

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

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REPORT OF THE DIRECTOR  
BUREAU OF SAFETY

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ACCIDENT ON THE  
CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC RAILROAD

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INGOMAR, MONT.

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June 25, 1938

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INVESTIGATION NO. 2279

SUMMARY

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Inv-2279

Railroad:	Chicago, Milwaukee, St. Paul & Pacific	
Date:	June 25, 1938	
Location:	Ingomar, Mont.	
Kind of accident:	Head-end collision	
Trains involved:	Passenger	: passenger
Train numbers:	No. 15	: No. 264
Engine numbers:	227	: 824
Consist:	13 cars	: 8 cars
Speed:	20-35 m.p.h.	: 30-50 m.p.h.
Operation:	Timetable, train orders, manual block system	
Track:	Single; tangent; level	
Weather:	Cloudy	
Time:	3:35 a.m.	
Casualties:	1 killed, 82 injured	
Cause:	Failure to obey meet order	

Inv-2279

July 25, 1938.

To the Commission:

On June 25, 1938, there was a head-end collision between two passenger trains on the Chicago, Milwaukee, St. Paul & Pacific Railroad near Ingomar, Mont., which resulted in the death of 1 passenger and the injury of 64 passengers, 6 railroad employees, 4 persons carried under contract, 7 dining car employees, and 1 Pullman employee. The investigation of this accident was made in conjunction with a representative of the Board of Railroad Commissioners of the State of Montana.

#### Location and method of operation

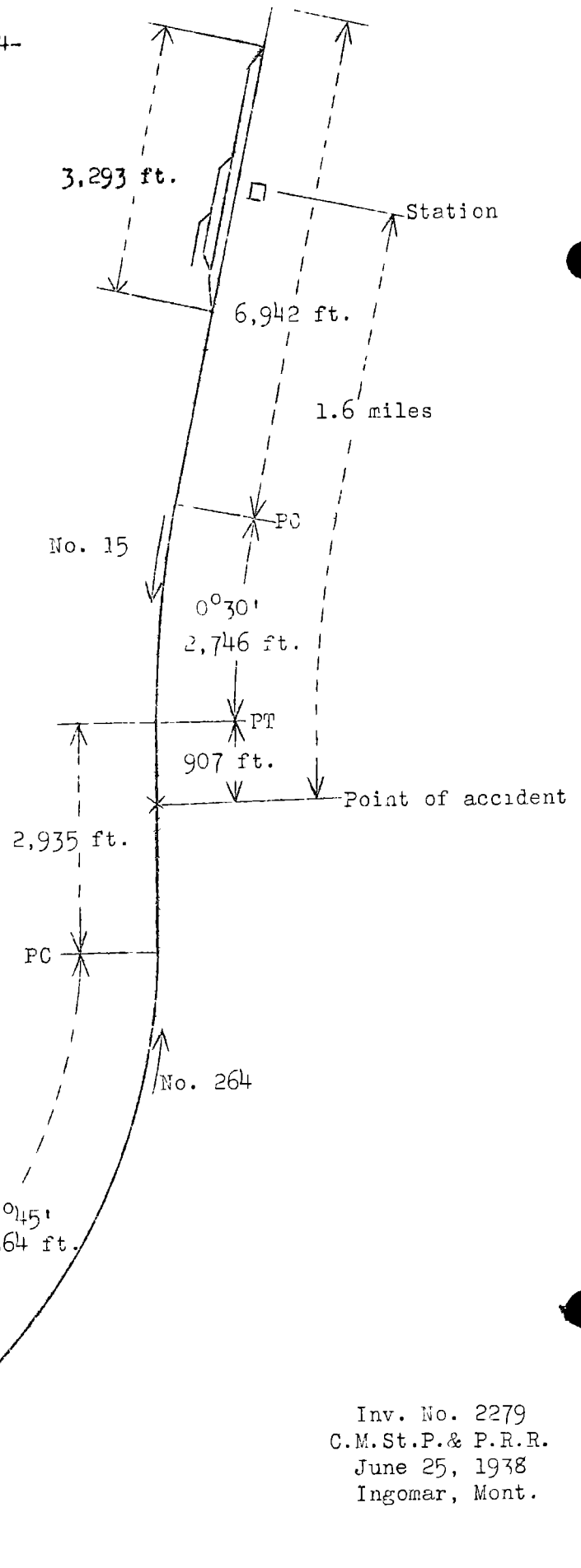
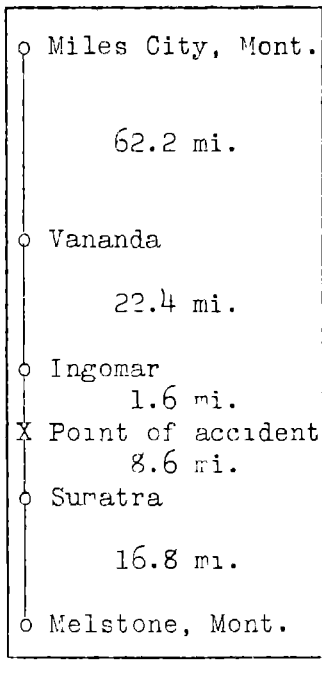
This accident occurred on that part of the Trans-Missouri Division designated as the Miles City to Melstone Subdivision which extends between Miles City and Melstone, Mont., a distance of 111.6 miles. This is a single-track line over which trains are operated by timetable, train orders, and a manual block-signal system. The accident occurred at a point 1.6 miles west of the station at Ingomar. Approaching this point from the east the track is tangent for more than 1 mile, followed by a 0°30' curve to the left 2,746 feet in length, and then tangent for a distance of 2,935 feet, the accident occurring on this latter tangent at a point 907 feet from its eastern end. Approaching from the west there is a 0°45' curve to the left for more than 2 miles, followed by the tangent on which the accident occurred. The grade for west-bound trains is generally descending for more than 1 mile, with a maximum gradient of 0.4 percent, followed by level track for a distance of 600 feet, the accident occurring at the middle of the level track. The grade for east-bound trains is generally descending for more than 1 mile, with a maximum gradient of 0.5 percent, followed by the level track on which the accident occurred.

