GRAND TRUNK WRECKS

No. 120

March 11, 1913.

In re investigation of Accident on the Grand Trunk Railway at New Haven; Mich., on January 16, 1913.

On January 16, 1913, there was a head-end collision on the Grand Truck Railway at New Haven, Mich., resulting in the death of 2 employees, and the injury of 20 passengers and 4 employees.

Westbound freight train extra 1426 consisted of 11 loaded cars, 33 empty cars and a caboose, hauled by engine No. 1426, and was in charge of Conductor Hazen and Engineman Britton. It left Fort Huron, Mich., at 1:05 p.m. for Detroit, Mich. Extra 1426 arrived at New Haven, 25.19 miles from Port Huron, at 3:06 p.m., and after meeting several trains, left there at 4:33 p.m., 39 minutes to reach Chesterfield, a distance of 5.61 miles, in time to clear passenger train No. 10 five minutes as required by the rules. It proceeded only a abort distance when it stalled. It was then backed into the passing track at New Haven, and Engineman Britton informed the conductor that he would have to return to Richmond for water. Conductor Haven went for orders and received an order to flag on train No. 10 to Richmond. He gave it to the rear brakeman to deliver to the engineman, calling him to say to the engineman that he (the conductor) would do the flagging. Engine No. 1426 was then out off from the train, being at this time about one-half mile east of the west passing track switch, and engineman Britton proceeded west with his engine intending to stop on the passing track near the switch, clear of the main track. Estimates as to the speed of engine No. 1426 on its half-mile run to the switch varied from 4 to 12 miles per hour. The first intimation the engineman had that he was nearing the end of the passing track was when the engine struck the curve of the switch leading to the main track. Before the engine could be stopped the lead trucks and forward driving wheels had run through the switch points, fouling the main track. Brakeman Allen got off the engine, unlocked the switch and tried to pull the switch points over so that the engine could back into clear, but was unable to do so. He started to go around the front end of the engine and as he did he saw the headlight of train No. 10. He ran toward it, signaling the engineman of that train with his white light. He stated that he had gone a distances of one telegraph pole when she engine of train No. 10 passes him, colliding with engine No. 1426.

Eastbound passenger train No. 10 consisted of 1 baggage car and 1 coach, hauled by engine No. 2385, and was in charge of Conductor Harris and Engineman Cochrone. This train left Detroit, Mich., at 4:30 p.m. for Port Buron, Mich., and passed Chesterfield, Mich., the last telegraph station west of the point of accident, at 8:23 p.m., and ran the distance or nearly 5 miles between Chesterfield and the point of collision in about 6 minutes, colliding wish engine No. 1425 at about 5:30 p.m., while running at a speed of about 40 miles per hour.

Both engines, as well as the two cars in train No. 10 were derailed, but remained upright on the roadbed. The force of the collision pushed the tender of engine No. 3265 into the cab, crushing it against the boiler-head and firebox, badly damaging both engine and tender. Engine No. 1426 was considerably damaged, while the baggage our and coach of train No. 10 were slightly damaged.

This division of the Grand Trunk Railway is a single-track line, straight for several miles is each direction, and nearly [illegible]erated by train orders and time-card schedules. At the time of the accident it [illegible]histy.

[illegible] ngineman [illegible] 1426 had been in the employ of this railroad about 5 years and had been an engineman s[illegible]ber 5, 1[illegible]. He stated that he had been over this line but once before as an engineman and a very few times as a f[illegible] was no[illegible]miliar with it. The brakes were working properly, but the engine was leaking badly. Water was taken at Richmond, yet when the train stalled near New Haven about two hours later, it was necessary to go for water, although the train had only run a distance of about 7 miles. He stated that he intended to wait on the passing track near the switch until train No. 10 passed. She switch light was burning very dimly and on account of being unfamiliar with that part of the line he did not realize that he was so near the main truck. When he reached the curve leading to the main truck he made a service application of the brakes, and later an emergency application which caused the drivers to slide, the lend trucks passing through the switch points.

Fireman Elkington stated that when his engine reached the curve leading to the main track he had just returned to the cab from covering the headlight. He then locked out and saw the headlight of train No. 10. He got off on the engineman's side lighted a fusee and started ahead to flag the approaching train. The engineman of train No. 10 answered this signals, but it was too late to avoid the collision. He stated that after the accident Engineman Britton told him that he could not see the switch light until too late to stop is engine.

Head Brankeman Allen stated that he out the engine off from the train at New Haven and rode on the rear of the tender as the engine proceeded toward the passing track switch. When it stopped he walked around in front of the engine and then saw the headlight of train No. 10 approaching. He flagged the train with his white lantern and his signal was answered by the engineman. He did not think a minute elapsed between the time his engine went through the switch and the time when train No. 10 came into view. The switch light could be seen only a distance of about two car lengths.

Conductor Harris of train No. 10 stated that he felt the brakes being applied in emergency and heard his engineman sound two short blasts on the whistle immediately before the collision. After the accident he asked the engineman of engine No. 1426 what he was doing on the main line and he replied that he got out there before he knew it.

Brankeman Hanson of train No. 10 stated that whom the train stopped the fireman of engine No. 1426 with a burning fusee was on the right side of the track just opposite the baggage our door.

The records of all the employees involved were good and they were considered reliable men.

Engineman Britton was 24 years of age. He had been employed nearly 5 years with is company and had been an engineman since November 3, 1912. This trip was his second trip on this division since his promotion, the remainder of the time having been spent in yard service.

Fireman Elkington had been employed on the Grand Trunk Railway as a fireman since October 30, 1912, previous to which he had worked one year and eight months on another railway. While he had not made all of his trips over this division, he considered that he was very well acquainted with the road.

Head Brakeman Allen had been employed on the Grand Trunk Railway since about October 10, 1912. This was his first trip over this division. He had had several years' previous experience on other railroads.

The crew of extra 1426 had been on duty 7 hours and 10 minutes at the time of the accident, and had had more than 12 hours' rest prior to going on duty.

This accident was caused by engine No. 1426 occupying the main track on the time of a superior train, for which the engineman is directly responsible. On account of his unfamiliarity with the road and especially in view of the slippery condition of the rails, and of the fog which obscured his vision, any proper regard for safety would have required that he use extreme caution in order to avoid running through the switch.

On many railroads where passing track switches connect such passing tracks with main line tracks, derailing devices are installed for the prevention of such accidents as the one here under consideration, on, and had such a derailing device been installed and in operation on this passing track, the entire would have been derailed but the collision would have been averted.

No. 184.

March 12, 1914.

In re Investigation of Accident on the Grand Trunk Railway near fosters, Mite., On February 6, 1914.

On February G. 191, there was a head-end collision between a freight train and a work train on the Grand Trunk Railway near fosters, Mich., resulting in the death of 3 employees and the injury of 3 employees.

After investigation of this accident the Chief Inspector of Safety Appliances report as follows:

Work extra 2378 consisted of a bridge and building outfit of ten ears and a caboose, hauled by locomotive No. 6379, and was in charge of conductor Clark and Engineman Corceran. On the day of the accident this train left Durand, Mich., at 7:15 a.m., northbound, and upon its arrival at Burand, Mich., at 8:0 a.m., he crew in charge received a copy of train order No. 125, reading as follows:

> "Engine 2379 work 9:20 a.m. to 6:00 p.m. between Burt and Saginaw, protecting against second class trains, protecting against southbound extras after 2:00 p.m. Order one hundred ten (110) is annulled."

Train order No. 110 gave extra 2378 the right to run as an extra from Durand to Haginz. After receiving train order No. 125 work extra 2378 proceeded north to Fosters, the first station beyond Burt, and within the working limits defined in the order . Here the pile driver and cars were left on the side track and locomotive proceeded north to Saginaw for water, trains until it returned. On its return from Saginaw the locomotive, coupled to the tool car and pile driver, headed out on to the main track, and backed down the track in a southerly direction, reaching a point about one mile south of fosters when it collided with northbound extra 2276, while running at a speed of a eight or ten miles per hour.

Northbound extra 2273 consisted of four loaded cars, one empty car, and a caboose, hauled by locomotive No. 2278, and was in charge of conductor chrouch and Engineman Mcmillam. On the day of the accident his train let Durand at 10:10 a.m. on route to west Bay City, Hich., and at Flushing the cray in charge received a copy of train order No. 128 quoted above. Extra 3278 Left Burt, the last telegraph station south o the point of the accident, at 11:27 a.m. and at 11;45 a.m. collided with work extra 2378 at a point about 3.25 miles bayond Burt while running at a speed of about eight miles per hour.

Both locomotives ware badly damaged, as well as the pile driver, tool car, and one refrigerator car. The pile driver was derailed but remained upright on the roadbed. At the time of the accident a heavy now was falling, accompanied by high winds.

The division upon which this accident scurried is a single track lins, trains being operated by train orders and time-card rights, the manual block system in use offerding protection for following movements only. At the point of collision the track is level and is straight in either direction for at least three quarters of a mile.

[illegible] k that inasmuch as train order No. 125 called for protection against southbound [illegible] was to protect against northbound extras at all and was only required to protect again[illegible] southbound extras after 2:00 p.m. He had no conversation with the engineman as to their rights under the order. He s[illegible] reaso[illegible] did not sent out a flagman to protect against northbound trains before going south from Fosters was because he did not know in which direction his train was to proceed until after it had let the siding and started toward the bridge south of fosters, at which the train was to work, and explained his ignorance of the destination of his train by saying that when the bridge foreman said he was ready to go work he had a sort discussion with him as to he advisability of working under the existing weather conditions, and forget to ask where the bridge was located, there being bridges an *** side of *** when his train got out on the main line and started south he did not sent out a flagman because he did not hear anything of an approaching train, although he thought he heard some of the bridgemen any they heard driver he thought he could see on approaching train in times to stop before colliding. After his train had started, however, he could not see ahead more than five or six car lengths on account of the snow. He did not see extra 2278 until within a few car lengths of it. He admitted that had he known they were to work on the bridge south of Festers, it would have been good judgment on his part to have sent a flagman south of the bride before his train left Fosters for the purpose of protecting against northbound training, and said that he intended to sent out a flagman to protect against northbound trains when they reached the place where to work. He left one of his brakeman at Fosters to Fosters to protect against southbound extras.

Engineman Cordoran of work extra 2378 stated that his understanding of train answer No. 125 was that his train would work within the working limits named in the order, not protect extras after 2:00 p.m., and at times protecting against northbound extras, protecting against extras after 2:00 p.m., and at all times protecting against second-class trains and all others trains not named herein. He did not see extra 2378 before the collision occurred.

Rear Brakeman Van West of work extra 2378, who was left with the rear end of his train at fosters while the remainder of the train proceeded to he bridge, stated at the company's investigation had held by the inspectors of the commission on February 11 he stated that he wished to correct this statement, saying that his understanding of train order No. 128 was that it gave his train no right to occupy the main track within working limits without protecting against northbound extras and second-class trains at all times and against southbound trains after 2:00 p.m.

Conductor Church of extra 2878 stated that he had no difficulty in understanding train order No. 125. He said the order was in proper from and that it should have been understood. There was a change, however, of its being misunderstood, and in of

was in proper form and that it should have been understood. There was a chance, however, of its being misunderstood, and in of running by a flagman, and his lack of confidence in the crew of work extra 2378, he stopped his train at Burt and communicated with dispatcher Grouch for the purpose of ascertaining the exact location of the work extras if possible. Dispatcher Grouch told him to go head, that work extra 2378 would be protecting against him train. Nevertheless conductor Chrouch told Engineman *** to proceed cautionary.

Engineman HeMillen of extra 2378 stated that he understood train order No. 125 as giving his train rights against work extra 2378, but in view of the severe snowstorm be though they could have other protection. After dispatcher Grouch informed thought he was justified in proceeding slowly and cautiously toward Saginaw. After leaving Burt he whistled as much as twenty times, besides under of times required by the various highway crossings. He though train order No. 125 was a proper order, but one which might confuse trainman.

Fireman Waddell of extra 2278 stated that there was some discussion on the engine regarding train order No. 125. he did it consider it to be a proper order and at that time said that it he was running the engine he would go into a side track and advise the dispatcher, He said that the engineman finally put the order in his packet, saying he would go over the matter with the trainmaster when he saw him.

Conductor Jamieson of northbound extra 2300, which left Burand at 7:40 a.m., running behind work extra 2378, stated that after receiving a copy of train order No. 125 at Flushing he had some discussion with his brakeman, one of them stating that he did not think it was necessary for the work extra to protect against their train. Conductor Jamieson though it was, but at the same time considered the order to be misleading and instructed one of the brakemen to proceed to rosters on train No. 37, north-bound passengers train, for the purpose of holding the work extra at that point until the arrival of his train. He said that he did this merely as a matter of extra precaution. The engine man of extra 2500 considered train order No. 125 to be proper and one which should not have been misleading. No thought he flagman was sent ahead on the passenger train merely as in extra precaution on account o the severe weather conditions prevailing.

In the book containing the operating rules and general regulations of the Grand Trunk Railway there are several examples of the forms of train orders to be used in directing the movement of work extras. Examples Nos. 2, 3, 4 and 5 read in full as follows:

"(I) Eng. 292 work seven 7 A. N. to six 6 F. N. between D and E.

Under this example the work extra must, whether standing or moving, protect itself against extras within the working limits in both directions, as prescribed by rule. The time of regular trains must be cleared."

"This may be modified by adding:

(2) Not protecting against eastbound extras. Under this example the work extra will protect only against westbound extras. The time of regular trains must be cleared."

"When a work extra has been instructed by order to not protect against extra trains, and afterward, it is desired to have it clear the track for (or protest itself against,) a designated extra after a certain hour, an order may be given in the following form:

"(4) Work extra 292 clears (or protects against) extra 76 east between D and E after two-ten 2:10 P.M.

Under this example, extra 76 east must not enter the working limits before 2:10 P.M., and will the run expecting to find the work extra clear of the main tract (or protecting itself) as the order may require.

"To enable a work extra to work upon the time of a regular train, the following form will be used;

"(5) Work extra 292 protects against No. 55 (or--class trains) between D and K.

"Under this example, the work extra may work upon the time of the train (or trains) mentioned in the order, and must protect itself against such train (or trains) as prescribed by rule. The regular train (or trains) receiving the order will run expecting to find the work extra protecting itself."

Dispatcher Chrouch stated that in issuing train order No. 125 it was not his intention to have work extra 2373 protect itself against southbound extras until after 2 p.m., but that it was to protect against all other trains at all times. He did not think train order No. 125 should have misled the crew of the work extra and considered that part other order reading "protecting against southbound extras after 2 p.m." to be a modification of example No. 4, quoted above. He stated tat the train order as issued was a combination of examples Nos. 1, 3 and 4, combinations of this character being authorized by that part of rule No. 201 reading as follows:

"The different forms of train orders may be combined in one, providing there is no movement in such combination which does not directly affect the train first named in the order."

