

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT OF THE DIRECTOR

BUREAU OF SAFETY

ACCIDENT ON THE
COLORADO & SOUTHERN RAILWAY

FOLSOM, N. MEX.

FEBRUARY 16, 1938

INVESTIGATION NO. 2252

SUMMARY

INV-2252

Railway: Colorado & Southern
Date: February 16, 1958
Location: Folsom, N. Mex.
Kind of accident: Head-end collision
Trains involved: Passenger : Freight
Train numbers: No. 2 : Extra 5206 South
Engine numbers: C. & S. 354 : C. B. & Q. 5206
Consist: 5 cars : 23 cars, caboose
Speed: 35-40 m.p.h. : 35-40 m.p.h.
Track: 6° curve through cut
Weather: Foggy
Time: 11:42 p.m.
Casualties: 4 killed; 19 injured
Cause: Issuance of a lap order

March 9, 1938.

To the Commission:

On February 16, 1938, there was a head-end collision between a passenger train and a freight train on the Colorado & Southern Railway near Folsom, N. Mex., which resulted in the death of 4 employees and the injury of 11 passengers, 5 railway employees and 3 Pullman employees.

Location and method of operation

This accident occurred on that part of the Southern Division which extends between Trinidad, Colo., and Sixela, N. Mex., a distance of 134.5 miles. This is a single-track line over which trains are operated by timetable and train orders, and a manual block used with permissive cards for following trains only. Train orders are transmitted by telephone. The point of accident was on a sharp curve just outside of a cut and on a fill located about 2 miles north of Folsom. Approaching from the south the track is composed of a series of short tangents and sharp curves, followed by 1,368 feet of tangent, then a 6° curve to the left 922 feet in length; the accident occurred on this curve at a point 207 feet from its southern end. Approaching from the north the track is also composed of a series of short tangents and sharp curves, followed by 200 feet of tangent, and then the curve on which the accident occurred. The grade in this locality is generally ascending northward and is 1.08 percent at the point of accident.

The cut involved ranges from 6.4 feet to 8.3 feet in depth and is about 765 feet in length; for approximately 500 feet at the northern end of the 6° curve the track is laid in this cut and the point of accident is about 150 feet south of its southern end.

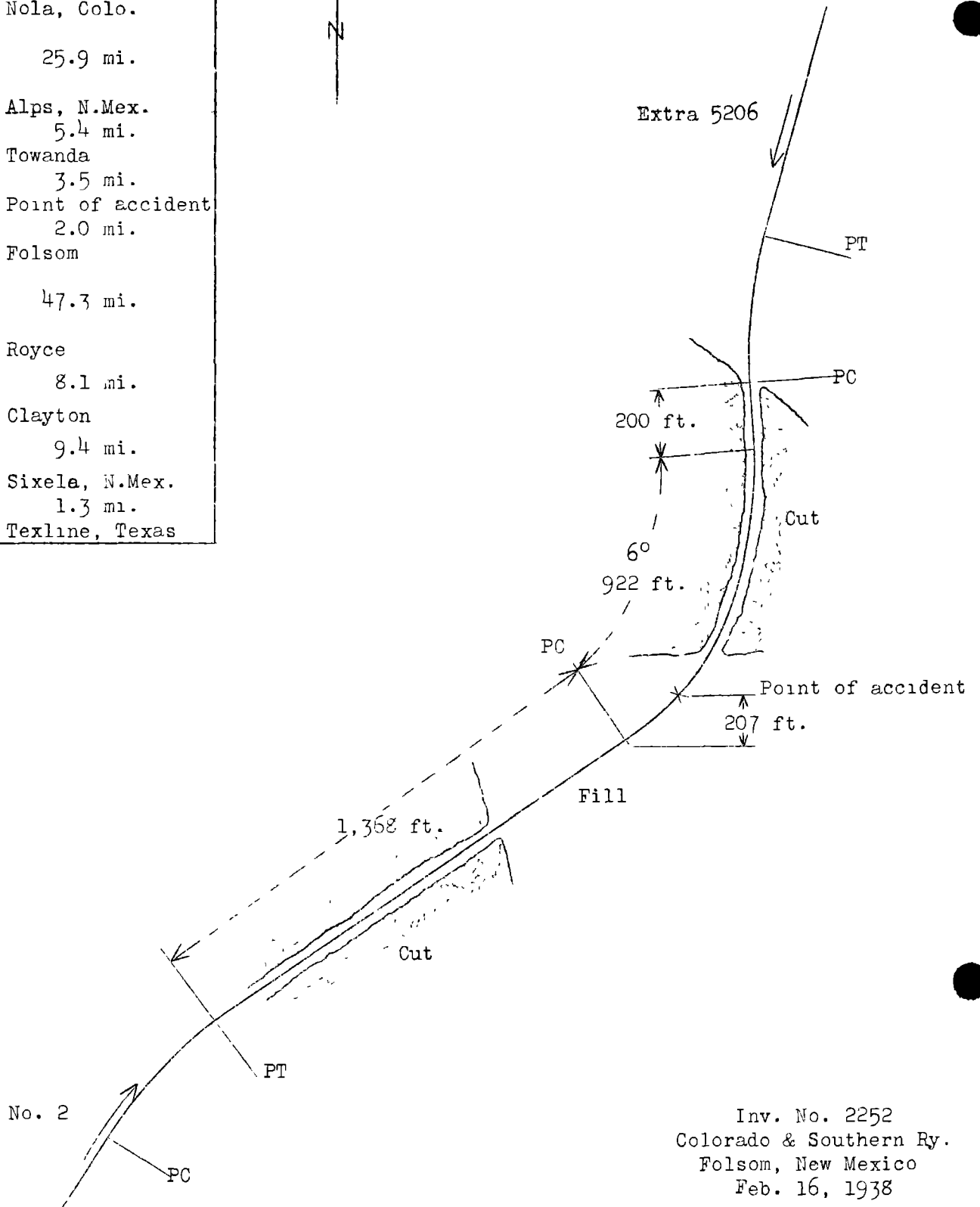
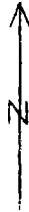
The fill on which the accident occurred ranges from 7.2 feet to 12 feet in height; it is almost 800 feet in length and extends from the above-mentioned cut to another cut farther south.

