

Inv-2073

INTERSTATE COMMERCE COMMISSION

WASHINGTON

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REPORT OF THE DIRECTOR

BUREAU OF SAFETY

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ACCIDENT ON THE

MISSOURI PACIFIC RAILROAD

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VALLEY PARK, MO.

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JUNE 23, 1936

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INVESTIGATION NO. 2073

SUMMARY

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Railroad: Missouri Pacific

Date: June 23, 1936

Location: Valley Park, Mo.

Kind of accident: Head-end collision

Trains involved: Freight : Passenger

Train numbers: No. 66 : Second No. 15

Engine numbers: 1922 : 6629

Consist: 43 cars, caboose : 6 cars

Speed: Stopped : 10-30 m.p.h.

Track: Curve to left eastward for freight train, then tangent; curve to right westward for passenger train, then tangent.

Weather: Clear

Time: 9:43 a.m.

Casualties: 200 injured

Cause: Freight train overran stop signal and through switch at end of double track, directly in front of approaching passenger train.

August 19, 1936

To the Commission:

On June 23, 1936, there was a head-end collision between a passenger train and a freight train on the Missouri Pacific Railroad at LH Junction, near Valley Park, Mo., which resulted in the injury of 187 passengers, 9 dining car employees and 4 railroad employees.

#### Location and method of operation

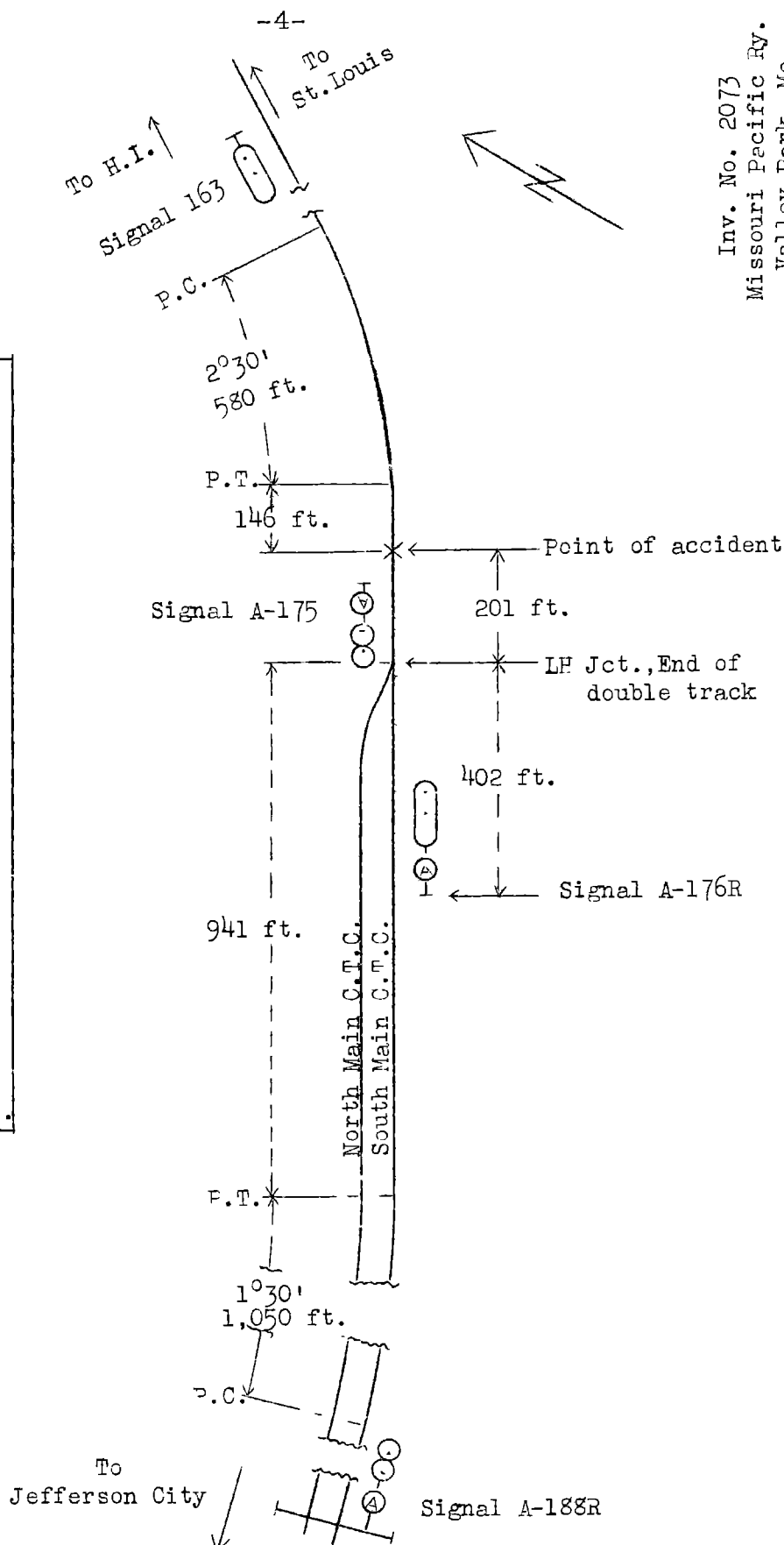
This accident occurred on the St. Louis District of the Eastern Division extending between St. Louis and Jefferson City, Mo., a distance of 125.33 miles. Kirkwood is located 13.48 miles west of St. Louis and HI is located 0.99 miles west of Kirkwood; westward from Kirkwood to HD, a distance of 33.09 miles, train movements are governed by a centralized traffic control system. With the exception of a short section of single-track 3.04 miles in length, extending from HI to LH Junction the railroad consists of two main tracks; the accident occurred on the section of single-track at a point 201 feet east of LH Junction switch. The two main tracks are known as the north main track and the south main track and train movements are made on signal indications in either direction on either track; approach locking is used. The operator-signalman at Kirkwood controls movements from that point to HI, while the single-track territory from HI to LH Junction requires the joint operation of the Kirkwood operator-signalman and the train dispatcher at Pacific, located 17.33 miles west of LH Junction; the latter also operates the centralized traffic control machine for the balance of the two main track territory from LH Junction to HD.

