

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY IN
RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED
ON THE LINE OF THE SOUTHERN PACIFIC COMPANY AT
SUDDEN, CALIF., ON JULY 19, 1925.

November 7, 1925.

To the Commission:

On July 19, 1925, there was a side collision between a passenger train and a freight train on the line of the Southern Pacific Company at Sudden, Calif., which resulted in the death of one employee, and the injury of one passenger and four employees. The investigation of this accident was made in conjunction with representatives of the Railroad Commission of California.

Location and method of operation

This accident occurred on the San Luis Obispo and Santa Barbara sub-division of the Coast Division, this being a single-track line over which trains are operated by time-table, train orders, and an automatic block-signal system. Under the rules, train orders on Form 19 may be used in restricting the rights of superior trains. The point of accident was at the east switch of the eastbound passing-track switch at Sudden; approaching this point from the west the track is tangent for a considerable distance, followed by a 1° curve to the right 1,341 feet in length and then tangent track extending to and beyond the east switch, the head block of which is 354 feet beyond the leaving end of the curve. The passing track is on the inside of the curve, which is the engineman's side of an eastbound train moving on the main track. The grade is level or slightly ascending for eastbound trains until within about 400 feet of the point of accident; it is then 0.70 per cent ascending for a distance of about 3,000 feet.

Near each end of the eastbound passing track there are home automatic signals governing train movements in both directions, these signal locations being 3010 feet apart; the signal locations are 30.3 feet west of the west switch and 66.5 feet east of the east switch, respectively. Operating in connection with eastbound home signal 3172 near the west end of the passing track,

there is a distant signal, No. 3166, located 3,069 feet west of signal 3172, the control circuits for these two signals extending to a point about 2,000 feet east of the switch at the east end of the passing track, opening the east switch therefore sets distant signal 3166 in caution position and signal 3172 in stop position. The control circuit for westbound home signal 3177, located just east of the east passing-track switch, extends westward a distance of 6,079 feet as far as distant signal 3166, and an eastbound train passing distant signal 3166 sets westbound home signal 3177 in stop position.

It was daylight and there was a fog which was beginning to clear away at the time of the accident, which occurred at 4.49 a.m.

Description

Eastbound freight train second No. 330 consisted of 30 cars and a caboose, hauled by engine 2548, and was in charge of Conductor Mayes and Engineman Davis. This was a second-class train consisting principally of stock and perishable freight. At Casmalia, 29.8 miles from Sudden, the crew received a copy of train order No. 316, Form 19, reading as follows:

"Second 330 run ahead of second 110 Antonio to Narlon, ahead of first 102 Antonio to Surf, and ahead of second, third and fourth 102 Antonio to Gaviota."

Gaviota is 22.1 miles east of Sudden. Train second No. 330 left Casmalia at 2.14 a.m. and stopped at Surf to allow train first No. 102 to pass. Surf is 14.6 miles from Sudden and was the last open office west of Sudden. While at Surf the dispatcher gave the crew of train second No. 330 a message instructing them to head in at Arguello, 4.8 miles west of Sudden, to allow train second No. 102 to pass, the dispatcher's reasons for issuing this message being that train second No. 102 was gaining on train second No. 330 and also because of the fact that the passing track at Honda, an intermediate station, was already occupied by a westbound extra which was to meet train second No. 330 at that point. Train second No. 330 left Surf at 3.32 a.m., and it then developed that if train second No. 330 remained on the passing track at Arguello for train second No. 102, it would cause delay to trains third and fourth No. 102, and consequently the dispatcher gave the conductor of the westbound extra at Honda a message for delivery to the crew of train second No. 330 telling them to go to Sudden ahead of train second No. 102 instead of to Arguello. Not knowing of this

message and on account of the fog not being able to see that the passing track was already occupied, train second No. 330 headed in at Honda for the purpose of meeting the westbound extra. The presence of that train was then discovered and train second No. 330 backed out upon the main track and proceeded to Sudden as directed by the message just referred to, arriving at Sudden at 4.20 a.m. The delay to train second No. 330 at Honda resulted in the following sections of train No. 102 closing up somewhat. In the meantime the dispatcher gave an order, No. 326, Form 19, to the crew of train second No. 102 at Surf for delivery to the crew of train second No. 330 at Sudden, reading as follows:

Second 330 run ahead of first-class
trains Surf to Santa Barbara.