The view from the engine cabs of opposing trains was restricted to a very short distance because of the cuts and the curvature.

The assigned hours of the operator at Trinidad yard office are from 9 a.m. until noon, and from 1 p.m. until 6 p.m.

Rules 206, S-208, 209, 210, 211 and 216 of the operating rules of this railway are in whole or in part as follows:

○	Trinidad, Colo.
	32.9 mi.
○	Nola, Colo.
	25.9 mi.
○	Alps, N.Mex.
	5.4 mi.
○	Towanda
	3.5 mi.
X	Point of accident
	2.0 mi.
○	Folsom
	47.3 mi.
○	Royce
	8.1 mi.
○	Clayton
	9.4 mi.
○	Sixela, N.Mex.
	1.3 mi.
○	Texline, Texas



Inv. No. 2252
 Colorado & Southern Ry.
 Folsom, New Mexico
 Feb. 16, 1938

206. *** When train orders are transmitted by telegraph, the train dispatcher must underscore each word and figure in the body of the order at the time it is repeated. When transmitted by telephone, he must write the order as he transmits it and underscore as prescribed above.

S-208. A train order to be sent to two or more offices must be transmitted simultaneously to as many of them as practicable. When not sent simultaneously to all, the order must be sent first to the superior train. ***

209. Operators receiving train orders must write or type-write them in manifold during transmission. If the requisite number of copies cannot be made at one writing, they must make others from the original copy and repeat to the train dispatcher from the new copies each time additional copies are made. They must retain a copy of each train order. The time, complete, and the signature of the operator must be in his handwriting.

210. When a "31" train order has been transmitted, operators must, unless otherwise directed, repeat it at once from the manifold copy in the succession in which the several offices have been addressed, ***.

211. When a "19" train order has been transmitted, operators must, unless otherwise directed, repeat it at once from the manifold copy, in the succession in which the several offices have been addressed. ***.

216. For train orders delivered by the train dispatcher the requirements as to the record and delivery are the same as at other offices.

The weather was foggy and it was dark at the time of the accident, which occurred about 11:42 p.m.

Description

No. 2, a north-bound passenger train, consisted of 1 combination mail-baggage car, 1 baggage car, 1 coach, and 2 Pullman sleeping cars, in the order named, all of all-steel construction except the first car which was of steel-underframe construction, hauled by C. & S. engine 354, and was in charge of Conductor Courtney and Engineman Diemer. At Texline, Tex., 1.3 miles south of Sixela, N. Mex., the crew received a clearance, form A, and two train orders, one of which, order 42, Form 31, read as follows:

No. 2 wait at Towanda until 1155PM
Alps until 1205A for Extra 5206 South

Towanda is located 5.5 miles north of Folsom. This train left Texline at 9:23 p.m., according to the train sheet, on time, left Clayton, the last open office, 9.4 miles north of Sixela, at 10:04 p.m., 14 minutes late, passed Folsom, 55.4 miles north of Clayton, and while approaching Towanda at a speed of about 35 to 40 miles per hour collided with Extra 5206.