Approaching the switch at the end of double track at LH Junction from the west there is a  $1^{\circ} 30'$  curve to the left 1,050 feet in length, followed by 941 feet of tangent to the switch, this tangent extending 201 feet to the point of accident and for some distance beyond. Approaching from the east there is a  $2^{\circ} 30'$  curve to the right 580 feet in length, followed by 1,288 feet of tangent, the accident occurring on this tangent at a point 146 feet from its eastern end. The grade for westbound trains in this vicinity is descending, varying from 1.33 to 0.20 percent, being 0.374 percent at the point of accident.

Signals A-188R and A-176R, the signals involved governing eastward movements over the south main track, are located 6,935 and 402 feet, respectively, west of the switch at LH Junction, while signals 163 and A-175, governing westward movements over the single-track, are located 7,111 and 100 feet, respectively, east of the switch.

Inv. No. 2073  
Missouri Pacific Ry.  
Valley Park, Mo.  
June 23, 1936

o	St. Louis, Mo.
	13.48 mi.
o	Kirkwood
	0.99 mi.
o	H. I.
	3.04 mi.
X	LH Jct. (P of A)
	1.45 mi.
o	Valley Park
	15.88 mi.
o	Pacific
	11.73 mi.
o	H. D.
	5.18 mi.
o	Washington
	73.58 mi.
o	Jefferson City, Mo.



A view of signal A-176R can be had from the fireman's side of an east-bound engine, for a distance of 2,072 feet and for a distance of 858 feet from the engineman's side; on account of track curvature and a deep cut, the view of signal A-175 as seen from a west-bound engine, is restricted to about 1,560 feet.

The weather was clear at the time of the accident, which occurred about 9:43 a.m.

#### Description

Train No. 66, an east-bound freight train, consisted of 43 loaded cars and a caboose, hauled by engine 1922, and was in charge of Conductor Bates and Engineman Markland. This train left Washington, Mo., the last reporting station, 54.24 miles west of LH Junction, at 9:05 a.m., according to the train sheet, 1 hour late, moved eastward over the south main track, passed signal A-188R, which was displaying a proceed at restricted speed indication, overran signal A-176R, which was displaying a stop indication, ran through the switch at LH Junction and stopped on the single-track, at a point 603 feet beyond the signal, immediately after which it was struck by Train Second No. 15.

Train Second No. 15, a west-bound passenger train, consisted of 1 baggage car, 4 chair cars and 1 dining car, in the order named, all of steel construction, hauled by engine 6629, and was in charge of Conductor Gilpin and Engineman Carter. This train passed Kirkwood, the last open office, 4.03 miles east of LH Junction, at 9:37 a.m., according to the train sheet, 11 minutes late; the route was lined for this train, for movement over the single-track to the north main track at LH Junction. All signals en route displayed clear indications until this train approached the switch at LH Junction when signal A-175 was observed to be displaying a stop indication. The air brakes were immediately applied in emergency, but the distance was too short to stop and the passenger train collided with Train No. 66 while traveling at a speed variously estimated to have been between 10 and 30 miles per hour.