The maximum authorized speed for passenger trains is 60 miles per hour.

Rule 90 of the Rules and Regulations of the Operating Department provides in part as follows:

Trains must stop clear of the switch used by the train to be met in going on the siding.

The engineman will give signal 14(n) at least one mile before reaching a schedule meeting point with a train of the same or superior class, or a



point where by train order the train is to meet or wait for an opposing train. Should the engineman fail to give signal 14(n) as herein prescribed, the conductor must take immediate action to stop the train.

Rule 211 provides in part as follows:

Enginemen must show train orders to firemen and when practicable to forward trainmen. Conductors must show train orders, when practicable, to trainmen.

The weather was cloudy and day was breaking at the time of the accident, which occurred at 3:35 a.m.

#### Description

No. 15, a west-bound passenger train known as the Olympian, consisted of one mail-and-express car, one baggage car, two coaches, two tourist sleeping cars, one dining car, five standard sleeping cars, and one observation car, in the order named, all of all-steel construction, hauled by engine 227, and was in charge of Conductor Hansen and Engineman Torgerson. This train departed from Miles City, 24.6 miles from Ingomar, at 1:40 a.m., according to the train sheet, 45 minutes late. At Vananda, 22.4 miles from Ingomar and the last open block station, the crew received train order No. 6, Form 31, reading:

No. 15 engine 227 meet No. 264 engine 824 at Ingomar.

Clearance Card, Form A, was also received and it stated that the block was clear except for No. 264. Train order No. 6 was completed at 3:04 a.m. and No. 15 left Vananda at 3:07 a.m., 49 minutes late; passed Ingomar at a speed of 58 miles per hour, according to the speed-recorder tape on the engine, and collided with No. 264 at a point 1.6 miles beyond while traveling at a speed estimated to have been between 20 and 35 miles per hour.