Dispatcher Chrouh stated, however, that it would have been better had he issued the order with the last clauses reading, "Not protecting against southbound extras until after 2 p.m." He further stated that this clause, however, would not have been strictly correct according to the examples given in the book of rules, and in order to follow the back of rules exactly it would have been necessary to issue two orders, the first order allowing the work extra to work between burst and Saginaw "not protecting against southbound extras" which would have been a combination of examples No. 1 and 2, while the second order would have followed example No. 4 and would have read "work extra 2378 protects against southbound extras between Burt and Saginaw after 2 p.m." Dispatcher Chrouch explained that he combined examples Nos. 1, 3 and 4 not only in order that the work extra might o to Saginaw for water until 2 p.m. without protecting against southbound extras, but also to decrease the time consumed in issuing the orders, thus resulting in less delay to the work extra as well as enabling him to dispose of the matter sore quickly, as he was very busy with other work at that particular time. Dispatcher Chrouch further said that under examples No. 1 the crew of the work extra could be relieved from protecting against extra trains from either direction only when such trains were specifically mentioned in the train order and in view of the fact that nothing was said in train order No. 125 about northbound extras he claimed that the crew of work extra 2378 was not relieved of the duty of protecting that train against northbound

May 20th, 1914.

IN RE INVESTIGATION OF ACCIDENT ON THE GRAND TRUNK, WESTERN RAILWAY AT CHICAGO, ILLINOIS, ON MARCH 3, 1914.

On March 3, 1914, there was a rear-end collision on the Grand Trunk Western Railway between a passenger train and a transfer freight train at Chicago, rl1., resulting in the death of 2 employees and the injury of 2 passengers and 1 employees.

After investigation of this accident and the circumstances connected therewith, the Chief Inspector of Safety Appliances reports as follows:

The trains involved in this accident were westbound passenger train No. 3, running between Battle Creek, Wich., and Chicago, Ill., and a westbound transfer freight train, running between Elsdon and Chicago, Ill. Train No. 3 consisted of a baggage car and two day coaches, hauled by locomotive 107, and was in charge of Conductor Clark and Engineman Leedy. All the cars were of steel construction. The transfer train consisted of 29 loaded freight cars and a caboose, hauled by locomotive 1996, and was in charge of Conductor Breen and Engineman Caster.

On the day of the accident train No. 3 left Battle Creek at 1:18 a.m., 9 hours and 10 minutes late, passed Elsdon at 5:45 a.m., 9 hours and 14 minutes late, and solider with the transfer train at about 5:02 a.m.

The transfer train was regularly engaged in moving freight between the yard at Elsdon and the freight depot at Twelfth Street, Chicago, a distance of 9 miles. It had no regular place on the Schedule but left Elsdon daily on its first trip between 5:00 and 6:00 a.m. On the day of the accident this train entered the Westbound main track east of Kedzie Avenue and started for Chicago at 5:45 a.m., and shortly thereafter was struck by train No. 3 as above stated.

The force of the collision telescoped three freight cars, and the locomotive of train No. 3 came to rest with the fifth car of the transfer train on top of it. The conductors and brakeman of the transfer crew were killed in the collision. At the point of collision the track is straight and level. The weather at the time was foggy.

On that portion of the Chicago Division of the Grand Trunk Western Railway between Battle Greek, Mich., and Elsdon, Ill., a distance of 168 miles, trains are operated under the manual block system. Between Elsdon an Chicago, a distance of 9 miles, there is no block system, the movement of trains being governed by time card, book of rules, and bulletin instructions. The 9 miles of track between Elsdon and Chicago is within yard limits. The lead track from the yard at Elsdon connects with main line at a point about 1,600 feet east of Kedzie Avenue. At Kedzie Avenue, a short distance west of Elsdon station, there is a semaphore which governs the movements of trains from Elsdon yard to the westbound running track. This semaphore is operated by the crossing watchman at Kedzie Avenue, and when it is in the danger position it indicates that the main track is occupied by yard trains and main line trains must a stop; when in the clear position the main track cannot be used by yard trains, [illegible] tchman at Kedzie Avenue gave the transfer train the signal to proceed. About [illegible] semaphore in the clear position. Train No. 3 arrived at Kedzie Avenue about [illegible] after the transfer train left that point and finding the semaphore in the clear position, proceeded on its schedule rights [illegible] with the [illegible]ar and of the transfer train at a point approximately 3 miles west of Elsdon. At the time of the collision the transfer train was moving at a speed estimated to have been 10 or 12 miles per hour, while train No. 3 was running at a speed said to have been 25 or 30 miles per hour.

Rule 83 of the Grand Trunk western Railway provides in part as follows:

"A train must not leave its initial station on any subdivision or Junction, until it has been ascertained whether all superior trains due have left."

Rule 93 reads as follows:

"Within yards defined by yard limit boards, the main track may be used, keeping clear of first and second-class trains."

"The main track must not be used within yard limits until it is known that all sections of overdue first and second-class trains have arrived."

In addition to these rules, which govern the movement of trains generally, yard or switching trains moving between Elsdon and Chicago are governed by special rules issued by the general yardmaster in the form of bulletin orders. One of these bulletins, under date of December 19, 1913, reads as follows:

"Your attention in again called to the necessity of getting full information in regard to regular and special passenger trains before occupying main line."

On January 19, 1914, bulletin No. 1, containing yard rules for Chicago terminals of the Grand Trunk Railway, was issued by the general yardmaster. This bulletin, among other rules, contains the following;

"Bulletin board must be examined before going on duty."

"Do not occupy main line without full information in regard to regular and special passenger trains."

Engineman Caster of the transfer train stated that on the morning of the accident he made no inquiries of the operator at Elsdon before leaving that place to ascertain whether all passenger trains due had arrived and departed. While both the engineman and conductor are supposed to secure this information, it was customary for the conductor to do so, and when the conductor gave him the signal to proceed he assumed that it was all right to go. He further stated that the rules requiring engineman to check the train register when they came on duty was habitually disregarded, and that he had never been called to account by his superiors for disobeying the rules.

Operator Ridgley, on duty at Kisdon at the time of the accident, said that it was customary for switching crews to come into his office before occupying the main line to learn whether or not all superior trains ha departed. However, on the morning of the accident he did not see any of the transfer crew, nor did they make any inquiries regarding train No. 3 or any other train. He stated tat the Operators were supposed to mark late trains on the bulletin board for the information of switchmen. The operator he relieved from duty had not marked train No. 3 upon the bulletin board, and when he came on duty he neglected to do so. Therefore the transfer crew left Elson without obtaining any information regarding train No. 3.

Yardmaster Courtney stated that he did not direct the movement of trains at all, his duties being to instruct the assistant yardmaster and switchmen, issue bulletins, etc. He stated that these transfer movements were regular yard trains, but inasmuch as they were not on the time cards he did not consider that they were governed by the rules applicable to regular scheduled trains. He further stated that the employees knew it was customary to regard rule 83 as applying only to road trains and not to yard trains. The transfer crews were supposed to call at the telegraph office before going out on the main line to find out if superior trains had departed, but there was no one to see that they made such inquiries. As a rule the conductor got this information from the operator and communicated it to the other members of the transfer crew. He said that the employees were examined on the book of rule once in a while, the last examination being about three years ago.

There was no report of these trains at Kedzie Avenue, the point where they entered upon the main line, and the flagman at that point had no special information or instructions as to the protection of transfer trains entering upon the main line. There was no record kept of the time transfer trains left the yard at Elsdon except the yard conductor's switching slips which were turned in to the yardmaster at the end of the day's work.

Engineman Leedy of train No. 3 stated that on account of the fog he did not see the caboose of the transfer train until within about three car lengths of it, too late to stop before colliding with it, although he made an emergency application of the brakes. He had no previous notice of the presence of the transfer trains on the main track, all the signals indicating what the track was clear. The speed of his train was about 25 miles per hour at the time of the collision.

This accident was caused by the conductor and engineman in charge of the transfer train disobeying the rules and using the main track without first ascertaining that train No. 3, a first-class train, had departed. This information was accessible from the operator on duty at Elsdon and they were charged by the company's rules and by bulletin orders with the duty of obtaining it before occupying the main track with their train. The conductor of the transfer train was filled in the accident.

The operator at Elson is at fault for not posting a bulletin for the information of switching crews stating that train No. 3 was over nine hours late.

Had there been an adequate block signal system in use between Elsdon and Chicago it is unlikely that this accident would have occurred.

The Corner of Cook County, Illinois, held an inquest in connection with this accident and forwarded a copy of the testimony taken in connection therewith, together with the verdict of the Coroner's Jury, to this Commission. This verdict embodied a recommendation that the Commission compel all railroads operating in Cook County to install a modern block signal system on all main tracks upon which passenger trains are operated. In this connection it is to be noted that the Commission is without power to comply with the recommendation of the Coroner's Jury. The attention of Congress has repeatedly been called to the necessity of requiring the *** of block signals upon interstate railroads.

From this investigation it appears that while the crew of the transfer train violated the rules, they has habitually done so in the post without being called to account for it by their superiors, although the officials were more or less cognisant of such violations. While the transfer crew were supposed to secure the information from the operator relative to the movement of regular trains, the operating officials had no way of knowing whether or not they did secure such information.

It is not sufficient for a railroad company merely to provide rules to govern the operation of its trains. It is an absolute duty upon the part of the operating officials to knew beyond question whether or not the rules are rigidly lived up to, and only when this is done can a railroad company provide that measure of protection to which the traveling public is entitled. Dereliction of duty by those who are charged with the making and enforcing of rules cannot fail to weaken respect for all rules and to rander nugatory to a large extent all affords to maintain discipline. It is a dangerous practice to replace positive rule by custom.

Previous accidents investigated upon the Grand Trunk Railway, particularly those occurring at North Yarmouth, Maine, on February 15, 1918, and at Fosters, Mich., on February 6, 1914, show an exceedingly lax enforcement of rules upon that read, and until this condition is remedied, accidents may be expected to occur.

All the employees involved in this accident were experienced men with good records, and none had been on duty in violation of the hours of service law.

Inv-2172

INTERSTATE COMMERCE COMMISSION WASHINGTON

REPORT OF THE DIRECTOR BUREAU OF SAFETY

ACCIDENT ON THE GRAND TRUNK WESTERN RAILROAD

IONIA, MICH.

MAY 3, 1937

INVESTIGATION NO. 2172

SUMMARY

Railroad:	Grand Trunk Western
Date:	May 3, 1937
Location:	Ionia, Mich.
Kind of accident:	Derailment
Train involved:	Passenger
Train number:	19
Engine number:	5048
Consist:	3 cars
Speed:	50-65 m.p.h.
Track:	Tangent; slight descending grade
Weather:	Clear; temperature 75 degrees
Time:	1:26 p.m.
Casualties:	1 killed 7 injured
Cause:	Kinked tract

June 12, 1937

To the Commission:

On May 3, 1937, there was a derailment of a passenger train on the Grand Trunk Western Railroad near Ionia, Mich., which resulted in the injury of two passengers, three persons carried under contract and three employees, one of whom subsequently died.

Location and method of operation

This accident occurred on that part of the Grand Rapids Subdivision of the Detroit Division extending between Durand and Grand Haven, Mich., a distance of 121.33 miles; this is a single-track line over which trains are operated by timetable and train orders, no form of block-signal system being in use. The accident occurred at a point 2.65 miles east of Ionia; approaching this point from the east the track is tangent for a distance of 2,409 feet, followed by a 0 degrees 30' curve to the left 3,613 feet in length and then tangent track for a distance of 1,857 feet, the accident occurring on this latter tangent at a point 422 feet from its eastern end. The grade for westbound trains is slightly descending, being 0.01 percent at the point of accident.

In the vicinity of the point of accident the track is laid with 90-pound 35 to 39 foot rails, rolled and laid in 1927, with 21 to 24 creosoted hardwood ties to the rail length, single-spiked, fully tieplated, equipped with rail anchors, and ballasted with washed gravel to a depth of 6 inches below the ties; it is well maintained. The track is laid on a fill varying from 2 to 7 1/2 feet in height, being approximately 5 feet at the point of accident. The maximum authorized speed for passenger trains is 60 miles per hour.

The weather was clear at the time of the accident, which occurred at 1:26 p.m.

Description

sted of 1 combination mail and express car, 1 baggage car, and 1 coach, ductor Houghton and Engineman Brophy. The first car was of all-steel

const r t n 1 o s r ersheathed with steel underframes. This train departed from Durand, 57.19 miles from Ionia. at 12:05 p.m., acco. train sheet, on time, and left Muir, 6.43 miles from Ionia, at 1:21 p.m., one minute l proac g Ionia was derailed while traveling at a speed estimated to have been between 50 and 65 miles per hour.

Diagram

Inv. No. 2172 Grand Trunk Western R.R. Ionia, Mich. May 3, 1937.

The engine, tender and first car were derailed to the right and stopped on their right sides down the embankment, the engine being about 180 feet beyond the initial point of derailment with its front end near the north rail and the cab approximately 25 feet from the track. The tender was at right angles to the engine and the first car. The second car was derailed to the right at an angle of about 30 degrees to the track, but remained upright; the right wheels of the front truck of the third car were derailed. The engine and first two cars were badly damaged. The employees injured were the engineman, f ire-man and baggageman, the engineman fatally.

Summary of evidence

Fireman Hall stated that the air brakes were tested at Detroit, their initial terminal, a running test was made on leaving that station, and the brakes worked satisfactorily en route. As the train rounded the curve east of the point of accident he was on his seatbox when he saw a flagman possibly 300 or 400 feet ahead and at the same time he saw men standing in the vicinity of a farm crossing violently waving their hats. He warned the engineman who immediately closed the throttle, applied the air brakes in emergency and acknowledged the stop signals about the time the engine passed the flagman. Fireman Hall then saw that the track ahead was kinked in the shape of a letter "S", and he jumped off. He thought that his engine was less than 1/2 mile from the point of accident when the flagman was first seen and that the farm crossing where the men were standing was located 400 feet from the point of accident. He estimated the speed of the train to have been between 50 and 60 miles per hour when the emergency application was made and thought that it had been reduced about 10 miles per hour at the time of the accident. After the accident he talked with Engineman Brophy who said that he had seen the flagman but that he was not back far enough.

Conductor Houghton stated that the first he knew of anything wrong was when the air brakes were applied in emergency, followed in a few seconds by the accident. Flagman Cooper stated that the train stopped at a point about its own length west of the farm crossing and he immediately went back to flag and met a section foreman with a red flag about a city block east of the farm crossing. The section foreman told him that the track had gone out. Baggageman Williams stated that after leaving Muir he went into the baggage car and shortly thereafter he heard two blasts of the whistle in answer to a signal, followed almost immediately by the emergency application of the brakes.