The front ends of both engines were badly damaged; the engines remained upright, with engine 1922 on the rails and the forward portion of engine 6629 slightly raised. All of the cars in the passenger train and three of the cars in the freight train were damaged.

All members of the crew of the passenger train were injured.

### Summary of evidence

Engineman Markland, of Train No. 66, stated that his train met the first section of Train No. 15 at PA, located 1 mile west of LH Junction, the speed of his train being about 40 miles per hour. He did not see the forward portion of Train No. 15 as it passed, as he was on the opposite side of the cab. As the engines passed, the passenger engineman sounded a whistle signal which Engineman Markland did not hear distinctly and he asked Fireman Atkins if the passenger train whistled signals or carried signals, and the fireman replied in the negative; moreover, this is signal indication territory where trains are governed by signal indications and a whistle signal denoting a following section would have no effect on train movements over this portion of track. Signal A-188 was displaying an indication to proceed at restricted speed, and the fireman called the indication; this signal indication required him to be able to stop in distance track is clear. After passing the signal and while using steam the engineman made a light brake pipe reduction, which reduced the speed to about 30 miles per hour and when the engine reached a point where the fireman could see signal A-176R he called "red block", and the engineman made another reduction of air, making a total reduction of about 18 or 20 pounds, and the speed was further reduced to about 20 miles per hour. After traveling about 20 car lengths from the point where the fireman called "red block", and when the engine was about 40 car lengths from signal A-176R, the fireman again called the signal indication and the engineman understood the fireman to say "clear block"; in addition the fireman held out his hand to indicate a "proceed signal". The engineman then moved the brake valve to full release for about 10 seconds, and worked a light throttle to keep the slack stretched. After reaching straight track, about 20 car lengths beyond, and when about 15 car lengths west of signal A-176R, the engineman saw the signal displaying a stop indication, at which time the speed of his train was about 15 miles per hour. He immediately applied the air brakes in emergency, opened the sanders, reversed the engine and worked steam; however a full emergency effect was not obtained as the auxiliary reservoirs had not fully recharged after the previous service application, and his engine ran by the signal and through the switch. Immediately afterwards the fireman told him that a train was coming, upon which Engineman Markland looked out of the fireman's side of the cab and saw the second section of Train No. 15 approaching around the curve; he sounded a warning whistle and got off the engine just prior to the accident. The air brakes had been tested and worked properly en route. Engineman Markland said that Fireman Atkins had been his regular fireman for about 20 months, and that no trouble was previously experienced in calling signal indications; the "red block" was seen and called by the fireman in ample time, and the engineman figured on stopping until he understood the fireman's second call to be "clear", saying that the train would have stopped before passing the signal had he not moved the brake valve to release.

Engineman Markland said that when he released the brakes the fireman made no particular effort toward having him stop the train; therefore, the engineman felt confident that signal A-176R was displaying a clear indication as he understood the fireman to state. Engineman Markland further stated that he expected the indication of the signal might change to clear before his engine reached it, but that he was taking no chances, and he always figured on stopping until he saw the signal was clear, saying that sometimes the indication is changed quickly by the dispatcher, sometimes it changes slowly, and sometimes it is out of order. Engineman Markland was promoted to fireman on this railroad in December, 1909, and to engineman in September, 1912.

Fireman Atkins, of Train No. 66, a qualified engineman, stated that he did not observe the green flags on the first section of Train No. 15 when it passed; he heard a whistle signal sounded by the passenger engine as the engines passed, but he did not pay particular attention to it as this is signal indication territory and the fact that a train displayed signals for a following section did not affect the rights of his train in any way. Approaching signal A-188R, the speed of his train was about 40 miles per hour; this signal was displaying a yellow indication; he called the indication and the engineman repeated it and just after passing the signal the engineman applied the air brakes and reduced the speed, the speed being about 10 or 15 miles per hour approaching LH Junction. When signal A-176R came into view the fireman observed it displaying a red indication and he called the indication to the engineman and held out his hand in a horizontal position in the usual manner to indicate stop, and the engineman repeated it, this taking place when the engine was about 25 to 50 car lengths from the signal. At this time the stoker was working and the train was ascending the grade, and the fireman had the blower slightly open. Shortly afterwards, the fireman called the red indication a second time and gave the accompanying hand signal, saying that there was considerable noise on the engine and that in the event the engineman did not hear him call the signal the first time it would do no harm to call it again; however, he did not know whether the engineman repeated it the second time. He did not observe the actions of the engineman when he called the red indication, but kept watching ahead and he did not know how the engineman manipulated the brake valve; he could not account for the failure of the train to stop unless it was because the engineman had released the brakes and applied them again before the train line was fully recharged. The engine passed the signal, ran through the switch and had just stopped on the single track when it was struck by the second section of Train No. 15. Fireman Atkins estimated the speed of Train No. 15 to have been about 18 miles per hour when the collision occurred. He further stated that just