No. 264, a second-class train, being operated as a C.C.C. special, consisted of two baggage cars, the second of which was being used as a kitchen car, two standard sleeping cars, two tourist sleeping cars, one standard sleeping car, and one observation-sleeping car, in the order named, hauled by engine 824, and was in charge of Conductor Douglas and Engineman Parkinson. All of the cars were of all-steel construction with the exception of the first two cars, which were of steel underframe construction. At Melstone, 27 miles from Ingomar, the crew received train order No. 6, Form 19, previously quoted. No. 264 left Melstone at 2:46 a.m., according to the train sheet, 4 hours 46 minutes late, passed Sumatra, the last open block station, 10.2 miles from Ingomar, at 3:17 a.m., 4 hours 27 minutes late, the crew having re-

ceived Clearance Card, Form A, stating that the stop signal was displayed for No. 264 to meet No. 15 as per order No. 6, and that the block was clear except for No. 15. On approaching Ingomar No. 264 collided with No. 15 while traveling at a speed variously estimated to have been between 30 and 50 miles per hour.

The force of the collision shoved No. 264 back a distance of about 100 feet. The engine truck and first pair of driving wheels of engine 227 were derailed; and the front end of the engine was badly damaged, having been telescoped by the front end of engine 824. The tender of engine 227 remained on the track, but it telescoped the front end of the first car about 7 feet; this car was derailed to the south. The remaining cars in this train were not derailed or damaged to any extent. Engine 824 was derailed and sustained heavy damage; the frame remained in general line with the track, but the boiler was thrown from the frame, stopping down the embankment on the north side of and at right angles to the track, with the front end 16 feet from the center of the track. The body of the tender also was torn from its frame; both frame and body stopped at right angles to the track and parallel with the boiler. The first car, badly damaged, was on its right side to the south of and at almost right angles to the track. The second car was derailed and practically destroyed and its superstructure was on top of the frame of the engine. The front end of the third car was telescoped on the right side for a distance of about 12 feet but the car was not derailed. The employees injured were the enginemen and the firemen of both trains, and the conductor and the flagman of No. 15.

#### Summary of evidence

Engineman Torgerson, of No. 15, stated that the air brakes had been tested at Miles City; a running test was made on leaving that point and the brakes functioned properly en route. At Vanda Conductor Hansen gave him train order No. 6 which he read aloud to the conductor and remarked that the block was clear except for No. 264. He then handed the order to the fireman who read it and remarked that they were to meet No. 264 at Ingomar. After passing Thebes, 7.2 miles from Ingomar, he started to reread several slow orders which he had received at Miles City in order to memorize the different places at which he was to reduce speed. There were three slow orders restricting the speed at various points to as low as 10, 15 and 20 miles per hour and these were new orders to him. He had finished rereading the orders when near the mile board east of Ingomar, but was still thinking them over when he passed through Ingomar, and he stated that he forgot the meet order with No. 264. Engineman Torgerson also stated that on approaching Ingomar he had sounded the engine whistle for the station, but he did not sound the meeting-point whistle signal. He said his headlight was burning all the time.

He passed Ingomar at 3:33 a.m. while traveling at a speed of about 58 miles per hour according to the speed-recorder tape. The first indication he had that No. 264 was approaching was when the fireman called a warning. He immediately applied the air brakes in emergency, opened the sanders, and closed the throttle. He crossed to the fireman's side of the cab, saw the train ahead, and then jumped off. The brakes took hold when he made the brake application but he was unable to estimate the speed of the train at the time of the accident.

Fireman Slothower, of No. 15, stated that he understood the contents of train order No. 6 and that his train was required to stop clear of the west switch at Ingomar for No. 264, but he, too, forgot it. There was nothing unusual about the engine to distract his attention. He thought that when he first saw the headlight of No. 264 it was possibly a mile distant. He jumped off just before the collision and estimated the speed of his train to have been about 35 miles per hour at the time of the accident.