Section Foreman Trusock stated that hi section extends from mile post 120 to mile post 126, the accident occurring approximately at mile post 121.5. He had been working on the track for the past week and on the day of the accident he left Ionia on a motor car at 7:30 a.m. taking a load of ties to mile post 121.5; he then covered the balance of his section and returned to mile post 121.5 where he proceeded to install the ties until about 11:30 when he left for lunch, leaving a sufficient number of the new ties properly spiked to render the track safe for the passage of trains. The work of changing the ties made it necessary to lift the track only 7/8 inch and the track was surfaced at the same time, but he did not consider that any of the work being done at this point necessitated flag protection. On returning to work about 12:30 p.m. he started spiking and tamping the ties at the centers. Upon sighting along the track he noticed a slight kink of about one-fourth inch in one of the rails. He instructed the laborers to get their lining bars and straighten the rail. He was standing about 3 rail lengths east of the kink when the men started to straighten it and the track suddenly shot southward from 8 to 10 inches and then kinked northward, forming curves in the shape of a letter "S". He realized that Train No. 19 was soon due, and he grabbed a flag and started to run. He saw smoke around the curve about 1 1/2 miles distant and could see the train when it was about 1 mile away and h continued running as fast as he could, waving the red flag as he advanced. He then stepped to the north side of the track to enable the engineman to see him more readily and as the engine passed him, the engineman leaned out of the cab window and answered his flag with two short blasts on the whistle. Section Foreman Trusock stated that he was about 1,445 feet east of the point of accident when the train passed him at a speed of 60 or 65 miles per hour, but he was unable to say whether the brakes were applied. He was of the opinion that the fireman could have seem him for a distance of about 1 mile, hut due to the curve, the engineman's view would be limited to about one-fourth mile. Section Foreman Trusock had not experienced any trouble with the rails creeping, kinking or pulling apart due to weather conditions or other causes, and there was no doubt in his mind prior to the time that the track went out of line but that it was in condition for the safe passage of Train No. 19.

Observations made by the Commission's inspectors at the scene of the accident developed that with the flagman 1,445 feet from the point of accident he could have been seen for a distance of 2,200 feet from the left side of the cab of a west-bound engine. The view from the right side was materially lessened on account of the curve.

According to a record obtained from the State Hospital at Ionia the temperature had risen from 60 degrees at 9 a.m. to 75 degrees at 1 p.m.

Discussion

The investigation developed that the track had been undergoing repairs for the past week; ties had been changed and track resurfaced and just prior to the accident the ties were being spiked and tamped at the centers. The section foreman then noticed a rail slightly out of alignment and instructed his men to straighten it, but while this was being attempted the track kinked southward 8 or 10 inches and then farther west it kinked northward. The section foreman immediately started out with a red flag to protect Train No. 19 and had reached a point about 1,445 feet east of the point of accident when the train passed him at a speed of about 60 miles per hour. The fireman of Train No. 19 saw the flagman when about 300 or 400 feet distant at which time he warned the engineman, who immediately applied the air brakes in emergency, but the distance was insufficient in which to stop the train before reaching the kinked track.

The temperature was not high on the day of the accident, having attained a maximum of only 75 degrees at 1 p.m. and it cannot be stated definitely what caused the track to kink. It appears, however, that from some cause the rails were under a severe pressure and the work of changing the ties and resurfacing the track weakened the anchorage sufficiently so that when the men attempted to straighten the rail it resulted in the track buckling.

Conclusion

This accident was caused by kinked track.

Respectfully submitted,

W. J. PATTERSON,

Director.

Inv-2180

INTERSTATE COMMERCE COMMISSION WASHINGTON

REPORT OF THE DIRECTOR BUREAU OF SAFETY

ACCIDENT ON THE GRAND TRUNK WESTERN RAILROAD

LANSING, MICH.

JUNE 9, 1937

INVESTIGATION NO. 2180

SUMMARY

Railroad:	Grand Trunk Western
Date:	June 9, 1937.
Location:	Lansing, Mich.
Kind of accident:	Derailment
Train involved:	Freight
Train number:	Extra 6301 (Symbol 492)
Engine number:	6301
Consist:	48 cars, caboose
Speed:	25-40 m.p.h.
Track:	Tangent; 0.13 percent descending grade
Time:	2:42 p.m.
Weather:	Cloudy and raining
Casualties:	1 injured

[illegible] determined; apparently caused by failure of brake rigging.

July 2.. 1937.

To the Commission:

On June 9, 1937, there was a derailment of a freight train on the Grand Trunk Western Railroad at Lansing, Mich., which resulted in the injury of 1 employee.

Location and method of operation

This accident occurred on the Flint Subdivision of the Chicago Division, which extends between Battle Creek and Port Huron, Mich., a distance of 157.28 miles; in the vicinity of the point of accident this is a double-track line over which trains are operated by timetable, train orders, and an automatic block-signal system. The accident occurred on the east-bound main track within the limits of Washington Avenue interlocking plant, at a point 62 feet east of Grand River bridge and 563 feet west of the depot at Lansing. The first marks of derailment were 28 feet 6 inches east of the points of the west switch of a facing-point cross-over connecting the east-bound and west-bound main tracks. Approaching this point from the west there is a 2 degrees 1' curve to the left 1,320 feet in length, and then a tangent which extends 2,046 feet to the initial point of derailment and a considerable distance beyond. The grade is 0.13 percent descending eastward at the point of accident.

The track is laid with 100-pound rails, 39 feet in length, with 22 treated ties and 6 rail anchors to the rail length, single-spiked and fully tie-plated; it is ballasted with washed gravel to a depth of about 12 inches and is well maintained. An ordinance restricts the speed of all trains to 10 miles per hour within the city limits of Lansing.

The weather was cloudy and it was raining at the time of the accident, which occurred about 2:42 p.m.

Description

Extra 6301 East, (Symbol 492), consisting of 48 cars and a caboose, hauled by engine 6301, and in charge of Conductor Jones and Engineman Sawdey, left Nichols yard, Battle Creek, at 1:38 p.m., passed Millett, the last open office, 39.56 miles beyond,

at 2:37 p.m., according to the train sheet, and while approaching the depot at Lansing, was derailed tile traveling at a speed estimated to have been between 25 and 40 miles per hour.

Diagram

Inv. No. 2180 Grand Trunk Western Ry. Lansing, Mich. June 9, 1937

Engine 6301, its tender and the first 27 cars in the train remained on the track as did the 8 rear cars and caboose; the rear truck of the 28th car was derailed, but it remained coupled to the forward portion of the train, and stopped 1,050 feet east of the totally derailed cars. The twenty-ninth to fortieth cars, inclusive, were derailed and stopped in various positions on and across both main tracks and the cross-over, all within a distance of 450 feet; the body of the twenty-ninth car, S.F.R.D. 14559, was torn from its trucks and lay on its side across the westward main track and the station platform. During the course of derailment the signal tower located about 6 feet south of the tracks and about 10 feet east of the sidewalk of Washington Avenue was struck and practically demolished. The eastward main track was considerably damaged for a distance of 340 feet. The employee injured was the operator in the tower.

Summary of evidence

Engineman Sawdey stated that during the air brake test which was made before departing from Nichols Yard, all brakes worked properly; no stops were made en route. About 2 miles west of Washington Avenue tower he initiated a brake application which was maintained for about 1-1/2 miles and which reduced the speed from between 50 and 55 miles per hour to about 20 miles per hour. The distant and home interlocking-signals displayed green indications for a through movement on the eastward main track, but the train order board displayed a yellow indication, and as they passed the tower the operator delivered a message. The first indication of anything wrong was an emergency application of the air brakes. At that time all of the slack in the train had been taken up.

Statements of Fireman Simmons and Head Brakeman Dexter were similar to those of Engineman Sawdey; they estimated the speed at about 25 to 30 miles per hour when the air brakes were applied in emergency as a result of the accident.

Conductor Jones stated that he was in the caboose cupola ten the accident occurred, at which time the speed was about 30 miles per hour. Prior to the derailment there was no indication of brakes sticking or anything else wrong with the train. After the accident he inspected the track but found no indication of dragging equipment.

Flagman York stated that when passing Logan Street, about 4,000 feet west of the point of accident, he had received signals from the yardmaster on one side of the train and from another employee on the opposite side of the train which indicated that everything was all right in the train.

Yardmaster Basso and Car Checker Harmon corroborated the statement of Flagman York concerning signals given at Logan Street. They estimated the speed to have been about 30 miles per hour at that time, and said that they saw nothing wrong with the running gear, no sparks flying and no evidence of hot boxes or heated wheels.

Car Inspectors Cornell, Dale, Foster, Fox, Mather and Tubbs, at Nichols yard, Battle Creek, made statements to the effect that the train was thoroughly inspected on its arrival at that point. The piston travel was adjusted on five cars, and one defective car was set out, after which a test of the air brakes was made. When the train departed, a running inspection was also made and no defects were noted. Apprentice Signalman Hughes stated that he was in the tool house at Grand River bridge when he noticed Extra 6301, approaching at a speed of about 35 or 40 miles per hour; when about two-thirds of the train had passed he saw sparks flying from the guard rail of the bridge, but he could not see anything dragging, and before he could give warning signals to he crew the derailment had occurred. He went to the damaged tower, and examined the levers which he found in normal position. Later on he looked at the cross-over switch points and found them about halfway open.

Signal Maintainer Trimble stated that he examined the position of all levers in the tower about 5 minutes after the accident and found them lined for the main line; later on he looked at the switch points and found them entirely over in reverse position. He said it was not possible for the operator to change the line-up after a train entered the circuit, unless he restored the signal lever to normal position and operated a 2-minute electric time-release.

Signal Maintainer Reinhard examined the cross-over switch and switch operating mechanism on the eastward track about 10 or 15 minutes after the accident and found the switch points about half open and the mechanical lock unlocked. The switch on the westward track was in normal position. Before 10 a.m. on the day of the accident he had inspected the switches and switch operating mechanism at Washington Avenue, and found everything in good condition, with no adjustments necessary. He also checked the operation of the switches, and found them satisfactory. He further stated that no irregular operation of signals or switches has occurred while he has been maintaining this interlocking plant.

Operator Beebe stated that the cross-over switches could not be operated when a train was in the circuit, and it was impossible for him to have operated these switches accidentally.

Supervisor of Signals Coleman stated that he arrived at the scene of the accident within 2 hours after its occurrence, and found the apparatus in the lower part of the tower piled up and badly broken, while that in the upper part was not damaged, and the signal and switch levers were in normal position. Three signals were knocked down and the underground wires leading from the tower were damaged as a result of the accident.

Car Foreman Harrington stated that he inspected all of the trucks of the derailed cars and found all brakes, brake hangers and brake pins in place, but some of the bottom rods were bent and one was broken; he did not make an individual record of each car. He found a broken wheel which he thought belonged to S.F.R.D. 24082, the thirty-first car in the train and the fourth car to be derailed; all pieces of this broken wheel were found, except one; and all of these broken pieces were recovered east of Washington Avenue, which is located about 300 feet east of the initial point of derailment. There was no indication of the wheel having been hot, and the flanges and contours were good on all wheels examined. He thought that if a broken wheel had caused the derailment at the cross-over switch the broken pieces would have been scattered along the track from that point.

At the time of the arrival of the Commission's inspectors at Lansing on June 12, all of the cars had been removed from the scene of the accident, and all but eight had been forwarded to destination. These eight cars had been removed to Battle Creek shop

of the accident, and all but eight had been forwarded to destination. These eight cars had been removed to Battle Creek shop where an inspection was made which disclosed that only three had defects which might have had some relation to the cause of the accident.

The leading truck at the east, or A-end, of the twenty-ninth car, S.F.R.D. 14559 was danged as follows:

2 Andrews truck frames bent.

1 Spring plank angle broken off at side frame, and bent.

Both brake beam safety supports torn off, bent, and scarred.

" " " sections bent, and truss rods broken.

" " " fulcrums broken.

Both of the third-point brake beam supports broken.

Bottom rod bent, and scarred.

Brake lever bent, and scarred.

Truck side bearings bent, and broken.

2 Pieces of track rail projected through the forward side of the cast steel truck bolster, and broken off. (The pieces of rail remained in the bolster.)

The wheels of this truck were all single-plate, cast-iron wheels, weight 700 pounds, with cast dates of 1931 and 1935, and were in good condition. The brake beams were A.R.A. No. 2. The truck from the B-end of the car was in good condition, and no defects were found; it was used under another car in the movement from Lansing to Battle Creek. The 33rd car was found to have one wheel with about 16 inches of the flange broken off. This was a clean, new break on the opposite side from the wheel tread, and evidently had resulted from the derailment.

The thirty-first car, S.F.R.D. 24082, was found to have a broken wheel and a badly bent axle. This wheel was a practically new, single-plate, cast-iron wheel bearing the date February 22, 1937; it was broken in seven pieces, all fractures being new with no indications of flows or defects. Both the broken wheel and the bent axle on which it had been mounted, plainly showed heavy abrasions where they had come into violent contact with other objects. Chemical analysis made in the laboratory at Albany on June 16, 1937, showed the content of this broken wheel to be as follows:

Table

Note: Sulphur content in all cases was slightly over specification by three hundredths of one percent. Other determinations are normal to A.A.R. specifications for cast iron. Determinations for combined carbon are usually taken from drillings in plate and this determination is normal. Increased combined carbon shown on wheel rim test is normal for drillings taken under chill.

An inspection of the track in the vicinity of the point of accident disclosed several slight scrape marks along the top of the guard rails of the bridge located just west of the interlocking plant, but no marks were found west of the bridge. The south point of the west cross-over switch was slightly damaged, and the tie rods between the points were bent. Flange marks appeared on the ties along the north side of both rails of the eastward main track, beginning at a point 28 feet 6 inches east of the points of the west cross-over switch and extending to the point where the track was torn up, and there were indications of scraping on the top of the north main-track rail close to the initial point of derailment.

Discussion

The evidence indicates that prior to leaving Nichols Yard Extra 6301 had been carefully inspected. Approaching Lansing interlocking plant the east-bound distant and home signals were displaying clear indications but as the train order signal was displayed, indicating train orders for delivery, the speed was reduced from about 50 miles per hour to about 20 miles per hour. When about two-thirds of the train had passed over the bridge just west of the interlocking plant sparks were seen coming from the guard rails under a car still on the bridge, and the derailment occurred within a very short distance. Apparently S.F.R.D. 14559, the twenty-ninth car in the train, was the first to become derailed. That this is true is borne out by the manner in which its trucks demolished the road bed, and by the pieces of rail projected through the cast steel truck bolster of the leading truck. After the accident the condition of the lead truck of this car was such that it was impossible to determine which part failed prior to, and which parts were broken after the derailment occurred, but some of the broken parts could have and evidently did contact the guard rails of the bridge and strike the cross-over switch. The condition of the rear truck of the twenty-eighth car indicates that its derailment was due to the action of the twenty-ninth car during the course of the derailment. Any possibility that the broken wheel on S.F.R.D. 24082, the thirty-first car in the train, might have caused the derailment is eliminated by the fact that the three preceding cars were derailed and had plowed up the track, and also *** the fact that all of the small pieces of the wheel were round near the wheel itself. Immediately after the derailment the west end of the cross-over switch was found partially opened while the east end was in normal position, tests made after the accident showed that the destruction of the circuits during the derailment could have resulted in momentary contacts between the various control wires that would unlock the switch mechanism, and this would permit the pressure between the switch points and the stock rails to open the points. Twenty-eight cars passed safely over this switch, and statements of employees of the signal department were to the effect that it is impossible to change the route while a train is in the circuit. Slack action in the train is definitely eliminated as a cause of this accident since the engine had been working steam for a distance of about 25 car lengths at the time of the derailment.

Conclusion

The cause of this derailment was not definitely determined, but it is thought that some part of the brake rigging on the twenty-ninth car broke and fell across the north main-track rail and acted as a derail.