as his engine passed signal A-176R the engineman asked why he called "clear signal", and he replied that he did not call "clear signal", but that he had called "red" and held out his hand to indicate stop, this conversation taking place just as their train was stopping. Fireman Atkins said that previously there had never been any confusion between himself and the engineman as to the calling of signal indications and giving accompanying hand signals; when a wayside signal displays a green indication he calls "high green" and places his hand in an upright position. He could not understand how the engineman misinterpreted the horizontal hand signal given to indicate that the wayside signal was displaying a stop indication, unless it was that when he reached up to turn on the blower, the engineman mistook this motion to indicate proceed. Statements of Head Brakeman How, who was in the cabin on back of the tender, as well as those of Conductor Bates and Rear Brakeman Purcell, who were in the caboose at the time of the accident, developed nothing additional of importance. Head Brakeman How estimated the speed of the passenger train to have been reduced to about 10 or 12 miles per hour when the impact occurred.

Engineman Carter and Fireman Schneider, of Train Second No. 15, gave testimony to the effect that on the single-track territory all signals they passed displayed proceed indications. The fireman estimated the speed to have been about 50 to 55 miles per hour, and the engineman said that after passing the public crossing at Barretts, located 4,953 feet east of signal A-175, he reduced speed to between 30 and 40 miles per hour. When signal A-175 became visible, approaching LH Junction, the fireman called its indication as "red", and the engineman immediately applied the air brakes in emergency. Shortly after rounding the curve the collision occurred; the engineman jumped, when about  $1\frac{1}{2}$  car lengths from the standing freight train, while his train was moving about 20 miles per hour. The air brakes were tested and worked properly. Statements of Conductor Gilpin and Flagman McFarland brought out nothing additional of importance.

#### Discussion

Rule 98 of the operating rules of this railroad requires trains to approach the end of two or more tracks prepared to stop unless the switches are properly lined, signals indicate proceed, and track is clear. Train No. 66 on this district is operated on a fast schedule. Engineman Markland and Fireman Atkins, of this train, were thoroughly familiar with conditions in centralized traffic control territory and knew that train movements were made on signal indications in either direction on either track. Both of these employees observed and called the yellow indication of signal A-188R, which required their train to proceed at restricted

speed; after passing that signal the engineman applied the brakes and reduced speed; when the engine reached the point where the fireman could see signal A-176R, located at the end of double-track at LH Junction, he called "red block", and the engineman made another brake pipe reduction, which reduced the speed to about 20 miles per hour. The engineman maintained that after traveling about 20 car lengths farther and when about 40 car lengths west of signal A-176R, he understood the fireman to call "clear block", this being the second time the signal indication was called, and that in addition the fireman gave the usual hand signal to indicate proceed, whereupon the engineman moved the brake valve to full release for about 10 seconds, working steam at the time in order to stretch the slack in the train. The engineman was on the outside of the curve and when the engine reached straight track the engineman saw the stop indication displayed by the signal; he immediately applied the air brakes in emergency, opened the sanders, reversed the engine and opened the throttle; however, a full emergency effect was not obtained due to the previous service application, and his engine ran by the signal, through the switch, and stopped on the single track where it was immediately struck by Train Second No. 15. Had Engineman Markland kept the air brakes applied on his train until he could see the indication displayed by signal A-176R, instead of releasing them when he thought the fireman called "clear block", the accident might have been averted.

Fireman Atkins denied that he called "clear block" the second time, as his train was approaching signal A-176R, but said that he called "red block" each time and gave the usual horizontal hand signal each time to indicate that the signal was displaying a stop indication. He could not understand how the engineman misinterpreted his horizontal hand signal unless it was that when he reached up and turned the blower on that the engineman mistook this motion to indicate proceed, saying that when a wayside signal displays a green indication that he calls "high green" and places his hand in an upright position.

#### Conclusion

This accident was caused by the failure of Engineman Markland, of Train No. 66, properly to observe and obey a stop signal indication.

Respectfully submitted,

W. J. PATTERSON,

Director.