Extra 5206, a south-bound freight train, consisted of 18 loaded and 5 empty freight cars and a caboose, 1103 tons, hauled by C. B. & Q. engine 5206, and was in charge of Conductor Poirier and Engineman Hampton. At Trinidad yard the train dispatcher delivered to the crew a clearance, form A, and three train orders, one of which, order 42, Form 19, read as follows:

No 2 wait at
Folsom until 1155pm
Towanda until 1205 am
for Extra 5206 South

This train left Trinidad, its terminal and the last open office, north of the point of accident, at 9:30 p.m., according to the train sheet, passed Towanda, and was approaching Folsom at a speed of about 35 to 40 miles per hour when it collided with No. 2.

Both engines stopped down the fill on the east side of the track. C. & S. engine 354 was practically demolished; its boiler was torn off the frame. C. B. & Q. engine 5206 was badly damaged. The cisterns of both tenders were torn off their frames. The first 2 cars in the passenger train were derailed, the deadhead combination mail-baggage car being badly damaged. The first 7 cars in the freight train were derailed and stopped in various positions along, across and on both sides of the track; all of them were badly damaged, as were also the eight and ninth cars which, however, were not derailed. The track was also considerably damaged. The employees killed were the engineman and the fireman of the passenger train and the engineman and the head brakeman of the freight train; all other members of both crews were injured.

Summary of evidence.

Dispatcher Vent, stationed at Trinidad, was unable to attend the formal investigation owing to an unfavorable physical and mental condition brought about by the accident. However a letter written by him was placed in the record; this letter contains the following statements: "After No. 75 left Minnequa Jct., I had figured that could get them to Folsom for No. 2, and had that in mind up to the time I put the order out at Texline for No. 2, then as No. 75 had used 20 minutes longer Minnequa Jct., to Walsenburg than I figured,

I decided that I would not try to get them to Folsom but would be sure they could make Towanda. I copied the order in my office and checked the time but must not have checked the stations. Have always in the past checked the manifold copy with the train order book. I took the orders in the yard office and laid them on the counter for the Conductor, who was getting his waybills, and said to the conductor, 'I figure you will make Towanda.' I also read the order over again, but did not notice the mistake. I cannot claim that I was distracted by other matters or overworked, in fact the case was the reverse this night."

Chief Train Dispatcher Goodpasture stated that the dispatching district extends from Minnequa Jct., Colo., to Texline, Tex., a distance of 229.7 miles; train orders are transmitted by telegraph to stations between Minnequa Jct., and Walsenburg, and by telephone to stations between Walsenburg and Texline. Dispatcher Vent's tour of duty extended from 4 p.m. to midnight; the operator at Trinidad goes off duty at 6 p.m. and after that time the dispatcher is required to deliver orders issued to trains at that point. When delivery of orders is made under these circumstances the rules require the dispatcher to write the order in the train order book as he issues it to the superior train, and to check it against the repetition of the operator to whom it was sent. He must then write the order in manifold for the inferior train and check the manifold copy against the train order book record. This method of procedure provides no means of double checking against the dispatcher.

Dispatcher Vent transmitted train order 42, Form 31, by telephone to the operator at Texline; this order required No. 2 to wait at Towanda until 11:55 p.m., Alps until 12:05 a.m., for Extra 5206. This is the way the order appeared in the train order book which also showed that the order was repeated and made complete at 8:58 p.m., and was signed by the conductor and the train dispatcher; each word and figure was underscored once.

Train order 42 on Form 19 was issued to Extra 5206; this copy of the order required No. 2 to wait at Folsom until 11:55 p.m., Towanda until 12:05 a.m. for Extra 5206. There was thus created a lap order giving two opposing trains right to the same track between Folsom and Towanda, 5.5 miles apart, at the same time. This order was made complete at 9:01 p.m., and contained the signature of Dispatcher Vent in the space reserved for the signature of the operator. Apparently, in this instance Dispatcher Vent failed properly to check the manifold copy of train order as delivered to Extra 5206 against his train order book, and as this order was on Form 19 the conductor was not required to read it back to the person delivering it.

Dispatcher Vent had been off duty 16 hours prior to coming on duty for the trick during which the accident occurred. In the course of an 8-hour period of duty he handles 2 passenger trains in each direction and 2 or possibly 3 freight trains. The only other duty that he might be required to perform would be to handle any message that might arise after the operator went off duty; of these there were seldom more than three or four. As an economy measure, for a period of about 6 years, no operator has been employed in Trinidad yard after 6 p.m.