Inv-2395

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT OF THE DIRECTOR BUREAU OF SAFETY

ACCIDENT ON THE GRAND TRUNK WESTERN RAILROAD

KALAMAZOO, MICH.

December 2, 1939

INVESTIGATION NO. 2395

SUMMARY

Inv-2395

Railroad:	Grand Trunk Western	
Date:	December 2, 1939	
Location:	Kalamazoo, Mich.	
Kind of accident:	Collision	
Equipment involved:		Engine : motor-truck
Train number:	Work Extra 3745	
Engine number:	3745	
Consist:	One car	: tractor and semi-trailer
Speed:	8-20 m.p.h.	:12-30 m.p.h.
Operation:	Timetable and train orders	
Track:	Single; 4 degrees 46' 50" curve; grade practically level	
	Tangent; practically level; crosses track at angle of 38 degrees	
Weather:	Raining	
Time:	8:15 a.m.	
Casualties:	1 killed; 2 injured	
Cause:	Truck driven upon highway grade crossing immediately in advance of approaching engine	

Inv-2395

January 18, 1940.

To the Commission:

On December 2, 1939, there was a collision between a switching engine and a motor-truck at a highway grade crossing on the Grand Trunk Western Railroad at Kalamazoo, Mich., which resulted in the death of one railroad employee and the injury of the truck driver and one railroad employee. This accident was investigated in conjunction with the Michigan Public Service Commission.

Location and Method of Operation

This accident occurred on that part of the Chicago Division designated as the Kalamazoo Subdivision which extends between Pavilion and Kalamazoo, Mich., a distance of 11.31 miles. This is a single-track line over which trains are operated by timetable and train orders; there is no block system in use. At the intersection involved the railroad extends practically east and west; the highway extends northwest and southeast. The accident occurred within the city limits of Kalamazoo, at a point where route U.S. 12, locally known as King Highway, crosses the track at an angle of 38 degrees.

Approaching on the railroad from the west there is a tangent a distance of 240 feet, which is followed by a 4 degrees 46' 50"

Approaching on the railroad from the west there is a tangent a distance of 549 foot, which is followed by a 4 degrees 46' 30" curve to the right extending approximately 904 foot to the center-line of the highway and 262 foot beyond. The grade for trains moving eastward over the crossing is 0.04 percent ascending. A whistle post is located approximately 325 foot west of the center-line of the crossing.

Approaching on the highway from the south a long tangent extends to the crossing and beyond; the grade is practically level. The highway has four lanes and the pavement, which is hard-surfaced, is 43 feet wide. The crossing is constructed of pre-cast, armored, reinforced concrete slabs, 16-3/4 inches wide, 6 inches thick and 6 feet long, extending to points beyond the curb line. Between the curbs and the sidewalks there is a grass plot on each side of the highway.

The crossing is protected by standard cross-bar signs, 9 1/2 feet in height, bearing the words "RAILROAD CROSSING" and below each cress-bar there is a sign bearing the wording "1 TRACK". The cross-bar sign for north-bound vehicles over this crossing is located just east of the curb and about 20 feet south of the track. At a point 303 feet south of the crossing and on the east side of the highway, there is an approach warning sign consisting of a metal disk bearing the letters "RR" in reflector buttons; a cross is painted on the disk and the vertical line of this cross separates the letters; the horizontal line is just below the letters and it also contains a row of reflector buttons.

Diagram

Inv No. 2395

Grand Trunk Western R.R. Kalamazoo, Mich.

December 2, 1939

When a north-bound vehicle on the highway roaches a point 661 feet south of the crossing the driver can have a clear view of 215 foot of track west of the center-line of the highway at the crossing.

The view of the highway from the cab of an east-bound engine moving toward the crossing is obstructed by trees and shrubbery, and also by a barn which is located 16 foot south of the track and 263 feet west of the center-line of the crossing. This barn is 24 feet in length, 18 feet in width and 17 1/2 feet in height. When the cab of an engine moving backward roaches a point east of the barn and 243 feat west of the center line of the crossing the fireman can have a clear view of the highway a distance of 191 feet toward the south.

At a point 119 feet north of the crossing involved there is another highway grade crossing at the intersection of the Chicago, Kalamazoo & Saginaw Railway and highway U.S. 12; this crossing is protected in a manner similar to the one involved.

All the railroad traffic over both crossings consists of freight movements and practically all movements are made on week days, during daylight hours, and at low speeds; there are approximately eight movements daily. Train crews are not required to afford flag protection over those crossings.

Section 43 of the motor carrier rules and regulations established by the Michigan Public Utilities Commission, effective September 7, 1937, roads as follows:

43. Railroad Crossings. No driver of any motor vehicle under certificate or permit from this Commission, shall drive such vehicle across railroad tracks at grade without first bringing the vehicle to a full stop at a point where he has a clear view of the railroad track in either direction, and without having looked in both directions and ascertained that there are no approaching trains, and without having shifted the gears of the vehicle to low speed before proceeding across such tracks.

Rules 14(1) and 31 of the railroad company's operating rules provide that when approaching public read crossings at grade enginemen shall at whistle posts sound two long and two short blasts of the engine whistle; this signal must be prolonged or repeated according to the speed of the train.

It was raining at the time of the accident, which occurred about 8:15 a.m.

Description

Work Extra 3745, with Conductor Conolly and Engineman Boyd in charge, departed from Pavilion at 5:40 a.m., according to the train sheet, with 26 loaded and 1 empty cars and arrived at Kalamazoo at 6 a.m./ Subsequently regular switching work was performed. During the course of the movement involved the engine, with one car coupled ahead., was backing eastward at a speed estimated to have been between 8 and 20 miles per hour when the rear end of the tender struck the cab of a meter-truck.

The motor-truck involved was owned by Bender & Loudon, Akron, Ohio, and was being driven by Max Schellin, sole occupant, who held Ohio chauffeur's license No. 82192. It was a 6-cylinder White tractor, with a weight of 7,070 pounds stenciled thereon and was equipped with dual rear tires and an enclosed cab; it was hauling an open-top Fruehauf semi-trailer, with a weight of 5,910 pounds stenciled thereon, which was equipped with dual tires. The truck and trailer bore licenses and markings as follows: No. 92 Michigan license No. 4758, I.C.C. No. 20-441, P. U. C. C. 3509 Rx, P. U. C. C. 3906 IX, and Ohio license 588-B.6, 1939. The tractor was equipped with hydraulic brakes, and the semi-trailer with vacuum brakes. All tires were 9.00 by 20. The dual rear tires of the tractor were considerably worn, but the other tires were in good condition. The tractor had one windshield wiper, which operated from the top, and a windshield fan was located on the steering column. The windshield was 15 inches in height and 45 inches in width, and the glass in the left door of the cab was 15 inches in height and 26 inches in width. The semi-trailer carried a load of paper weighing 20,332 pounds and the total weight of the tractor, trailer, and lading was 33,312 pounds. The truck was on route from a paper mill to the billing office in Kalamazoo, preparatory to transporting the load to Ashland, Ohio. It was proceeding northward on the highway at a speed estimated to have bean between 12 and 30 miles per hour. Instead of stopping for the crossing as required, it moved upon the track and was struck by Work Extra 3745.

The left side of the cab of the tractor was considerably damaged, and the semi-trailer also was damaged. The rear end of the tender of engine 3745 was slightly damaged.

The employee killed was the conductor, and the employee injured was a brakeman; both were on the rear footboard of the tender.

Summary of Evidence

Engineman Boyd stated that his engine, with a car coupled ahead, was backing at a speed of about 10 miles per hour. The storm curtains were tied back. It was drizzling and he was maintaining a lookout from his side of the cab. He saw no automobile standing on the north side of the crossing. There was neither smoke nor steam from the engine to interfere with vision. He was using a light throttle, the proper engine-whistle crossing signal was being sounded, and the automatic engine-bell ringer was in operation. When the rear end of the tender was approximately at the center-line of the highway the fireman called a warning of danger, at which time the engine whistle was still being sounded. This was the first intimation he had of anything wrong. He closed the throttle immediately and applied the automatic brake in emergency; after the truck was struck the engine moved about 10 feet. The air brakes functioned properly on route. The air was not cut through to the car coupled ahead, but he said that this was not the general practice. Because of the short time and space available after the fireman called the warning of danger he could not state definitely whether any brake action was obtained following the emergency application but he thought the brakes responded. He did not know of any rule of the railroad company or any city ordinance that required train crews to flag this crossing. When approaching the crossing he was not depending upon a signal from any member of the train crew. He said that he relies upon his own vision and that of the fireman to determine whether the crossing is clear, except when pushing cars, in which event a stop is made and the crossing is flagged.

Fireman Kent stated that the back-up movement was made at a speed of about 10 miles per hour and he was sitting on his seat-box leaning out the side cab window and facing east. The engine bell was ringing and the proper engine-whistle signal was being sounded for the crossing. When about 150 feet west of the highway he observed the truck approaching at a point about 500 feet south of the crossing. The truck was moving at a good rate of speed, then it reduced speed as if it were going to stop, but when it reached a point about 150 feet south of the crossing its speed was increased, seemingly in an attempt to beat the engine over the crossing; he saw the truck driver looking toward the engine. At this time the rear end of the tender had almost reached the west edge of the pavement and immediately he shouted to the engineman to apply the brakes in emergency. The truck then swerved toward the right curb and away from the engine, but it was too late to avert the accident; the tender struck the truck and moved it about 10 or 20 feet. Approaching the crossin he held no conversation with the engineman and there was no one else in the engine cab. He could not see the two members of the train crew who were en the rear footboard of the tender. No other automobile was between the truck and the crossing.

Brakeman Campbell was interrogated at a hospital. He stated that he was on the rear footboard of the tender and at the north side of the coupler, and the conductor was on the south side. While backing the speed of the engine did not exceed 10 miles per hour. The engine bell was ringing and the proper engine-whistle crossing signal was being sounded. When the rear end of the tender reached the west curb the truck was about 330 feet south of the crossing. He asked the conductor whether he thought the truck would stop and the conductor replied that he did not know. Soon afterward he realized that a collision was imminent and he got off as the impact occurred. He estimated that the speed of his engine was about 8 miles per hour and that of the truck at least 15 miles per hour. The conductor was standing on the footboard when Brakemen Campbell las saw him.

Brakeman Keagle stated that he was on the north side of the front end of the engine and he did not see the truck approaching. He did not see any train on the Chicago, Kalamazoo & Saginaw Railway in the vicinity of the crossing of that line. There is no requirement and it is not the practice to stop and to have a member of the crew flag the crossing involved before an engine moves over it.

Max Schellin, driver of the truck involved, stated that he is 37 years old and has driven trucks for at least 20 years. He has been an employee of Bender & Loudon for 4 years. He has driven the tractor involved since about June, 1939; it was acquired new a short time previously. He had been off duty in Jackson from about 10 a.m., December 1, to 5 a.m., December 2; at the latter hour he left Jackson for Kalamazoo, a distance of about 60 miles; rain was encountered the entire distance, but it did not interfere with his vision. The truck was in good mechanical condition and the windshield wiper, fan, and brakes functioned properly; no trouble in making stops on the wet pavement was experienced en route. The right--door window of the cab was entirely closed but the left-door window, on his side, was open from the top about 2 inches for ventilation. None of the windows was steamed. His truck was loaded with about 10 tons of paper and was moving northward in the right-hand lane next to the curb. The motor was not fully heated and he was driving in third gear at a speed of about 15 or 18 miles per hour, but the motor was not making much noise. An automobile overtaking and passing him, and swerving immediately in front of his truck just south of the crossing, caused him to notice the engine. He neither heard the whistle sounded for the crossing nor saw the engine until it had almost reached his truck. He was not certain whether he had time to apply the brakes. He thought that he tried to swerve his truck away from the engine but it was then too late to avert the accident.

George Loomis, resident of Comstock, Mich., stated that he was driving his automobile about 50 feet behind the truck involved. He said that the speed limit for vehicles in this vicinity is 3.5 miles per hour and that his own automobile was moving at a speed of about 30 miles per hour and gaining slightly on the truck, which was moving between 25 and 30 miles per hour. When at a point about 650 feet south of the crossing he decided to pass the truck, but distinctly hearing the engine whistle and bell he pulled in behind the truck and followed it at a distance of about 100 feet. Both windshield wipers on his car were operating. He saw steam rising from the engine before it emerged from behind the barn, then he saw the engine backing at a speed of about 15 or 20 miles per hour. He was so intent upon watching the engine and stopping his own car before reaching the crossing that he did not see whether the brake stoplight on the rear of the truck indicated that the truck driver was applying the brakes. The engine bell continued to ring after the accident.

Melvin L. Hatfield, a resident of Kalamazoo, Mich., stated that he was driving southward on the highway. The windshield wiper was operating and all the windows on his car were closed. When about 300 or 400 feet north of the crossing he distinctly heard the engine whistle sounded. Immediately afterward he saw the truck approaching from the opposite direction and realized that a collision was inevitable. He estimated the speed of both the truck and the engine to have been about 12 or 15 miles per hour when the impact occurred.

Clair C. Loudon, of Bender & Loudon, stated that Driver Max Schellin had been in their service for 3 years and prior to this accident he had been involved in three minor accidents during that period. The driver's log book from November 1 to November 30, 1939, showed that he had his full rest for each 10-hour driving period. The longest he had been on duty in any 24-hour period was 14 1/2 hours on November 9. He had a total of 207 hours on duty for the month. No record was available since

Inv-2341

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT OF THE DIRECTOR BUREAU OF SAFETY

ACCIDENT ON THE DULUTH, SOUTH SHORE AND ATLANTIC RAILWAY

MICHIGAMME, MICH.

MARCH 30, 1939

INVESTIGATION NO. 2341

SUMMARY

Railway:	Duluth, South Shore and Atlantic
Date:	March 30, 1939
Location:	Michigamme, Mich.
Kind of accident:	Derailment
Train involved:	Passenger
Train number:	10
Engine number:	704
Consist:	5 cars
Speed:	30 m. p. h.
Operation:	Timetable and train orders
Track:	2 degrees curve to the left; grade practically level
Weather:	Clear
Time:	7:18 p.m.
Casualties:	2 killed
Cause:	Landslide

May 4, 1939.

To the Commission:

On March 30, 1939, there was a derailment of a passenger train on the Duluth, South Shore and Atlantic Railway near Michigamme, Mich., which resulted in the death of two employees.

Location and Method of Operation

This accident occurred on the Second Subdivision which extends between Ewen and East Yard, Mich., a distance of 100.8 miles. In the vicinity of the point of accident this is a single-track line over which trains are operated by timetable and train orders, no block-signal system being in use. The derailment occurred at a point 3.4 miles west of Michigamme. Approaching from the west there is a tangent 357 feet in length, followed by a 2 degrees curve to the left which extends 329 feet to the point of derailment and 41 feet beyond. The grade is practically level. Visibility from the right side of an east-bound engine was somewhat restricted by the curve on which the accident occurred.