When Conductor Mayes called up by telephone upon arrival at Sudden, the dispatcher told him that this order was being sent to him on train second No. 102, but he did not want him to depart from Sudden until after the third and fourth sections of train No. 102, and also the first section of train No. 76, had passed that point. When the copies of order No. 326 were received by Conductor Mayes from the crew of train second No. 102 he retained them in his possession until the third section had passed. At about this time he received verbal instructions from the dispatcher to follow train first No. 76, and he said he wrote out these instructions and sent them together with a copy of the order to Engineman Davis. Shortly afterwards train second No. 330 pulled ahead on the passing track and stopped just into clear at the east switch. Within a minute or two it started to pull out on the main track and was struck by train fourth No. 102.

Train fourth No. 102 was a troop train consisting of two baggage cars, seven tourist cars and one standard Pullman car, hauled by engine 2435, and was in charge of Conductor Welby and Engineman Culp. At Surf the crew received a copy of train order No. 326 on Form 19, quoted above. Train fourth No. 102 passed Surf at 4.20 a.m., 1 hour and 18 minutes late on the schedule of train No. 102, received clear signal indications at the automatic signals located a short distance west of the west passing-track switch at Sudden, and collided with train second No. 330 at the east passing-track switch while traveling at a speed estimated to have been about 15 or 20 miles an hour.

The engine and first car in train fourth No. 102 turned over on their left sides while the second car in that train was derailed and partly overturned. Engine 2548, of train second No. 330, was derailed but remained upright diagonally across the main track. The tender of this engine and the car immediately behind it were also derailed. The employee killed was the engineman of train second No. 330.

Summary of evidence

The telephone booth at Sudden is approximately half way between the passing track switches, on the opposite side of the main track from the passing track, Conductor Mayes, of train second No. 330, said that when he arrived at Sudden at about 4.20 a.m. he was riding on the engine and he told Engineman Davis to stop the train as soon as the caboose was into clear on the passing track; after this had been done he went to the telephone booth, called the dispatcher and was informed by the dispatcher that orders were being sent to him on train second No. 102, he at once sent the flagman to the rear of the train and the head brakeman to the head end for the purpose of receiving these orders. They were thrown off to the flagman, but Conductor Mayes said he did not send them to Engineman Davis at once because he thought the engineman might pull down, and also because he thought he might receive additional instructions over the telephone from the dispatcher; later the dispatcher came back on the telephone and told him to follow train first No. 76; also to tell him when trains third and fourth No. 102 passed and Conductor Mayes said there was no message paper in the booth and he wrote the message instructing them to follow train first No. 76 when train first No. 76 was approaching, on a train-order blank; both the head brakeman and flagman read the message as he wrote it and Flagman Hunter asked him why he was taking the time to write out the message, to which Conductor Mayes replied that he wanted to be sure Engineman Davis did not proceed before train first No. 76 had passed, this message was not addressed to any one nor was it signed. Conductor Mayes said he placed the message on top of the engineman's copy of order No. 326 and folded them in such a way that they could not become separated. He then gave the order and the message to Head Brakeman McNamara for delivery to Engineman Davis, at the same time telling the brakeman to notify the engineman verbally not to leave until train first No. 76 had passed; this was done after the third section of train No. 102 had gone. Brakeman McNamara started toward the head end of the train and shortly afterwards the train started to move ahead on the passing track; Conductor Mayes said he at once went outside the telephone booth, not knowing why the train was pulling ahead