Chief Dispatcher Goodpasture was of the opinion that delivery of train orders by the dispatcher is safe and proper under the working conditions which prevail at Trinidad during this trick, but had an operator been on duty at Trinidad the chances of error occurring would have been less, and there was a possibility that the accident would have been averted.

Operator Ellis, at Texline, stated that the dispatcher transmitted train order 42 by telephone; the transmission was clear and precise, and well understood, the usual order of procedure being followed.

Fireman Greenwade, of Extra 5206, stated that he read train order 42 and knew that the wait time called for 11:55 p.m. at Folsom, and 12:05 a.m. at Towanda. The air brakes were tested at Trinidad and worked properly. His train passed through Towanda about 11:30 p.m., and had ample time to reach Folsom and clear there within the time specified in the order held by them. Approaching Folsom he was sitting on his seat box looking ahead and the first knowledge he had of anything wrong was when the engineer applied the air brakes in emergency. At the time of the collision the speed was about 35 miles per hour. Fireman Greenwade was on the outside of the curve and was unable to see No. 2 approaching. It was foggy, too, in the vicinity of the point of accident.

Conductor Poirier, of Extra 5206 South, stated that Dispatcher Vent delivered the orders to him without comment at Trinidad yard office. He read the orders back to the dispatcher, and thoroughly understood the contents. Dispatcher Vent appeared to be normal in every respect. The train departed and made one stop en route, at Nola, 32.9 miles beyond. Approaching Folsom the speed was about 35 or 40 miles per hour, and Conductor Poirier and Flagman Austin who were in the caboose were not aware of anything wrong until the crash occurred, at 11:42 p.m.

Conductor Courtney, of No. 2, stated that he received the orders from the operator at Texline and read them back to the operator; his engineer also read the orders which instructed No. 2 to wait at Towanda until 11:55 p.m., Alps until 12:05 a.m. for Extra 5206. The air brakes were tested at Texline and worked properly en route. A stop was made at Folsom where a dense fog prevailed. Approaching Towanda the speed was between 35 and 40 miles per hour.

Discussion

Because of the fact that no operator was on duty at Trinidad yard office at the time train order 42 was issued to Extra 5206, it was necessary for the train dispatcher to make delivery of this order. In cases of this kind the rules require the dispatcher to write the order in the train order book as he transmits it to the operator who is to deliver it to the superior train and to check the entry in the book against the repetition of the operator. He must then write the order in manifold for the inferior train and check the manifold copy against the train order book entry. Train order 42 as it appears in the train dispatcher's train order book is identical with the copy of the order as delivered to No. 2. The order book shows underscorings made as the operator at Texline repeated the order, but apparently the dispatcher did not check the copy of the order to be delivered to Extra 5206 against the order book entry. When he took the orders to the yard office, the conductor of the extra read them back to him but the error was not discovered. Dispatcher Vent stated that as he delivered the orders he said to Conductor Poirier, "I figure you will make Towanda", but Conductor Poirier said that no comment was made by the dispatcher.

The dispatcher's explanation of the probable cause of his error was that up to the time that he put out the order for No. 2 at Texline he had planned to make the order read, "*** wait at Folsom until 11:55 p.m.", but as Extra 5206 did not make as good time as he had anticipated he was forced to change the waiting point.

Under the procedure in effect on this railroad there is no provision for a double check against error in cases where the dispatcher is required to make delivery of train orders. The dispatcher simply compares his manifold copy with his train order book entry. Safer methods of accomplishing delivery under these circumstances should be adopted.

On March 26, 1937, a head-end collision occurred at Royce, N. Mex., on the same subdivision of this railroad. This accident, which was due to failure to obey a wait order, and failure of the inferior train to clear the time of the opposing superior train as required, resulted in the death of 1 person and the injury of 22 persons. In the report of the investigation of that accident it was pointed out that:

While there was a manual block system in use on this line, it applied only to trains being operated in the same direction. Had an adequate block system for both following and opposing movements been in service, it is reasonable to assume that this accident would have been prevented.

The block system which was in effect at that time was still in operation at the time of this accident.

According to the record for the month from January 16 to February 16, 1938, inclusive, the second-trick dispatcher at Trinidad averaged 8 train orders issued per day, and the average number of messages handled in addition during the same period, so far as it was able to determine, was about 3 per day.

For the 30-day period prior to the accident there was a total train movement, passenger and freight, both directions included, of 260 trains, or a daily average of 8.66 trains.

Conclusion

This accident was caused by the issuance of a lap order.

Recommendation

It is recommended that this carrier give consideration to the immediate installation of an adequate block signal system.

Respectfully submitted,

W. J. PATTERSON,

Director.