In the immediate vicinity of the point of derailment the track is laid through a hill-side cut about 150 feet in length. To the north side of the track a slope, the toe of which is 5 feet from the center-line, rises to a height of 44 feet at a point 110 feet from the track, or at a ratio of 2 to 5. The formation is composed of a mixture of rock, clay, sand, and, gravel, the surface of which is covered with grass and brush. U. S. Highway No. 41 is located at the top of the slope and parallels the track, its center-line being 175 feet north of the center-line of the track. A detour road had been built by a construction company between the rim of the slope and U. S. Highway No. 41 for use during the reconstruction of the latter road. Before the detour road was built an 18-inch culvert under the highway provided drainage from a hill and a marshy basin on the north to a ditch paralleling the highway on the south side. A 48-foot extension to this culvert was installed under the detour road, resulting in its outlet being located

about 96 feet from the center-line of the track and causing the drainage to be diverted to the slope toward the track and Three Lakes River which is located to the south, of the track. The north bank of the river is from 10 to 50 feet from the roadbed.

Diagram

Inv. No. 2341 Duluth, South Shore & Atlantic Ry. Michigamme, Mich. March 30, 1939

The track structure at the point of accident consists of 80-pound rail, 33 feet in length, laid on 19 hemlock ties to the rail length; it is double-spiked on the inside and single-spiked on the outside, fully tieplated, ballasted with 10 to 12 inches of gravel with 10 inches of stamp sand below the tops of the ties, and is fairly well maintained.

Bulletin No. 24, dated January 28, 1939, reads as follows:

"In connection with reconstruction of U S. Highway No. 41 between Michigamme and Three Lakes there will be considerable blasting in removing rock. As the highway is close to the track at numerous places where blasting operations will be carried on there is a possibility that rock will be blown on the track.

"Blasting operations will commence in the very near future and will continue for two or three months. Trains operating through this district will be on the alert and expect to be stopped by flags in either direction until this work is completed."

The maximum authorized speed for passenger trains with Class F-3 engines is 40 miles per hour.

The weather was clear at the time of the accident, which occurred about 7:18 p.m.

Description

No. 10, an east-bound passenger train, consisted of one mail-express car, one baggage car, one coach, one Pullman sleeping car and one refrigerator car, in the order named, the first four cars being all-steel construction and the fifth car wood construction, hauled by engine 704, a class F-3 of the 2-8-0 type, and was in charge of Conductor Pigott and Engineman Richardson. This train departed from Nestoria, the last open office and 4.3 miles west of the point of accident, at 7:08 p.m., according to the train, sheet, 2 minutes late, and, after entering the cut involved a distance of approximately 113 feet, it struck a landslide and was derailed while traveling at a speed estimated to have been 30 miles per hour.

The engine, badly damaged, stopped almost entirely submerged in the river, with its front end 123 feet east of the point of derailment, parallel to and about 42 feet from the track. The tender, also badly damaged, stopped behind and at right angles to the locomotive, with the rear end of its cistern on the roadbed. The first car was badly damaged and was derailed to the south with its forward portion leaning against the rear of the tender. The second car, slightly damaged and remaining coupled to the first car, was derailed but remained in upright position and in line with the track. The leading truck of he third car was derailed. [illegible] nce of 236 feet, and the track was damaged a distance of 198 feet. The [illegible] man.

1

Summary of Evidence

Conductor Pigott stated that the air brakes functioned properly en route, and the headlight of the engine was burning brightly at Nestoria. Approaching the point of accident he was in the rear seat of the third car and estimated the speed of the train to have been not in excess of 30 miles per hour which was slower than usual. The first intimation he had of the accident was when the air brakes became applied in emergency, and 2 or 3 seconds later there was a severe jar which seemed as though a heavy object was being pushed, and the train stopped at 7:18 p.m. His examination disclosed that about 100 feet of the track on the north side was torn up and that soil and a considerable amount of rocks covered the track; the accumulation of debris was about 1 inch deep over the rail at the center of the third car. It was his opinion that the snow plow, with which this engine was equipped, had somewhat levelled the debris. He stated that the weather was clear and the visibility good.

The statement of Brakeman De Merse, who was in the front portion of the third car, corroborated that of the conductor as to the movement of the train. He stated that there had been a considerable amount of soil piled on the track which evidently had been thrown toward the river side of the track by the train, leaving about 6 inches of mud over the rails. After the derailment a small amount of soil and water was coming from the bank.

The statement of Baggageman Northery added nothing of importance.

Engineman Quinn, of No. 1, a west-bound passenger train, and the last train through this cut prior to the accident, stated that he left Michigamme at 4:39 p.m., and 5 or 10 minutes later passed the point where the derailment occurred. He observed nothing unusual and there was no indication of a landslide; there was no water running down from the bank.

Trainmaster Schmidt stated that he arrived at the scene of the accident about midnight and observed that the engine had practically passed through the slide before it became derailed, which was at a point where the shoulder between the track and the river bank was about 10 feet wide.

Section Foreman Partanen, who has been assigned to this territory over 4 years, stated that he passed through this cut westward at 8:30 a.m. the day of the accident and, when returning about 2 p.m., observed that the bank, which was covered on top with snow, was still frozen over but wet on the bottom portion from melted snow. He left a man to clean out the drainage ditch on the north side of the track and leading to a 15-inch culvert, the outlet of which is to the river and is located 74 feet east of the point of accident. This sectionman reported back to him at 3:40 p.m. He stated that he arrived at the scene of the accident at 8:20 p.m., and observed that the slide had covered the north rail to a depth of about 1 foot a distance of 28 or 30 feet. Large stones were removed from the north side of the track. Water and sand were coming down the bank and it appeared that the bank was frozen as in the slide there were large chunks of earth and sod which apparently became loose because of being very wet under the surface. The track ditch is cleaned out in the spring of the year to dispose of the water from the embankment which is well grassed. He stated that he never had had any trouble with water or slides in this vicinity. Prior to the accident he had no knowledge of the culvert being under the detour road and discharging water at the point where the slide occurred.

Roadmaster Johnson stated that he has been in charge of this territory about 16 years and no trouble from slides or water had

been experienced at this point. The cut had never been disturbed, and with the exception of the point where the slide occurred it is now in the same condition as in the past. The only knowledge he had of water being discharged from the highway to the railroad was in 1932, when contractors diverted water to the track at the same point during the reconstruction of the highway, at which time there was no detour road.

Division Engineer Hamilton stated that late in 1938 the State Highway Department had let a contract to the Hersey Construction Company to reconstruct U. S. Highway No. 41 and State Highway M 28 which are the same route. This work included the straightening of a number of curves, the excavation of a considerable amount of rock, and the lowering of the original grade of the highway about 15 feet in the vicinity of the point of accident; negotiations in connection therewith, insofar as the railroad was concerned, were conducted through his department. The slide occurred at a point where it would not be expected. Measurements made under his supervision after the accident disclosed that the apex of the slide was 42 feet above the base of the rail and the width at the toe of the slope was 26 feet and the track was covered a distance of 13 and 37 feet east and west, respectively, of the point of derailment. His first knowledge of the extension being made to the original highway culvert was after the accident occurred. The outlet of the culvert was covered with snow and was found by the sound of water passing through it. It was customary for the highway department to notify the railroad when they intended to turn water upon its right-of-way. Once since January 1 he had discussed with the highway engineer the manner in which they were disposing of some excavated material, but no mention was made of water being diverted to the railroad.

Maintenance Engineer Whitman stated that he arrived at the point of accident at 1:10 p.m., March 31. There was a snow bank from the right-of-way fence to the end of the extended culvert, at which point a portion of the snow had been removed. He was able to push a rod about 3 feet into the ground near the mouth of the culvert, which indicated that the water had caused the frost to leave the ground at this point, while approximately 5 or 6 feet on either side the ground was frozen and covered with snow. It was his opinion that the warm weather of the previous day had started a run-off from the hills; this water ran under the snow at the culvert where it was held until the frost had left the ground, then it worked into the clay beneath the sod, and the ground, becoming thoroughly saturated, was so heavy that the sod could not hold it any longer and it slipped down upon the track. He was advised by the highway engineer and the construction superintendent that about 4 or 5 p.m., on the day of the accident, some blasting had been done within 200 or 250 feet of the location of the slide and he was of the opinion that this might have had some effect in causing the slide. He discussed the situation with the highway engineer and arrangements were made immediately to provide other means to dispose of the water. The drainage ditch on the north side of the track had a depth of from 8 to 12 inches below the tops of the ties and was sufficient to take care of the water at that point. His inspection of the track west of the point of derailment disclosed nothing that would contribute to the accident. He was of the opinion that the track was well maintained for the type of trains operated thereon.

Observations of Commission's Inspectors

Observations of the Commission's inspectors at the scene of the accident on April 1 and 3 disclosed conditions to be practically as stated by the railroad employees. On April 3 the snow between the end of the culvert and the railroad right-of-way had disappeared and the course of the water from the point where it was discharged from the culvert to the apex of the slide could be easily followed. The bank in this vicinity was grassed over and there were no indications of other slides having occurred at this point.

Discussion

The investigation developed that a landslide consisting of rocks and large chunks of earth and sod fell from the north, side of a hill-side cut and filled the 5-foot space between the wall of the cut and the track a distance of 50 feet. As the engine was equipped with snow flangers, the debris was shoved, to each side and levelled somewhat over the rails to a depth estimated to have been from 1 to 6 inches. After the accident it was observed that material continued to come from the embankment and covered the north rail to a depth of about 1 foot.

According to the testimony, the weather was clear and when No. 10 approached the point of accident at a speed estimated to have been 30 miles per hour, the headlight of the engine was apparently burning brightly. The visibility of the engineman was somewhat restricted due to the curve. As the engineman and the fireman were killed in the accident no information could he obtained in regard to when the slide was first observed by them; however, according to the statements of some members of the train crew, after the emergency application of the air brakes was made it was followed in two or three seconds by a severe jar which appeared to have been caused by the train striking a heavy object. This would indicate that there was no warning of the slide until it was too late to avert the accident.

An 18-inch culvert under U. S. Highway No. 41 formerly disposed of the drainage to a ditch on its south side and the track received none of the water. In reconstructing this highway a detour road was built between the highway and the railroad and the culvert was extended toward the railroad a distance of 48 feet, resulting in the water being diverted to the railroad right-of-way. None of the railroad employees had any knowledge of the existence of this extended culvert; therefore, no provisions were made to protect this situation.

On the date of accident the section foreman passed through this cut at 8:30 a.m., and again at 2 p.m.; he observed that the top of the hill-side was covered with snow, which hid the outlet of the culvert, and the bottom portion was frozen over but wet from the melted snow. He arranged to have a section-man clean out the drainage ditch on the north side of the track to protect against this condition. The last train to pass through this cut prior to the accident was a west-bound passenger train between 4:44 and 4:54 p.m., at which time the engineman, who was on the embankment side, noticed nothing unusual or any indications of a landslide, and he observed no water coming down the bank. Because of warm weather a small run-off started from the hills and water passed through the culvert under the snow where it was held until the frost had left the ground, when it seeped into the earth and sod, causing the ground to become thoroughly saturated and the weight increased to such an extent that the sod could no longer hold it. There had been some blasting done in this vicinity on the afternoon of the day of the accident and this may have contributed to the cause of the landslide.

The bank in this vicinity was grassed over, and no trouble had previously been experienced with slides at this location.

Conclusion

This accident was caused by a landslide.

INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 2643

THE GRAND TRUNK WESTERN RAILROAD COMPANY

REPORT IN RE ACCIDENT AT DURAND, MICH., ON OCTOBER 30, 1942

Inv-2643

SUMMARY

Railroad:	Grand Trunk Western		
Date:	October 30, 1942		
Location:	Durand, Mich.		
Kind of accident:	Collision		
Trains involved:	Passenger	:	Cut of cars
Train number:	22		
Engine number:	5627		
Consist:	5 cars	:	8 cars
Speed:	25.30 m. p. h.	:	Standing
Operation:	Timetable and train orders; yard limits		
Track:	Single; tangent; 0.26 percent descending grade eastward		
Weather:	Cloudy		
Time:	About 5 42 a.m.		
Casualties:	1 killed; 25 injured		
Cause:	Accident caused by a cut of cars standing on the main track without, protection on the		

[illegible] IVESTIGATION REPORTS UNDER THE ACCIDENT REPORTS ACT OF MAY [illegible] 1

1 [illegible] TRU WESTERN RAILROAD COMPANY

December 14, 1942.

Accident at Durand, Mich., on October 30, 1942, caused by a cut of cars standing on the main track without protection on the time of a first-class train.

REPORT OF THE COMMISSION 1

PATTERSON, Commissioner

On October 30, 1942, there was a collision between a passenger train and a cut of cars on the Grand Trunk Western Railroad at Durand, Mich., which resulted in the death of 1 train-service employee, and the injury of 20 passengers, 2 railway-mail clerks, Pullman employee and 2 train-service employees. This accident was investigated in conjunction with a representative of the Michigan Public Service Commission.

Diagram

Inv-2643 Grand Trunk Western Railroad Durand, Mich. October 30, 1942

Location of Accident and Method of Operation

This accident occurred on that part of the Detroit Division designated as the Grand Rapids Subdivision and extending between Grand Haven and Durand, Mich., a distance of 121.33 miles. In the vicinity of the point of accident this is a single-track line over which trains are operated by timetable and train orders. There is block system in use. Between points 7,084 and 1,162 feet west of the station at Durand, classification yards parallel the main track on each side. The accident occurred on the main track within yard limits at a point 3,324 feet west of the station and 8,081 feet east of the west yard-limit sign. A yard office is located south of the main track at a point about 3,500 feet west of the point of accident. Approaching from the west the track is tangent a distance of 2.4 miles to the point of accident and a considerable distance beyond. At the point of accident the grade for east-bound trains is 0.26

bound trains is 0.20

percent descending.

Operating rules read in part as follows:

93. Within yard limits the main track may be used, clearing first and second class trains *** and without protecting against other trains.

***

By night, or in foggy or stormy weather, proper lights must be placed on cars or engines obstructing the main track within yard limits.

In the vicinity of the point of accident the maximum authorized speed for passenger trains is 60 miles per hour.

Description of Accident

About 2:45 a.m. a cut of 36 freight cars was left standing on the main track within yard limits at Durand. Between that time and about 3:40 a.m., yard engine 8318 removed 25 cars from the west end of the cut and yard engine 8372 removed 3 cars from the east end. This left 8 cars remaining on the main track. About 2 hours later the cut of 8 cars was struck by No. 22.

No. 22, an east-bound first class passenger train, consisted of engine 5627, one mail clar, one baggage-express car, two coaches and one Pullman sleeping car, in the order named. The first and the fifth cars were of steel construction and the remainder were of steel-underframe construction. After a terminal air-brake test was made this train departed from Muskegon, 127.29 miles west of Durand, at 11 p.m., October 29, according to the dispatcher's record of movement of trains, on time, departed from Owosso, 11.55 miles west of Durand and the last open office, at 5:28 a.m., 3 minutes late, and while moving at an estimated speed of 25 to 30 miles per hour it struck the cut of freight cars. The air brakes had functioned properly at all points where used en route.

As a result of the impact the west car of the cut of cars was destroyed, and the west truck of the second westward car was derailed. Two cars on an adjacent track were struck by the derailed ears of the main-track cut end one truck of each car was derailed. Engine 5627 stopped upright on the roadbed with its front end 166 feet beyond the point of collision. All wheels except the left No. 1 engine-truck wheel and the right trailer-truck wheel were derailed. The front end of the engine was badly damaged. The first and the fourth cars of No. 22 were slightly damaged.