intending to stop it by applying the air brakes from the rear end, but the train stopped with the caboose about a car length from the telephone booth and with the engine probably just into clear at the east passing-track switch. He thought the engineer had received the orders by the time this movement was made. Very shortly afterwards the fourth section of train No. 102 approached, at which time he noticed that the eastbound signal at the west end of the passing track was displaying a clear indication, he glanced toward his own train and saw that it had not made any further movement, and then stepped across the main track and went into the telephone booth to notify the dispatcher of the passage of train fourth No. 102; he was in the booth when the rear end of that train passed, and because of the fact that train fourth No. 102 was between him and the passing track he was not aware of the fact that his train had again started forward. However, on leaving the telephone booth he saw train fourth No. 102 standing on the main track and then went across the main and passing tracks to the inside of the curve to see what was holding the train and saw that there had been an accident. Conductor Mayes further stated that the enginemen of the second and third sections of train No. 102 sounded the proper whistle signals calling attention to the fact that they were carrying signals for following sections, he did not hear Engineer Davis answer these signals although this was perhaps due to the fact that he was in the telephone booth. Conductor Mayes said that after he had sent the order forward his train moved ahead a distance of about 15 car lengths and stopped, he felt certain that the engine was back of the clearance point at that time because he was watching for train fourth No. 102, the eastbound signal at the west end of the passing track was clear, indicating that the east switch was closed and the track was unobstructed, while the westbound signal was at stop, indicating that train fourth No. 102 was approaching. He had started to get on the caboose when it came to a stop, and it was standing at that point when train fourth No. 102 passed the signal at the west switch. He went across the track to the telephone booth and reported to the dispatcher that train fourth No. 102 passed at 4.48 a.m. He thought one or two minutes elapsed between the time his train stopped and train fourth No. 102 passed, when he started across the track to the telephone booth his train was still standing and he did not see it move forward to foul the main track, as train fourth No. 102 was passing between him and his train at that time. He thought his train had moved a distance of about one or one and a half car lengths when the collision occurred.

In view of these facts, the westbound block signal near the east switch must have been in stop position before the east switch was opened or his train started to move out upon the main line, which should have warned Engineman Davis that it was not safe to make this movement without flag protection. He stated that so far as he knew no proceed signal was given and he was unable to advance any reason why Engineman Davis started out upon the main line without waiting until trains fourth No. 102 and first No. 76 had passed, as directed by the message, or without proper protection when the signals indicated that a train was approaching.

Head Brakeman McNamara said that the conductor, after writing out a message for the engineman handed the message to him, together with a copy of the order, and told him to deliver them to the head end, the conductor at the same time told him not to leave Sudden until after Train first No. 76 had passed. He did not, however, recall that the conductor told him to notify Engineman Davis accordingly. Brakeman McNamara said he opened the message and train order and read them before leaving the telephone booth. He then started for the head end of the train, a distance of 9 or 10 car lengths, and handed the orders to the fireman on the left side of the engine, his only comment to the fireman being, "Here are the orders." He was positive that he delivered both the order and the message to the fireman; he did not remain there while the orders were read but proceeded to the front end of the engine and sat down on the pilot step on the engineman's side. Shortly afterwards the train started to move ahead and then stopped with the head end of the engine about half a car length into clear. Brakeman McNamara said he then got off the pilot step and walked in a diagonal direction toward the right-of-way fence where he stood leaning against the fence with his back toward the engine. According to his statement he suddenly realized that his train was again moving ahead, turned around and saw that it was heading out upon the main track, and at once called the engineman and began giving stop signals. He did not notice the position of the block signals but said the engine had by that time passed the fouling point. Brakeman McNamara said he then ran to the switch, unlocked and opened it to avoid damaging the switch as the engine passed through it, and then ran toward the engine continuing to call to the engineman and to give him stop signals; the engineman, however, was sitting on his seat box with his back toward the cab window, apparently facing the fireman. Brakeman McNamara said he reached a