Conductor Hansen, of No. 15, stated that when he delivered train order No. 6 to the engineman at Vananda, both the engineman and fireman appeared to be in normal condition. He showed the train order to the head brakeman but did not send the copy back to the flagman, nor did he tell the flagman about the meet with No. 264, stating that it did not occur to him. It is customary, however, to show train orders to all members of the crew. After leaving Vananda, he was working at his desk in the third car in the train and was not aware of the various stations passed en route, but upon hearing a noise that sounded as though they were passing cars he looked up across the desk at Head Brakeman Davis who was near by, and asked him about it, as he thought they were at Thebes. The brakemen rushed out and then came back and said, "They are not here," and repeated, "They are not here." Conductor Hansen then dashed to the rear of the car to look out as he did not think they were at Ingomar. The trap door was closed on the north side but on looking out from the steps on the south side he saw that they were going through Ingomar and were about one-third mile west of the station. He could see quite a bit of dust and what he thought to be smoke from an engine pulling out of the siding, although later he discovered that it was smoke from his own train. He then warned the brakeman, who was right behind him, to brace himself as he felt the air brakes being applied. He looked ahead and saw the headlight of the approaching train. He jumped off about 7 car lengths from the point of accident at which time he thought the speed was between 20 and 25 miles per hour. Conductor Hansen stated that although the engineman may have sounded a whistle signal, he did not hear whistle signals of any kind approaching Ingomar. However, he did hear the station whistle signal on approaching two other stations en route. He had made only a few trips on passenger trains and

was having difficulty with the tickets. His regular assignment was on freight trains on another subdivision, although he was familiar with the subdivision on which the accident occurred. He further stated that he knew where the emergency brake valve was located in the car and that he did not ask the brakeman concerning it. There were eight cars standing on the industry track opposite the station at Ingomar which would account for the noise that he heard.

Head Brakeman Davis, of No. 15, stated that at Vananda he received information from the operator that they were to meet No. 264 at Ingomar, and he so advised the baggageman. After boarding the train he read train order No. 6 himself and understood its contents. He identified Thebes by a high embankment as they passed through. He was assisting the conductor in checking the tickets, which was completed just before reaching Ingomar. On looking out of the window he saw that they were in the cut about one-half mile east of Ingomar and just as he started to rise they passed over the east switch. Going to the rear of the car and opening the south vestibule door, he saw they were then passing the station, and he advised the conductor of that fact and that he should pull the emergency valve as No. 264 was not there. He understood the conductor to say that they were there and the brakeman repeated that they were not, and to pull the emergency valve. The conductor then asked him where the emergency valve was located and he pointed it out to him. The brakeman then saw the headlight of the approaching train and braced himself, but the conductor jumped off. Brakeman Davis stated that he did not hear a whistle signal of any kind sounded on approaching Ingomar. If he had taken action himself to stop the train when he first discovered that No. 264 was not on the siding, he believed that the train would have been stopped in time to prevent the accident, but he advised the conductor and expected him to take action.

Baggageman Caudel, of No. 15, stated that he saw the train orders received at Miles City but did not see train order No. 6, received at Vananda. He did not hear any whistle signals en route. He thought the collision occurred about 10 or 15 seconds after the air brakes were applied in emergency.

Flagman Bunker, of No. 15, did not recall hearing any whistle signals on this trip and had not been informed of the meet order at Ingomar. He was in the observation car, and when he felt the air brakes being applied in emergency, he went outside and saw the headlight of the approaching train just before the collision. He thought his train ran a distance of approximately a train length from the time the air brakes were applied to the time of the collision. He estimated the speed to have been between 20 and 30 miles per hour at the time of the accident.