It was cloudy at the time of the accident, which occurred about 5:42 a.m.

The train-service employee killed was the engineer, and the train-service employees injured were the fireman end the baggageman.

Data

During the 30 day period preceding the day of the accident, the average daily movement in the vicinity of the point of accident was 11.4 trains.

After the accident inspection of engine 5627 disclosed that the throttle was closed, the reverse lever was in position for 25 percent cut-off in forward motion, the automatic brake valve was in emergency position, the independent brake valve was in lap position, and the automatic-brake-valve emergency-sanding feature had functioned.

Discussion

The rules governing operation on the line in involved provide that within yard limits the main track may be used protecting against first-class and second-class trains. On the line involved in this accident there are no second class trains.

No. 22, a first-class schedule, was due to leave Vernon, 3.18 miles west of Durand, and the last station where time is shown, at 5:35 a.m. About 2:45 a.m., a cut of 36 cars was left standing on the main track within yard limits at Durand. About 3:30 a.m. yard engine 8318 hauled 25 cars from the west end of this cut to the classification yard and about 3:40 a.m. yard engine 8372 hauled 3 cars from the east end to the classification yard. Eight cars remained unprotected on the main track and, about 5:42 a.m., these cars were struck by No. 22.

As No.22 was approaching Durand the speed was about 55 miles per hour, the throttle was open, the headlight was lighted brightly, and the enginemen were maintaining a lookout ahead. Brake-pipe pressure of 90 pounds was being maintained. According to the statement of the fireman, when his train was about 2,000.feet west of the point where the accident occurred the engineer placed the brake valve, in emergency position. The fireman said that soon afterward he was able to see at a distance of about 1,200 feet the cut of cars on the main track. The speed was reduced to about 25 miles per hour at the time of the collision. Since the engineer was killed in the accident it could not be determined when he first observed the ears.

According to the statement of the yardmaster, he first instructed the foreman of yard engine 8318 to switch cars from the west end of the 36 cars and the yard foreman of yard engine 8372 to switch cars from the east end until the switching was completed. Later, he discovered that the consist of the cut of cars was not in accordance with the actual relative positions of the cars; therefore, he instructed the foreman of yard engine 8372 to switch out 3 cars from the east end and the foreman of yard engine 8318 to switch the remainder to the classification yard. At that time the yard master and the foreman of engine 8318 were in the vicinity of the twenty-fifth westward car. According to the statement of the foreman of engine 8318, he understood that the yardmaster instructed him to leave all eastward cars on the main track. Because no switching list had been issued and some of the cars were route-carded and others designated by chalk marks, he was not certain as to the number of cars to be switched by his crew. A member of his crew informed him that the proper number of cars had been uncoupled, and the foreman assumed the yardmaster had performed that service. Later, he learned that one of his switchmen had uncoupled the cars. The foreman was not concerned about the cars remaining on the main track as he understood the yardmaster would dispose of them. About 5 a.m. the yardmaster and the foreman talked by telephone and the foreman reported that he had disposed of the cars which his engine had removed from the main track, but did not inform the yardmaster that cars remained on the main track. The switchman who uncoupled the cars said that, because of chalk markings on the twenty-sixth westward car, he understood that the uncoupling should be made at that point. According to the foreman of engine 8372, he was instructed to switch 3 most easterly cars from the cut and the remainder would be disposed of by another crew. About 5:40 a.m. a switchtender called the yardmaster by telephone and inquired if any cars were on te main track obstructing the passage of No. 22. The yardmaster lighted a fusee and proceeded to the main track to flag No. 22; however, it had passed his location.

The trainmaster said that, under the rules, the main track at Durand should have been clear at 5:25 a.m., or 10 minutes before

The trainmaster said that, under the rules, the main track at Durand should have been clear at 9:25 a.m., or 10 minutes before No. 22 was due to leave Vernon, the last station west of Durand. If a proper switching list had been issued to the crew of engine 8318, or if the yardmaster and the foreman of engine 8318 had had a proper understanding, this accident could have been prevented.

Cause

It is found that this accident was caused by a cut of cars standing on the main track without protection on the time of a first-class train.

Dated at Washington, D. C., this fourteenth day of December, 1942.

By the Commission, Commissioner Patterson.

W. P. BARTEL,

(SEAL) Secretary

FOOTNOTE:

1 Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.

INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 2643

THE GRAND TRUNK WESTERN RAILROAD COMPANY

REPORT IN RE ACCIDENT AT DURAND, MICH., ON OCTOBER 30, 1942

Inv-2643

SUMMARY

Railroad:	Grand Trunk Western		
Date:	October 30, 1942		
Location:	Durand, Mich.		
Kind of accident:	Collision		
Trains involved:	Passenger	:	Cut of cars
Train number:	22		
Engine number:	5627		
Consist:	5 cars	:	8 cars
Speed:	25.30 m. p. h.	:	Standing
Operation:	Timetable and train orders; yard limits		
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Weather:	Cloudy		
Time:	About 5 42 a.m.		
Casualties:	1 killed; 25 injured		
Cause:	Accident caused by a cut of cars standing on the main track without, protection on the		

[illegible] VESTIGATION REPORTS UNDER THE ACCIDENT REPORTS ACT OF MAY 1910: 1

1) TRU WESTERN RAILROAD COMPANY

December 14, 1942.

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REPORT OF THE COMMISSION 1

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Diagram

Inv-2643 Grand Trunk Western Railroad Durand, Mich. October 30, 1942

Location of Accident and Method of Operation

This accident occurred on that part of the Detroit Division designated as the Grand Rapids Subdivision and extending between Grand Haven and Durand, Mich., a distance of 121.33 miles. In the vicinity of the point of accident this is a single-track line over which trains are operated by timetable and train orders. There is block system in use. Between points 7,084 and 1,162 feet west of the station at Durand, classification yards parallel the main track on each side. The accident occurred on the main track within yard limits at a point 3,324 feet west of the station and 8,081 feet east of the west yard-limit sign. A yard office is located south of the main track at a point about 3,500 feet west of the point of accident. Approaching from the west the track is tangent a distance of 2.4 miles to the point of accident and a considerable distance beyond. At the point of accident the grade for east-bound trains is 0.26

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Operating rules read in part as follows:

93. Within yard limits the main track may be used, clearing first and second class trains *** and without protecting against other trains.

***

By night, or in foggy or stormy weather, proper lights must be placed on cars or engines obstructing the main track within yard limits.

In the vicinity of the point of accident the maximum authorized speed for passenger trains is 60 miles per hour.

Description of Accident

About 2:45 a.m. a cut of 36 freight cars was left standing on the main track within yard limits at Durand. Between that time and about 3:40 a.m., yard engine 8318 removed 25 cars from the west end of the cut and yard engine 8372 removed 3 cars from the east end. This left 8 cars remaining on the main track. About 2 hours later the cut of 8 cars was struck by No. 22.

No. 22, an east-bound first class passenger train, consisted of engine 5627, one mail clar, one baggage-express car, two coaches and one Pullman sleeping car, in the order named. The first and the fifth cars were of steel construction and the remainder were of steel-underframe construction. After a terminal air-brake test was made this train departed from Muskegon, 127.29 miles west of Durand, at 11 p.m., October 29, according to the dispatcher's record of movement of trains, on time, departed from Owosso, 11.55 miles west of Durand and the last open office, at 5:28 a.m., 3 minutes late, and while moving at an estimated speed of 25 to 30 miles per hour it struck the cut of freight cars. The air brakes had functioned properly at all points where used en route.

As a result of the impact the west car of the cut of cars was destroyed, and the west truck of the second westward car was derailed. Two cars on an adjacent track were struck by the derailed ears of the main-track cut end one truck of each car was derailed. Engine 5627 stopped upright on the roadbed with its front end 166 feet beyond the point of collision. All wheels except the left No. 1 engine-truck wheel and the right trailer-truck wheel were derailed. The front end of the engine was badly damaged. The first and the fourth cars of No. 22 were slightly damaged.

It was cloudy at the time of the accident, which occurred about 5:42 a.m.

The train-service employee killed was the engineer, and the train-service employees injured were the fireman end the baggageman.

Data

During the 30 day period preceding the day of the accident, the average daily movement in the vicinity of the point of accident was 11.4 trains.

After the accident inspection of engine 5627 disclosed that the throttle was closed, the reverse lever was in position for 25 percent cut-off in forward motion, the automatic brake valve was in emergency position, the independent brake valve was in lap position, and the automatic-brake-valve emergency-sanding feature had functioned.

Discussion

The rules governing operation on the line in involved provide that within yard limits the main track may be used protecting against first-class and second-class trains. On the line involved in this accident there are no second class trains.

No. 22, a first-class schedule, was due to leave Vernon, 3.18 miles west of Durand, and the last station where time is shown, at 5:35 a.m. About 2:45 a.m., a cut of 36 cars was left standing on the main track within yard limits at Durand. About 3:30 a.m. yard engine 8318 hauled 25 cars from the west end of this cut to the classification yard and about 3:40 a.m. yard engine 8372 hauled 3 cars from the east end to the classification yard. Eight cars remained unprotected on the main track and, about 5:42 a.m., these cars were struck by No. 22.

As No.22 was approaching Durand the speed was about 55 miles per hour, the throttle was open, the headlight was lighted brightly, and the enginemen were maintaining a lookout ahead. Brake-pipe pressure of 90 pounds was being maintained. According to the statement of the fireman, when his train was about 2,000.feet west of the point where the accident occurred the engineer placed the brake valve, in emergency position. The fireman said that soon afterward he was able to see at a distance of about 1,200 feet the cut of cars on the main track. The speed was reduced to about 25 miles per hour at the time of the collision. Since the engineer was killed in the accident it could not be determined when he first observed the ears.

According to the statement of the yardmaster, he first instructed the foreman of yard engine 8318 to switch cars from the west end of the 36 cars and the yard foreman of yard engine 8372 to switch cars from the east end until the switching was completed. Later, he discovered that the consist of the cut of cars was not in accordance with the actual relative positions of the cars; therefore, he instructed the foreman of yard engine 8372 to switch out 3 cars from the east end and the foreman of yard engine 8318 to switch the remainder to the classification yard. At that time the yard master and the foreman of engine 8318 were in the vicinity of the twenty-fifth westward car. According to the statement of the foreman of engine 8318, he understood that the yardmaster instructed him to leave all eastward cars on the main track. Because no switching list had been issued and some of the cars were route-carded and others designated by chalk marks, he was not certain as to the number of cars to be switched by his crew. A member of his crew informed him that the proper number of cars had been uncoupled, and the foreman assumed the yardmaster had performed that service. Later, he learned that one of his switchmen had uncoupled the cars. The foreman was not concerned about the cars remaining on the main track as he understood the yardmaster would dispose of them. About 5 a.m. the yardmaster and the foreman talked by telephone and the foreman reported that he had disposed of the cars which his engine had removed from the main track, but did not inform the yardmaster that cars remained on the main track. The switchman who uncoupled the cars said that, because of chalk markings on the twenty-sixth westward car, he understood that the uncoupling should be made at that point. According to the foreman of engine 8372, he was instructed to switch 3 most easterly cars from the cut and the remainder would be disposed of by another crew. About 5:40 a.m. a switchtender called the yardmaster by telephone and inquired if any cars were on te main track obstructing the passage of No. 22. The yardmaster lighted a fusee and proceeded to the main track to flag No. 22; however, it had passed his location.

The trainmaster said that, under the rules, the main track at Durand should have been clear at 5:25 a.m., or 10 minutes before

The trainmaster said that, under the rules, the main track at Durand should have been clear at 9:25 a.m., or 10 minutes before No. 22 was due to leave Vernon, the last station west of Durand. If a proper switching list had been issued to the crew of engine 8318, or if the yardmaster and the foreman of engine 8318 had had a proper understanding, this accident could have been prevented.

Cause

It is found that this accident was caused by a cut of cars standing on the main track without protection on the time of a first-class train.

Dated at Washington, D. C., this fourteenth day of December, 1942.

By the Commission, Commissioner Patterson.

W. P. BARTEL,

(SEAL) Secretary

FOOTNOTE:

1 Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.

INTERSTATE COMMERCE COMMISSION

WASHINGTON

INVESTIGATION NO. 3159

GRAND TRUNK WESTERN RAILROAD COMPANY REPORT IN RE ACCIDENT NEAR BATTLE CREEK, MICH., ON JANUARY 18, 1948

Inv-3159

SUMMARY

Railroad:	Grand Trunk Western	
Date:	January 18, 1948	
Location:	Battle Creek, Mich.	
Kind of accident:	Derailment and collision	
Trains involved:	Freight	: Freight
Train numbers:	Extra 6336 East	: Extra 6331 West
Engine numbers:	6336	: 6331
Consists:	63 cars, caboose	: 51 cars, caboose
Estimated speeds:	40 m.p.h.	: 25 m.p.h.
Operation:	Timetable, train orders and automatic block-signal system	
Tracks:	Double; tangent; 0.27 percent descending grade eastward	
Weather:	Clear	
Time:	11:12 a.m.	
Casualties:	3 killed; 1 injured	
Cause:	Broken journal, and derailed freight cars obstructing adjacent main track in front of approaching freight train	

INTERSTATE COMMERCE COMMISSION

INVESTIGATION NO. 3159

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

GRAND TRUNK WESTERN RAILROAD COMPANY

March 22, 1948

Accident near Battle Creek, Mich., on January 12, 1948, caused by a broken journal, and by derailed freight cars obstructing an adjacent main track in front of an approaching freight train.

REPORT OF THE COMMISSION 1

PATTERSON, Commissioner:

On January 18, 1948, cars of a freight train were derailed and were struck by another freight train on the Grand Trunk Western railroad near Battle Creek, Mich. This accident resulted in the death of three employees and, the injury of one employee. It was investigated in conjunction with a representative of the Michigan Public Service

Diagram

Inv. No. 3159 Grand Trunk Western Railroad Battle Creek, Mich. January 18, 1948

Location of Accident and Method of Operation

This accident occurred on that part of the Chicago Division extending between C & W. I. Jct., Chicago, Ill. and Battle Creek

This accident occurred on that part of the Chicago Division extending between C.& W. I. Jct., Chicago, Ill, and Battle Creek, Mich., 171.79 miles, a double-track line in the vicinity of the point of accident, over which trains are operated by timetable, train orders and an automatic block-signal system. The derailment occurred on the eastward main track 164.93 miles east of C. & W. I. Jct. and 6.86 miles west of the station at Battle Creek, and the collision occurred 1,575 feet eastward. From the west there are, in succession, a 1 degree 46'50" curve to the left 1,605 feet in length and a tangent 1,379 feet to the point of derailment and 1,838 feet eastward. From the east there are, in succession, a 0 degree 56'15" curve to the left 1,921 feet in length and a tangent 263 feet to the point of collision and 2,954 feet westward. The grade is 0.27 percent descending eastward.