point opposite the gangway on the engineman's side and was about to climb on the engine when he heard the whistle of train fourth No. 102 and turned to get out of the way before the collision occurred. Brakeman McNamara further stated that both the second and third sections of train No. 102 sounded the proper whistle signals calling attention to the fact that they were carrying signals for following sections, these signals being answered by Engineman Davis. Brakeman McNamara also said that Engineman Davis did not sound the usual whistle signals before starting, and he did not know of any proceed signals having been given to Engineman Davis at any time either to move ahead on the passing track or to head out upon the main track.

Fireman Bello, of train second No. 330, said that shortly after train third No. 102 had passed, Brakeman McNamara reached the engine and handed him the orders, which he in turn handed to Engineman Davis, without looking at or reading them. Fireman Bello was then occupied for a time in blowing out the water glass; while he was so engaged Engineman Davis pulled ahead on the passing track and stopped just clear of the insulated joints at the east end of the passing track. Fireman Bello said he was still engaged with the water glass when, after a delay of a minute or two, Engineman Davis again started the train ahead; Fireman Bello said he then got on his seat box, looked ahead, and then looked at the engineman, who was facing the boiler, and saw that he was reading the orders. He knew they were on the time of train No. 76 and he asked the engineman what they were going to do; Engineman Davis told him they were to run ahead of first-class trains, the engineman did not give him the orders, but he saw that the engineman was holding two sheets of yellow paper in his hand, which he assumed were Form 19 train orders. At about this time Fireman Bello heard a whistle, looked back, saw the headlight on the engine of train fourth No. 102, and jumped just before the collision occurred. Fireman Bello did not see the head brakeman again after the orders had been delivered; both the second and third sections of train No. 102 were carrying signals and the enginemen of those trains sounded the proper whistle signals which were answered by Engineman Davis. Fireman Bello also said that as they started to move out of the passing track he noticed that the westbound signal was in stop position which would indicate that there was a train in the block behind, but he thought some one might have opened the switch or else that his own engine was over the insulated joints. He did not know of any proceed signals having been received by the engineman.

Flagman Hunter said that after the third section of train No. 102 had passed he climbed on top of his train near the rear end and went forward to put off some trespassers; he then turned around as train fourth No. 102 approached. He knew from the indications of the block signals that that train was approaching, and when the engine of that train was three or four car lengths from where he was standing he felt the slick being pulled out in his own train, realized that it might be heading out upon main track, and with his lantern he gave a violent stop signal to the engineman of train fourth No. 102. He thought this signal was observed, but he continued to give stop signals and then braced himself for the shock of the collision.

Engineman Culp, of train fourth No. 102, said that at Surf he received a copy of train order No. 326, previously referred to. A clear signal indication was received at the signal located near the west switch at Sudden, at which time the speed of his train was about 40 miles an hour, and he saw that there was a train standing on the passing track with its markers turned to indicate that it was clear of the main track. He was quite sure the train on the passing track was standing still when he passed the caboose. After passing the caboose of this train he saw a man on top of one of the cars violently giving a signal but was able to see only a part of the signal before his engine passed. He did not think the signal was intended for him but inasmuch as he could not then see the block signal at the east end of the passing track he made a light service application of the air brakes; after rounding the curve he saw the engine of train second No. 330 heading out upon the main track five or six car lengths ahead and at once placed the brake valve in emergency position, sounded the whistle, called to the fireman to jump, and then followed the fireman off the engine. Engineman Culp said the brakes took hold well and that he thought the speed had been reduced to about 15 miles an hour by the time the accident occurred. He thought his engine struck about half way back on the side of the first car in train second No. 330, the first marks apparently being made by the engine running board. After he jumped he fell and broke his watch, which stopped at 4.49 a.m., thereby fixing the time of the accident. The statements of Fireman Taylor in general were similar to those of Engineman Culp.