Engineman Parkinson, of No. 264, stated that the air brakes were tested before leaving the initial terminal; a running test was made and the brakes worked properly en route. Due to track conditions the speed was reduced at several points en route. At Melstone, he received train order No. 6 and clearance card from the conductor. He read them to the conductor and they had a clear understanding that they were to go to Ingomar and take siding for No. 15. The fireman also read the order. He was operating the train at a speed of 50 or 55 miles per hour on rounding the curve west of the point of accident, and on leaving that curve he saw No. 15, which he thought was standing at Ingomar, and remarked to the fireman that No. 15 was up there. He did not realize that No. 15 was moving until he was on tangent track, about 10 coach lengths from the east end of the curve, and No. 15 was then rounding the slight curve east of the tangent track. He immediately applied the air brakes in emergency, opened the sanders, and closed the throttle. He jumped off when the trains were about 100 feet apart, at which time he estimated the speed of his train to have been between 40 and 50 miles per hour. The headlight of his engine was burning and in good condition. Day was breaking at the time of the accident and due to the fact that a headlight does not appear as bright during that time as when it is dark, it is difficult to determine the location of a headlight and whether or not a train is moving. He also stated that on leaving the curve west of the tangent on which the accident occurred, the train was moving almost in a direct line with the headlight located at Ingomar which made it very difficult to determine whether the headlight was standing or moving.

Fireman Perry, of No. 264, stated that when he first saw the headlight of No. 15 he thought it was at Ingomar, about  $1\frac{3}{4}$  miles distant, but shortly thereafter he saw it rounding the curve and at that time the engineman was taking action to stop the train. He jumped off about 4 or 5 car lengths west of the point of accident, and estimated the speed to have been 30 or 35 miles per hour at the time of the accident.

Conductor Douglas, of No. 264, stated that he understood train order No. 6 and the order was shown to all members of the crew. On approaching Ingomar he was in the observation car; speed was checked by an application of the brakes, followed in several seconds by the crash, and he estimated the speed to have been 40 or 45 miles per hour at the time of the accident.

Head Brakeman Fellows, of No. 264, was in the third car of the train when he felt the emergency application of the air brakes, at which time the speed was about 45 miles per hour, and the accident followed in a few seconds. Flagman Palmatier, who was in the observation car, thought that the speed had been reduced by the emergency application from 40 miles per hour to 35 miles per hour at the time of the accident.

Dispatcher Grogan, on duty at Miles City, stated that train order No. 6 was issued in the usual way, which conformed to the rules and regulations of the operating department.

Operator Mowry, at Miles City, and Operator Metsell, at Vananda, stated that Conductor Hansen appeared to be in normal condition when they talked with him at their respective offices when train orders were delivered. The orders were handled in the usual manner and the conductor read them aloud.

Operator Clevenger, at Melstone, and Operator Wells, at Sumatra, stated that train order No. 6 and clearance cards were handled in the usual manner.

Traveling Engineer and Assistant Trainmaster Johnston stated that the speed recorder tape with which engine 227 was equipped indicated a speed of 57 or 58 miles per hour when No. 15 passed through Ingomar, and for a distance of approximately 1,200 feet there was a rapid deceleration followed by a precipitous drop, indicating an emergency application of the air brakes prior to the collision.

#### Discussion

Train order No. 6, providing for the meet between No. 15 and No. 264 at Ingomar, was read and understood by the members of the crew of No. 15 with the exception of the flagman, the conductor failing to send the copy of the order back to him or to see that the flagman was informed relative to its contents.

According to his statement, on approaching Ingomar the engineman of No. 15 was rereading several train orders relative to reducing speed in the territory beyond Ingomar to fix the various points in his mind and he was still thinking of them when passing through Ingomar and he forgot the meet with No. 264. He failed to sound the meeting-point whistle signal, which is required by the rules, although he did sound the station whistle signal for Ingomar. The fireman likewise forgot the meet order, but when he first saw the headlight of the approaching train he warned the engineman who immediately took action to stop the train. The order to No. 15 at Vananda was completed at 3:04 a.m. and the train departed from that station at 3:07 a.m. It passed Ingomar, the station where it had the meet with No. 264, at 3:33 a.m.; therefore, not more than 29 minutes elapsed between the time of receiving the order and the time required for its execution. Inasmuch as there was nothing to distract the attention of the engineman and fireman and since they were required to remember the meet order for not more than 29 minutes, it is apparent that they were not giving proper consideration to the importance of complying with the provisions contained in the meet order; had they given the proper consideration this accident would not have occurred.