The track structure consists of 101-pound rail, 39 feet in length, laid on an average of 24, ties to the rail length. It is fully tieplated, double-spiked, provided with 4-bolt joint bars and an average of a rail anchors per rail length. It is ballasted with gravel to a depth of about 8 inches. In this vicinity a highway bridge of steel construction spans the railroad at an angle of 28 degree 51". The west side of the bridge structure is 1,148 feet east of the point of derailment, and the east side of the bridge structure is 340 feet west of the point of collision.

This carrier's operating rules read, in part as follows:

90b. Trainmen, so far as practicable, are required to look for and exchange signals with trainmen on passing trains, operators, signalmen, * * * and other employees as they pass, taking immediate action to stop their train in the event of "stop" signal being given on account of defects or other dangerous conditions which may be observed by them.

153. * * *

When a train stops unexpectedly or meets with an accident the nature or extent of which is unknown, trainmen must, without waiting to determine what tracks, if any, are obstructed, stop trains on all tracks until it is known that such trains can move with safety.

[illegible] anything unusual or defective is noted, such as * * *, hot box, * * * make every [illegible] ginemen to such conditions by giving STOP signal, and when practicable; report [illegible] ie train [illegible]patcher.

A trainman must be stationed on rear end of train in position to give or receive necessary signals as follows:

* * *

When passing trains on two or more tracks;

When meeting or passing trains on sidings;

When passing train order signals and interlockers.

* * *

Operators and signalmen must, when practicable, be out in front of the office when trains are passing, * * *.

The maximum authorized speed for freight trains is 45 miles per hour.

Description of Accident

Extra 6336 East, an east-bound freight train, consisting of engine 6336, 63 cars and a caboose passed Vicksburg, the last open office, 17.7 miles west of the point of derailment, at 10:42 a.m., and was moving on the eastward main track at an estimated speed of 40 miles per hour when the twenty-fifth to forty-seventh cars, inclusive, were derailed, and they obstructed the westward main track. Less than one minute later the derailed equipment was struck by Extra. 6331 West.

Extra 6331 West, a west-bound freight train, consisting of engine 6331, 51 cars and a caboose, departed from Battle Creek, the last open office, at 10:55 a.m., and while moving on the westward main track at an estimated speed of 25 miles per hour it struck the derailed cars of Extra 6336 East. The engine and the first 13 cars were derailed.

The derailed equipment of both trains was badly damaged. The second car, the fourth to seventh cars, inclusive, and the tenth car of Extra 6331 West were tank cars containing oil. The tanks of several of these cars were punctured, and the engine of Extra 6331 West and a number of cars were destroyed by fire.

The engineer, the fireman and the front brakeman of Extra 6331 West were killed, and the conductor of this train was injured.

The weather was clear at the time of the accident, which occurred about 11:12 a.m.

The twenty-fifth car of Extra 6336 East was I. C. 29944, an all-steel box car, built in August, 1947. It was 41 feet 8-1/2 inches long over end-sills, 10 feet 7-1/2 inches wide and 14 feet 11 inches high. Its stencilled lightweight and load limit were, respectively, 47,200 pounds and 121,800 pounds, or a maximum allowable weight of 169,000 pounds on the rails. At the time of the accident the lading consisted of sand, and the total weight of the car and the lading was 165,000 pounds. The trucks were of the 4-wheel type; having 5-1/2-inch by 10-inch journals, cast-iron wheels, and cast-steel U-section side frames. The wheels and the axle involved were applied to the car on the Wabash Railroad at Peru, Ind., on August 26, 1947.

Discussion

Extra 6336 East was moving on the eastward main track at an estimated speed of 40 miles per hour, in territory where the maximum authorized speed was 45 miles per hour. When the twenty-fifth to forty-seventh cars, inclusive, were derailed. The first the members of the crew knew of anything being wrong was when the engineer in locking toward the rear saw a separation in his train under the highway bridge. Immediately afterwards the brakes became applied in emergency as a result of the derailment. Less than one minute after the derailment occurred the derailed equipment, which obstructed the westward main

derailment. Less than one minute after the derailment occurred the derailed equipment, which occupied the westbound main track, was struck by Extra 6331 West.

As Extra 6331 West was approaching the point where the accident occurred the speed was about 25 miles per hour. The enginemen, and the front brakeman, who was on the engine, were killed. The conductor and the flagman were in the caboose, and these employees were not aware of anything being wrong until the accident occurred.

Under the rules, the crew of Extra 6336 East was required to protect adjacent tracks in both directions when their train was stopped as a result of the emergency application of the brakes. The enginemen of Extra 6336 East, and the front brakeman, who was on the engine, said that the engine of Extra 6331 West was too close to their engine to enable them to provide flag protection.

The investigation disclosed, that the derailment of Extra 6336 East was caused by the breaking of the right front journal of the front truck of I.C. 29944, the twenty-fifth car. Marks on the track structure and on the truck-side involved indicate that the journal broke at a point 3,568 feet west of the highway bridge, and that the truck-side dropped sufficiently to be in contact with the right rail to a point 2,407 feet eastward, where it struck the planking of a private-road grade crossing. Then the truck was directed to the right and the body of the car struck the supporting piers of the bridge structure immediately south of the track, and the general derailment followed.

I. C. 29944 was loaded at Ottawa, Ill., 232.13 miles, west of the point of accident, on the Chicago, Rock island and Pacific Railroad on January 16, and was delivered to the Grand Trunk Western Railroad at Blue Island, 157.13 miles west of the point of accident, on January 17. This car was inspected by mechanical forces of the G. T. W. at Blue Island on January 18, and all journal boxes were inspected and serviced. It was assembled in the train of Extra 6336 East at Blue Island about 5 a.m., January 18. The records of the G. T. W. indicate that this car was last inspected by mechanical forces at Olivers, Ind., 70.62 miles west of the point of accident, about 8:30 a.m., January 18. During this Inspection not all of the journal boxes were opened. No defective condition was found in either of these inspections. The members of the crew of Extra 6336 East said that they made frequent observations of the equipment of the train throughout the trip, and no defective condition was observed. The crew of Extra 6336 East received proceed signals from the crew of a west-bound freight train near Pavilion, 12.58 miles west of the point of accident, and from operators at various points en route. However, loose snow swirling about the train made it difficult to see indications of a hot journal.

The failure of the journal involved consisted of an irregular break measuring from 6-1/2 inches to 8 inches inward from the end collar. The end of the journal remaining attached to the wheel assembly was badly worn by contact with the top of the journal box, and the top section of the journal box was worn through. The journal was overheaded when it broke. The axle involved was provided with 5-1/2 by 10-inch journals. The diameter of the journal adjacent to the collar was 5,160 inches, and at the point of failure the diameter was 4,967 inches. Records of the Wabash Railroad indicate that the wheels and axle involved were applied to the car on August 26, 1947, at Peru, Ind. The wheels were cast on February 21, 1946. There was no mark on the axle and no record of the carrier to indicate the date or place of manufacture.

Cause

It is found that this accident was caused by a broken journal, and by derailed freight cars obstructing an adjacent main track in front of an approaching freight train.

Dated at Washington, D. C., this twenty-second day of March, 1948.

By the Commission, Commissioner Patterson.

(SEAL) W. P. BARTEL,

Secretary.

FOOTNOTE:

1 Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT NO. 3378

GRAND TRUNK WESTERN RAILROAD COMPANY IN RE ACCIDENT NEAR ANDERSONVILLE, MICH., ON NOVEMBER 26, 1950

Report No. 3378

SUMMARY

Date:	November 26, 1950		
Railroad:	Grand Trunk Western		
Location:	Andersonville, Mich.		
Kind of accident:	Rear-end collision		
Trains involved:	Freight	:	Passenger
Train numbers:	Extra 3743 West	:	57
Engine numbers:	3743	:	6037
Consists:	74 cars, caboose	:	10 cars
Estimated speeds:	4 m.p.h.	:	45 m.p.h.
Operation:	Timetable and train orders		
Track:	Single; 2 degree curve; level		
Weather:	Light rain		
Time:	12:36 a.m.		
Casualties:	1 killed; 9 injured		
Cause:	Failure to provide adequate protection for train occupying main track on time of following superior train		

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3378

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

GRAND TRUNK WESTERN RAILROAD COMPANY

January 29, 1951

Accident near Andersonville, Mich., on November 26, 1950, caused by failure to provide adequate protection for a train occupying the main track on the time of a following superior train.

REPORT OF THE COMMISSION 1

PATTERSON, Commissioner:

On November 26, 1950, there was a rear-end collision between a freight train and a passenger train on the Grand Trunk Western Railroad near Andersonville, Mich., which resulted in the death of one train-service employee, and the injury of six passengers and three train-service employees. This accident as investigated in conjunction with a representative of the Michigan Public Service Commission.

Diagram

Report No. 3378 Grand Truck Western Railroad Andersonville, Mich. November 26, 1950

This [illegible] at [illegible] Detroit Division extending between Detroit and Durand, Mich., 66.97 miles. In the [illegible] point [illegible] accident this is a single-track line, over which trains are operated by timetable and train orders. There is [illegible] in use. At Andersonville, 38.54 miles west of Detroit, a siding 1.23 miles in length parallels the main track on the north. The accident occurred on the main track at a point 37.13 miles west of Detroit and 2,634 feet east of the east siding-switch at Andersonville. From the east there is a tangent 3,983 feet in length and then a 2 degree curve to the right 1,558 feet to the point of accident and 847 feet westward. The grade is practically level.

This carrier's operating rules read in part as follows:

11. * * *

On track not protected by automatic block signals a train approaching a fusee burning red on or near its track must stop before any part of the train has passed it, and not proceed until the fusee is burned out.

* * *

A train approaching a fusee burning yellow on or near its track will proceed with caution.

* * *

73. Extra trains are inferior to regular trains.

86. * * * an inferior train must clear the time of a first class train in the same direction not less than ten minutes, unless it is clear before such train is due to leave the next station in the rear where time is shown (in which case clearing time must be not less than five minutes), * * * failing to clear the main track as required, the train must be protected as prescribed by Rule 99.

91. * * *

* * * trains must keep not less than ten minutes apart unless the preceding train has arrived at the station ahead.

91a. * * * it will be the duty of operators * * * to maintain the intervals prescribed by Rule 91. * * *

99. * * *

* * *

When a train is moving under circumstances in which it may be overtaken by another train, such action must be taken as may be necessary to insure full protection; lighted fusees, red or yellow as the case may require, must be thrown off at proper intervals.

* * *

The maximum authorized speeds were 57 miles per hour for passenger trains and 45 miles per hour for freight trains.

Description of Accident

Extra 3743 West, a west-bound freight train, consisted of engine 3743, 52 cars and a caboose. This train passed Pontiac, the last open office, 10.79 miles east of the point of accident, at 10:55 p.m., November 25. It stopped west of the station, and, after 22 cars were added to the train, it departed about 11:40 p.m. It then proceeded westward, and while it was entering the siding at Andersonville at a speed of about 4 miles per hour the rear end was struck by No. 57 at a point 2,634 feet east of the east siding-switch.

No. 57, a west-bound first-class passenger train, consisted of engine 6037, two express cars, four baggage cars, two coaches, one Sleeping car, and one business car, in the order named. The first, fourth, fifth, ninth, end tenth cars were of all-steel construction, and the other cars were of steel underframe construction. This train departed from pontiac at 12:20 a.m., 5 minutes late, and while it was moving at an estimated speed of 45 miles per hour it struck the rear end of Extra 3743 West.

The engine, the tender, and the first three cars, of No. 57 were derailed. The engine stopped with its front end 180 feet west of the point of accident and 12 feet north of the center-line of the track and its rear end on the track. It leaned to the north at an angle of about 45 degrees. The front end of the engine was badly damaged. The tender remained coupled to the engine and stopped upright and in line with the track. It was slightly damaged. The first and the second cars were demolished. The third car remained coupled to the fourth car and stopped with its front end 10 feet south of the center-line of the track. It leaned to the south at an angle of about 30 degrees. The third car was badly damaged, and the fourth car was slightly damaged. The seventy-third and seventy-fourth cars and the caboose of Extra 3743 West were derailed and stopped in various positions on or near the track. The caboose and the seventy-fourth car were demolished, and the seventy-third car was badly damaged.

The fireman of No. 57 was killed. The engineer of No. 57 and the conductor and the flagman of Extra 3743 West were injured.

There was a light rain at the time of the accident, which occurred about 12:36 a.m.

During the 30-day period preceding the day of the accident, the average daily movement in the vicinity of the point of accident was 19 trains.

Discussion

Extra 3743 West passed Waterford, 5.25 miles east of Andersonville, at 11:55 p.m. No. 57 was due to leave Waterford at 12:24 a.m., and to leave Andersonville at 12:30 a.m., There was no siding of sufficient length to permit Extra 3743 West to clear the main track between these stations, and if this train failed to clear the time of No. 57 as prescribed by rule No. 86 the crew was required to provide protection as prescribed by rule No. 99.

Because of inadequate steam pressure, the speed of Extra 3743 West was reduced to about 3 miles per hour on an ascending

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT NO. 3439

THE CANADIAN NATIONAL RAILWAY COMPANY IN RE ACCIDENT AT SWIFT, MINN., ON NOVEMBER 17, 1951

Report No. 3439

SUMMARY

Date:	November 17, 1951		
Railroad:	Canadian National		
Location:	Swift, Minn.		
Kind of accident:	Head-end collision		
Trains involved:	Freight	:	Freight
Train numbers:	Extra 3234 West	:	Fourth 714
Engine numbers:	3234	:	3333
Consists:	42 cars, caboose	:	47 cars, caboose
Estimated speeds:	30 m. p. h.	:	Standing
Operation:	Timetable and train orders		
Track:	Single; tangent; 0.11 percent descending grade westward		
Weather:	Snow flurries		
Time:	1:25 a.m.		
Casualties:	1 killed; 1 injured		
Cause:	Failure to obey meet order		

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3439

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

THE CANADIAN NATIONAL RAILWAY COMPANY

January 23, 1952

Accident at Swift, Minn., on November 17, 1951, caused by failure to obey a meet order.

REPORT OF THE COMMISSION

On N [illegible] nd collision between two freight trains on the Canadian National Railway at Swift, M[illegible] result[illegible] the death of one employee, and the injury of one employee.

Diagram

Report No. 3439 Canadian National Railway Swift, Minn. November 17, 1951

Location of Accident and Method of Operation

This accident occurred on that part of the Port Arthur Division extending between Rainy River, Ontario, and Paddington, Manitoba, Canada, 147.9 miles. In the vicinity of the point of accident this is a single-track line, over which trains are operated by timetable and train orders. There is no block system in use. At Swift, Minn., 32 miles west of Rainy River, a siding 4,587 feet in length parallels the main track on the south. The east siding-switch is 4,210 feet east of the station. The accident occurred on the main track at a point 4,294 feet west of the east siding-switch. The main track is tangent throughout a distance of 7 miles east of the point of accident and 3 miles westward. The grade for west-bound trains varies between 0.04 percent and 0.64 percent descending throughout a distance of 3 miles east of the point of accident, and it is 0.11 percent descending at that point.