Conductor Welby, of train fourth No. 102, said he was riding in the second baggage car and that he looked out of one of the doors as the car passed the rear end of train second No. 330. He saw Flagman Hunter giving what he thought was a stop signal, and then looked ahead along the side of his train and saw that the engine of

train second No. 330 was fouling the main track. Conductor Welby further stated that he had felt an application of the air brakes when his train was passing the caboose of the freight train and that the brakes were applied in emergency at about the time he looked ahead and saw that the freight train was not clear of the main track. The statements of Head Brakeman Wells and Flagman Latoruel, also of train fourth No. 102, brought out no additional facts of importance.

Dispatcher Watts said train second No. 330 was a stock and manifest freight train; he had intended to have that train go to Arguello ahead of train second No. 102 and then proceed to Gaviota ahead of the third and fourth sections of train No. 102, but when the conductor of the extra on the passing track at Honda notified him that train second No. 330 was coming, he found that the third and fourth sections of train No. 102 were closing up on the second section and that if train second No. 330 stopped at Arguello to allow the second section to pass, and then followed that train to Gaviota, it would result in additional delay to the third and fourth sections of train No. 102. Dispatcher Watts therefore gave this conductor a message to deliver to the crew of train second No. 330, telling them to go to Sudden ahead of train second No. 102 and to call him on the telephone when they arrived at Sudden. In the meantime Dispatcher Watts had annulled the order previously issued to the last three sections of train No. 102 which provided that train second No. 330 would run ahead of them from Antonio to Gaviota, and issued train order No. 326 at Surf, sending a copy of this order to the crew of train second No. 330 on train second No. 102. When Conductor Mayes called him on arrival of his train at Sudden, Dispatcher Watts told him of the order being sent to him and instructed him verbally to remain at Sudden for the third and fourth sections of train No. 102 and also for the first section of train No. 76. He asked Conductor Mayes to let him know when the last three sections of train No. 102 passed and when train first No. 76 entered the block but not to report train first No. 76 by as he wanted them to be ready to leave as soon as train first No. 76 passed.

From the above it appears that the crew of train second No. 330 had received three messages affecting the movement of their train, a written message delivered by the operator at Surf, a written message handed on by the conductor of the extra at Honda, and the verbal message at Sudden not to proceed until after train first No. 76 had passed. When questioned with respect to the last two messages Dispatcher Watts said it was not the

practice to give a conductor a written message when talking with him personally on the telephone at a blind siding, an acknowledgment that the conductor understands the instructions being sufficient, and that he knew of no rules to the contrary. Should there be a message addressed to a particular person, however, then in almost every case a record of the message is made. Dispatcher Watts further stated that the reason he gave the crew of train second No. 330 an order to run ahead of first-class trains instead of specifying the particular trains was that there would be several sections of trains Nos. 102, 76 and 74, and that the issuing of the order in the words mentioned made it shorter and plainer, and yet served the same purpose.

Conclusions

This accident was caused by train second No. 330 moving out upon the main track without proper protection, for which Conductor Mayes, Engineman Davis and Brakeman McNamara are responsible.

One of the conditions which led to this accident was a misunderstanding between Conductor Mayes and Engineman Davis concerning the operation of their train. Train order No. 326 gave it the right to run ahead of first-class trains in the same direction. It is apparent that this order was received and correctly understood by both conductor and engineman. However, the additional instructions to follow train first No. 76, contained in the verbal message which Conductor Mayes received from Dispatcher Watts by telephone, evidently were not understood by Engineman Davis. According to Conductor Mayes' statement, he wrote out a copy of the message for delivery to the engineman with his copy of train order No. 326, and also instructed Brakeman McNamara when he delivered the order and message also to tell Engineman Davis not to leave until train first No. 76 had passed. Brakeman McNamara, however, understood that he was merely to deliver copies of the order and message to the engine crew and did so without special comment. According to Fireman Bello, Engineman Davis received two yellow sheets which presumably were the order and message, and he read and told the fireman the contents of the order. But Engineman Davis started to move his train out upon the main track without waiting as directed by the message, and as the engineman's copy of the order and message could not be found after the accident it is not known whether the engineman did not receive the message or whether he did not read it before starting out upon the main track.