After leaving Vananda the conductor of No. 15 was working with the tickets and was not paying any particular attention to the points passed en route, but on hearing a noise that sounded as though they were passing cars at a point he thought to be Thebes, he asked the head brakeman, who had been assisting in checking tickets, about it. The brakeman then went to the rear vestibule and informed him that No. 264 was not there; the conductor rushed to the vestibule himself and on looking back he realized his train was passing through Ingomar. He saw dust and smoke which he thought came from an engine pulling out of the siding, but later learned that it was from his own train. He then felt the air brakes being applied, saw the headlight ahead, and jumped off. The brakeman of No. 15 saw that they were passing the station at Ingomar and he so advised the conductor and also told him that No. 264 was not there. The conductor should have taken action immediately to stop the train upon being advised by the brakeman as to their location and that No. 264 was not on the siding. Even if the conductor had taken action when he himself ascertained their location, at which time they were about one-third mile west of the station, it is probable that this accident would have been averted. There is no doubt that if the conductor and the brakeman had been alert to the operation of their train, they would have been in position to know their location and whether or not No. 264 was in the siding, in sufficient time to have taken action to stop the train. Neither of these men heard a whistle signal of any kind. The rules require that when an enginemen fails to sound the meeting-point whistle signal the conductor must take immediate action to stop the train. Had the conductor shown the meet order to the flagman, as required by the rules, it is possible that he might have taken action to prevent this accident.

Between the hours of 9 p.m. and 5 a.m., the block in which the accident occurred extends from Vananda to Sumatra, a distance of 32.6 miles. No. 15 entered the east end of the block at Vananda at 3:07 a.m., having received clearance card, Form A, with information thereon that the block was clear except for No. 264. The block was clear when No. 15 entered it, but it was known that No. 264 would soon enter the block at the west end. The latter train passed Sumatra at 3:17 a.m., at which time No. 15 had already been occupying the block ten minutes, and No. 264 was given a clearance card, Form A, with the information thereon that the block was clear except for No. 15. This resulted in two opposing passenger trains being operated within the same block and having a train order which specified that the trains meet at a closed station located between the extremities of the block. While this was in conformity with the manual-block rules of this railroad, this method of operation practically nullifies the protection to be derived from the block system. Had the rules provided for fixing the meeting point at a block station, or for giving each train block permission to the meeting point only, making it nec-

essary for each train to obtain new block permission to proceed beyond the meeting point, it is probable that this accident would have been averted.

A number of collisions occurring under manual-block systems operated in a manner similar to the practice disclosed in this accident have been investigated by this Bureau and this method of operation, in view of the human element involved, has been conclusively proven to be unsafe.

The following are some of the more recent accidents occurring under similar methods of operation that were investigated by this Bureau:

March 26, 1937 - Colorado & Southern Railway, Royce, N. Mex., head-end collision between a passenger train and a freight train, resulting in the death of 1 and the injury of 22 persons.

October 7, 1937 - Chicago, Burlington & Quincy Railroad, Kemp, Nebr., head-end collision between a passenger train and a light engine, resulting in the death of 5 and the injury of 7 persons.

February 16, 1938 - Colorado & Southern Railway, Folsom, N. Mex., head-end collision between a passenger train and a freight train, resulting in the death of 4 and the injury of 19 persons.

In the report covering the investigation of each of these accidents, comment was made on the inadequacy of the block system in use and consideration for adequate block protection for all trains was suggested or recommended.

#### Conclusion

This accident was caused by the failure of No. 15 to obey a meet order.

#### Recommendation

It is recommended that this carrier immediately make necessary changes to provide an adequate block-signal system.

Respectfully submitted,

W. J. PATTERSON,

Director.