailer were equipped with L-3 triple valves. The brake-pipe pressure maintained is 70 pounds.

### Discussion

There is some discrepancy in the statements of the members of the crew of No. 451 as to what time the engine proceeded from the siding. However, no one stated that it was earlier than 3:00 p.m. No. 402 was due out of Broughton, the first point south of Rusk where time is shown, at 2:55 p.m.; and was due out of Rusk at 3:05 p.m., the latter time applying at the north switch of the siding at that point. Consequently it was incumbent upon the crew of No. 451 to furnish flag protection against No. 402 before the engine entered the main track at the south switch but this was not done. No. 402 was approximately ten minutes late but No. 451 held no train order to that effect; however, this tardiness enabled No. 451 to send a flagman to a point approximately 1,100 feet south of the south switch or about 1,500 feet north of the south yard-limit board. The evidence was to the effect that the flagman could have gone farther south, his own estimate being that he could have covered an additional distance of about 175 feet. The flagman placed only one torpedo on the rail, saying that he started out with two but lost one en route. Rule 1485 requires flagmen to have four torpedoes securely attached to their flagstaffs by day and must keep all flagging equipment ready for immediate use at all times when on duty. The flagman could see more than a half-mile to the south of his flagging location and it appears that he began flagging when No. 402 came into his view, but his signals were not acknowledged until that train had almost reached his location. Had two torpedoes, as required by rule 99, been placed on the rail some distance south of his flagging location, it is probable that the engineman of No. 402 would have seen the flagging signals earlier and would have taken the necessary action to stop his train short of No. 451.

Under rule 93 it was permissible for No. 451 to occupy the main track on the time of No. 402 provided the former train was protected according to rule 99. However, a special timetable instruction required all trains to enter Rusk yard limits under control, and a general instruction in the timetable interprets "under control" as in such manner as would insure that the train could be stopped within half the range of vision. The evidence is to the effect that No. 402 was being operated at a speed of 35 miles per hour when entering the yard limits and this speed was not materially reduced at a point 1,500 feet north of the south

yard-limit board. The engine of No. 451 was standing at a point approximately 500 feet south of the south switch; in this location the general outline of this engine could have been seen by the engineman of No. 402 a mile distant and the entire front end of the engine together with the entire superstructure could have been seen from a point 878 feet distant. Since No. 402 was traveling at a speed of 10 to 12 miles per hour at the time of the accident, it is apparent that this train was not being operated under control.

The engineman of No. 402 died before he could be questioned. He was 80 years old. The only known statement made by him subsequent to the accident was to the head brakeman wherein he indicated he could not stop due to the manner in which the train came down the hill. However, the descending grade was followed by 300 feet of level track and then 1,200 feet of ascending grade, the maximum gradient being 1.09 percent. It is not known whether the brakes functioned properly immediately approaching the point of accident; however, the evidence was to the effect that they had been properly working previously during the trip.

The M22 brake valve, with which this motor car is equipped, is a combination valve which may be used to operate either the independent brake or the automatic brake. In No. 402 the motor car was furnished with both independent and automatic equipment whereas the trailer was furnished with the automatic equipment only. The result is that when the independent brake was used only the motor car brakes responded. During an inspection of the motor car made about  $3\frac{1}{2}$  hours after the collision it was observed that the brake valve was in independent application position.

Rule 1578 requires enginemen to keep a constant and vigilant lookout for signals and the position of switches while running, also for obstructions and defects of track. The reason for the engineman's failure to observe the flagman's signals and the location of No. 451's engine when it became possible for him to do so is unknown; the engineman was the only person in the forward part of the motor. A train operating under flag protection depends upon its flagman's signals being acknowledged and respected by approaching trains; therefore, it is highly important that at least one employee on the power unit of a train constantly observe the track ahead.

There was complete agreement among the members of the crew of No. 451 that the timetable special instruction requiring all trains to move through Rusk yard under control did not nullify the requirement of Rule 89 concerning clearance time required at meeting points between trains of different classes, nor did it permit disregarding the requirement of Rule 93 concerning protection against first-class trains within yard limits. At the same time each of

these employees expressed the opinion that his train was sufficiently protected in view of the "under control" requirement affecting the approaching train. On the other hand, the members of the crew of No. 402 were of the opinion that the crew of No. 451 had not furnished adequate flag protection.

The various rules governing the movement of trains through Rusk yard result in an overlapping of responsibility wherein each of the employees involved is likely to place dependence upon the restriction placed on the other employee rather than upon the proper performance of his own duty. Situations of this kind result in the growth of unsafe practices.

#### Conclusion

This accident was caused by the failure of No. 402 to be operated under control in yard limits, and failure of the crew of No. 451 fully to carry out the requirements of Rule 99.

Respectfully submitted,

W. J. PATTERSON

Director