Brakeman McNamara read both the order and the message and fully understood the movement to be made. His statement of what transpired after he delivered the order and message to the engine crew is not convincing that he took proper action to prevent the movement actually made, which he recognized was contrary to the existing instructions. He was the only employee at the head end of the train who it is known/fully understood what was intended to be done, and had he been alert and reasonably diligent he could have prevented the movement of his train out upon the main track and thereby prevented the accident.

Rule 84 provides that "a train must not start until the proper signal is given." Rule 93 provides, among other things, that "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. *** Conductors and engineers are responsible for the protection of their trains, in both directions." It does not appear that Engineman Davis received any signal to start prior to moving ahead on the passing track or prior to moving out upon the main track, and no flag protection whatever was provided. Before train second No. 330 started out upon the main track or the east switch was opened, train fourth No. 102 had entered the block beginning at the western end of the passing track; this fact was established by the statements of Conductor Mayes and Brakeman Hunter of train second No. 330 and Engineman Culp of train fourth No. 102, as well as by reason of the fact that the eastbound automatic block signal at the west end of the passing track displayed a clear indication for train fourth No. 102. That being true, the westbound block signal at the east end of the passing track must have been in stop position before train second No. 330 started out upon the main track or the switch was opened for that movement. The stop indication of that signal indicated that a train from the west was in the block or had passed the distant signal. This was fully understood by trainmen, as the investigation disclosed that they commonly depend upon such signal indications to give notice of the approach of meeting, passing, or following trains. Under these circumstances it was not safe to attempt to move the train from the passing track to the main track unless protected as required by rule 99, and Engineman Davis should not have started this movement unless he knew that such protection was furnished.

At the time the movement from the passing track to the main track was started, Conductor Mayes, who had been requested by the dispatcher to report passing trains, was in the telephone booth on the opposite side of the main track and train fourth No. 102 was passing between him and his train. He was therefore not in position to know of or to prevent this movement which was being made contrary to instructions. The first and paramount duty of a conductor is to see to the safe operation of his train, and he should not be required to perform other unrelated duties which may interfere with the proper conduct of his duties as a conductor. In this case Conductor Mayes was for the time being performing the duties of an operator; had he not been so engaged it is probable Conductor Mayes would have taken order No. 326 and the dispatcher's message to the head end of the train and delivered them personally to the engineer, thereby avoiding the misunderstanding which led to this accident; or had he been at the rear end of his train he could have prevented the movement contrary to existing instructions by applying the brakes when the train started out upon main track. The investigation indicates that it is a more or less common practice for conductors to perform similar duties, and the railroad company should take measures to insure that this practice, if permitted at all, will not interfere with the safe operation of trains.

Rule 201 provides in part that "for movements not provided for by time-table train orders will be issued. . . ." The investigation of this accident disclosed that in addition to train orders, both written and verbal messages were being used to direct movements not provided for by time-table; in fact, failure to comply with instructions contained in one of these messages was one of the conditions which contributed directly to this accident. Had these instructions been embodied in a train order the misunderstanding which led up to this accident might have been avoided.

Engineer Davis entered the service of the Southern Pacific Company in 1904 and was promoted to engineer in 1917. Conductor Mayes was employed in 1915 and promoted to conductor in 1922. Brakenan McNamara had been employed in that capacity for about two years, with no previous railroad experience. None of the employees involved in this accident was on duty in violation of the hours of service law.

Respectfully submitted,

W. P. BORLAND

Director, Bureau of Safety.