The switch stand at the east siding-switch is equipped with a standard switch lamp of the oil-burning type. The lamp is located 0.6 feet south of the center line of the main track and 6.3 feet above the level of the tops of the rails. When the switch is lined

9.0 feet south of the center-line of the main track and 6.5 feet above the level of the tops of the rails. When the switch is lined for movement on the main track the lamp displays a green light in the direction of approaching trains.

This carrier's operating rules read in part as follows:

73. Extra trains are inferior to regular trains.

89. (SINGLE TRACK) At meeting points the inferior train must take the siding * * *

The inferior train must pull into the siding when practicable. * * *

90.* * *

Unless otherwise provided, on freight * * * trains in motion between stations, conductors and enginemen will see that trainmen are at the front and rear of trains (in cupola of caboose where provided) in position to observe the safe operation of trains* * *

* * *

210a. Conductors and enginemen must require members of their crew to read aloud and know the contents of all train orders a soon as practicable after they have been received. Members of the crew are required, if necessary, to remind conductors and enginemen of their contents.

FORMS OF TRAIN ORDERS

Form A--(SINGLE TRACK)

FIXING MEETING POINTS FOR OPPOSING TRAINS.

(1) * * *

No. 788 Eng 405 meet Extra 701 West at B.

* * *

Trains receiving these orders will run with respect to each other to the designated points and there meet in the manner prescribed by the rules.

The maximum authorized speed for the trains involved was 35 miles per hour.

Description of Accident

Extra 3234 West, a west-bound freight train, consisted of engine 3234, 42 cars and a caboose. At Rainy River the crew received copies of train order No. 319 reading part as follows:

Eng 3234 run Extra Rainy River to Paddington meet Fourth 714 Eng 3333 at Swift

This train departed from Rainy River at 11:35 p.m., November 16, departed from Baudette, Minn., 30.4 miles east of Swift and the last open office, at 12:20 a.m., November 17, passed the east siding-switch at Swift, where it was required to enter the siding to meet Fourth 714, and while moving at a speed of about 30 miles per hour it collided with Fourth 714 at a point 4,294 feet west of the east siding-switch.

Fourth 714, an east-bound fourth-class freight train, consisted of engine 3333, 47 cars and a caboose. At Sprague, Manitoba, 25.6 miles west of Swift, the crew received copies of train order No. 319. This train departed from Sprague at 11:30 p.m., November 16, 8 hours 45 minutes late, departed from Warroad, Minn., 6 miles west of Swift and the last open office, at 12:50 a.m., November 17, 8 hours 50 minutes late, and stopped on the main track at 1:20 a.m., with the engine standing 4,294 feet west of the east siding-switch at Swift. About 5 minutes later it was struck by Extra 3234 West.

The engine, the tender, the first eight cars, and the front truck of the ninth car of Extra 3234 West were derailed. The engine stopped upright and in line with the track. The cab was demolished, and pipes and fixtures in the cab were sheared off. The backhead of the boiler was punctured, the main frame was broken in several places, and the engine was otherwise badly damaged. The body of the tender was demolished. The derailed cars stopped in various positions on or near the track. The first car was demolished, the second to the seventh cars, inclusive, were considerably damaged, and the eighth car was slightly damaged. The engine of Fourth 714 was moved westward 35 feet. The engine, the tender, the first two cars, and the front truck of the third car were derailed. The engine stopped upright and in line with the track. The smoke box and both cylinders were demolished, the main frame was broken on the left side behind the cylinders, and the boiler was shifted on the frame. The tender was punctured. The first car was overturned to the north aria was considerably damaged. The second car was demolished. The third car was slightly damaged.

The engineer of Extra 3234 West was killed. The fireman of Extra 3234 West was injured.

A light snow was falling at the time of the accident, which occurred at 1:25 a.m.

Discussion

The crews of both trains held copies of train order No. 319, which established Swift as the meeting point between Extra 3234 West and Fourth 714. Under the rules Extra 3234 West, the inferior train, was required to enter the siding at the east siding-switch. Switching members of the crews of both trains so understood.

The conductor of Extra 3234 West received copies of train order No. 319 at Rainy River. He delivered a copy of the order to the engineer, and the engineer, the fireman, and the front brakeman each read the order aloud and understood that their train was to meet Fourth 714 at Swift. The brakes of the train were tested at Rainy River. The conductor said the automatic brake was not used between Rainy River and the point where the accident occurred. Between Rainy River and Bauedette the conductor and the front brakeman rode on the engine, and the flagman rode in the caboose. The train entered the siding at Baudette to meet an east-bound passenger train. After the passenger train departed, the conductor instructed the front brakeman to proceed to the rear of the train and inform the flagman that it would be necessary to move the train eastward a short distance so that the front end could be inspected by customs officers. After the inspection was completed the train departed westward. The conductor boarded the engine as the train moved westward through the siding. He informed the engineer that he intended to remain on the engine so as to be in a position to operate the west siding-switch at Baudette and the east siding-switch at Swift. The engineer

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT NO. 3409

CENTRAL VERMONT RAILWAY IN RE ACCIDENT AT SWANTON, VT., ON JULY 15, 1951

Report No. 3409

SUMMARY

Date:	July 15, 1951		
Railroad:	Central Vermont		
Location:	Swanton, Vt.		
Kind of accident:	Rear-end collision		
Trains involved:	Freight	:	Passenger
Train numbers:	Extra C.N. 6217 East	:	332
Engine numbers:	C.N. 6217	:	603
Consists:	52 cars, caboose	:	6 cars
Estimated speeds:	Standing	:	25 m. p. h.
Operation:	Timetable and train orders		
Track:	Single; 2 degree curve; 0.18 percent ascending grade eastward		
Weather:	Clear		
Time:	10:05 a.m.		
Casualties:	83 injured		
Cause:	Failure to provide adequate protection for train occupying main track on time of following superior train		

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3409

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

CENTRAL VERMONT RAILWAY

August 22, 1951

Accident at Swanton, Vt., on July 15, 1951, caused by failure to provide adequate protection for a train occupying the main track on the time of a following superior train.

REPORT OF THE COMMISSION 1

PATTERSON, Commissioner:

On July 15, 1951, there was a rear-end collision between a freight train and a passenger train on the Central Vermont Railway at Swanton, Vt., which resulted in the injury of 77 passengers, 5 dining-car employees and 1 parlor-car attendant.

Diagram

Report No. 3409 Central Vermont Railway Swanton, Vt. July 15, 1951

Location of Accident and Method of Operation

This accident occurred on that part of the Northern Division extending between East Alburgh and St. Albans, Vt., 15.59 miles, a single-track line, over which trains are operated by timetable and train orders. There is no block system in use. At Swanton, 5.56 miles east of East Alburgh, a siding 5,199 feet in length parallels the main track on the south . The west and the east switches of this siding are, respectively, 4,802 feet west and 397 feet east of the station. The accident occurred on the main track at a point 2,368 feet east of the west siding-switch and 2,434 feet west of the station at Swanton. From the west there are, in succession, a tangent 1.85 miles in length and a 2 degree curve to the right 1,023 feet to the point of accident and 1,688 feet eastward. Throughout a distance of 2.18 miles immediately west of the point of accident the grade varies between level and 0.64 percent ascending eastward. At the point of accident the grade is 0.18 percent ascending eastward.

ascending eastward. At the point of accident the grade is 0.18 percent ascending eastward.

This carrier's operating rules read in part as follows:

11. * * *

On track not protected by automatic block signals a train approaching a fusee burning red on or near its track must stop before any part of the train has passed it, and not proceed until the fusee is burned out.

* * *

A train approaching a fusee burning yellow on or near its track will proceed with caution.

14. Engine Thistle Signals

NOTE--The signals prescribed are illustrated by "o" for short sounds, "-----"for longer sounds, * * *

(Sound) (Indication, Purpose or Use)

* * *

(c) ----- o o o Flagman protect rear of train.

* * *

73. Extra trains are inferior to regular trains.

86. * * * an inferior train must clear the time of a first class train in the same direction not [illegible] train is due to leave the next station in the rear where time is shown (in which [illegible]tes), * * * failing to clear the main track as required, the train must be [illegible]

1

9

* * *

* * * trains must keep not less than ten minutes apart unless the preceding train has arrived at the station ahead.

91a. * * * it will be the duty of operators * * * to maintain the intervals prescribed by Rule 91. * * *

99. When a train stops on the main track under circumstances in which it may be overtaken by another train a flagman must immediately go back with flagman's signals to protect the train. * * *

* * *

Flagmen must each be equipped for day time with a red flag * * * torpedoes and * * * fusees * * *

* * *

When a train is moving under circumstances in which it may be overtaken by another train, such action must be taken as may be necessary to insure full protection; lighted fusees, red or yellow as the case may require, must be thrown off at proper intervals.

* * *

The maximum authorized speeds were 55 miles per hour for passenger trains and 35 miles per hour for freight trains.

Description of Accident

Extra C.N. 6217 East, an east-bound freight train, consisted of engine 6217, 52 cars and a caboose. This train departed from East Alburgh, 6.09 miles west of the point of accident, at 9:44 a.m., and stopped on the main track at Swanton about 10:02 a.m., with the rear end 2,368 feet east of the west siding-switch. About 3 minutes later the rear end was struck by No. 332.

No. 332, an east-bound first-class passenger train, consisted of engine 603, a 4-8-2 type, one baggage-coach, three coaches, one dining car and one parlor car, in the order named. The cars of this train were of all-steel construction. At East Alburgh the crew of No. 332 received Terminal Clearance Form B, which contained the information that the train ahead, Extra C.N. 6217 East, had departed from that station at 9:44 a.m., and had not yet arrived at Swanton. No. 332 departed from East Alburgh at 9:54 a.m., 6 minutes late, and while moving at an estimated speed of 25 miles per hour it struck the rear end of Extra C.N. 6217 East.

The caboose and the rear three cars of Extra C.N. 6217 East were derailed and stopped in various positions on or near the track. The fiftieth car was badly damaged. The fifty-first and the fifty-second cars and the caboose were destroyed. The engine and the cars of No. 332 remained coupled and stopped with the front end of the engine 98 feet east of the point of collision. The engine-truck wheels and the Nos. 1 and 2 driving wheels were derailed to the south and stopped in line with the track. The engine was badly damaged. No other equipment of this train was derailed.

The weather was clear at the time of the accident, which occurred about 10:05 a.m.

During the 30-day period preceding the day of the accident, the average daily movement in the vicinity of the point of accident was 12.63 trains.

Discussion

Extra C.N. 6217 East departed from East Alburgh, 6.56 miles west of Swanton, at 9:44 a.m. No. 332 was due to leave East Alburgh at 9:48 a.m., and to leave Swanton at 10:03 a.m. There was no siding between these stations at which Extra C.N. 6217 East could clear the main track, and when this train failed to clear the time of No. 332 the crew was required to provide protection as prescribed by Rule 99.

As Extra C.N. 6217 East was approaching Swanton the speed was about 10 miles per hour. The enginemen and the conductor were in the cab of the engine. The flagman and the front brakeman were in the caboose. Because of the ascending grade in the vicinity of the west siding-switch, the engineer and the conductor decided that it would minimize the delay to No. 332 if their train proceeded east of the east siding-switch and then backed into the siding. The engineer said that he observed the operator giving signals in the vicinity of the station. He immediately made a service application of the brakes and the train stopped on the main track about 10:02 a.m. The conductor then proceeded to the station and was informed by the operator that the signals given by him were intended to convey instructions from the dispatcher to expedite the movement into the siding. The conductor then gave proceed signals to the engineer but the collision occurred before the train could be started. The front brakeman said that when the train was about 1.5 miles east of East Alburgh he observed No. 332 departing from that station and warned the flagman. The flagman said that he became concerned after No. 332 departed from East Alburgh, and about 1.3 miles west of the point where the accident occurred he threw off a lighted yellow fusee. He said that about 2 minutes later he became aware that his train was proceeding beyond the west siding-switch, and when the caboose was in the vicinity of the switch he threw off a lighted red fusee. The flagman said that he alighted from the caboose before his train stopped and gave stop signals with a lighted red fusee before the rear end was struck by No. 332.

As No. 332 was approaching the point whore the accident occurred the speed was about 50 miles per hour. The enginemen were maintaining a lookout ahead from their respective positions in the cab of the engine. The members of the train crew were in various locations throughout the cars of the train. The brakes of this train had been tested and had functioned properly when used en route. The engineer said that he had received a copy of the clearance at East Alburgh and he was aware that Extra C.N. 6217 East had departed 10 minutes ahead of his train. He said that when he observed a lighted yellow fusee he closed the throttle of the engine. His train was proceeding on the curve on which the accident occurred when he first observed the caboose of the preceding train, and at that time he thought it was on the siding. He said that he became aware at a distance of about 1,000 feet that the train ahead was occupying the main track, and immediately moved the brake valve to emergency position. The speed of the train was reduced to about 25 miles per hour when the collision occurred.

Both the engineer and the conductor of Extra C.N. 6217 East were aware that their train was on the time of No. 332 when it departed from East Alburgh. The conductor said he thought that his train could not be backed clear of the main track at East Alburgh because of an ascending grade, and it was necessary to proceed to Swanton to clear for No. 332. He said that he expected the flagman and the front brakeman to take such action as was necessary to provide protection as prescribed by Rule 99. The flagman said that he thought the lighted yellow fusee and the lighted red fusee would provide protection against No. 332 until he could alight from the caboose and provide flag protection. The engineer of No. 332 said that he observed the lighted yellow fusee between East Alburgh and the point of accident but he did not observe a lighted red fusee, and he did not observe stop signals being given by the flagman of the preceding train before the accident occurred. The fireman said that he saw only the lighted yellow fusee between East Alburgh and the point of accident.

Remnants of a yellow fusee and of a red fusee were found, respectively, 1.5 miles and 2,223 feet west of the point of accident. The spike of the yellow fusee was anchored in a tie and it apparently burned out in an upright position. The unburned portion of the red fusee was found on the ballast approximately in the center of the track. It lay diagonally in the space between two ties and was approximately 2 inches below the level of the tops of the ties. Tests made after the accident, under conditions of weather and visibility similar to those that existed on the day of the accident, revealed that a lighted yellow fusee placed where the spike was found was clearly visible from the west at a distance of more than 1,500 feet. A lighted red fuses, placed in the same location and position as the unburned red fusee, was not visible from the cab of a standing engine at a distance of 200 feet.

In this territory trains are operated by timetable and train orders. The only provision for spacing trains is by the time-interval method enforced by the operators at open stations, and by flagman's signals. The rules require that a following train must be spaced at least 10 minutes behind a preceding train. In the instant case the preceding train departed from East Alburgh 10 minutes before the following train departed from that station. If an adequate block system had been in use in this territory, the crew of the following train would have received definite information that the preceding train was occupying the main track in the same block.

Cause

It is found that this accident was caused by failure to provide adequate protection for a train occupying the main track on the time of a following superior train.

Dated at Washington, D. C., this twenty-second day of August, 1951.

By the Commission, Commissioner Patterson.

(SEAL) W. P. BARTEL,

Secretary.

FOODNOTE

1 Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.

1763

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN ACCIDENT WHICH OCCURRED ON THE GRAND TRUNK WESTERN RAILROAD AT SOUTH BEND, IND., ON APRIL 28, 1932.

June 7, 1932.

To the Commission:

On April 28, 1932, there was a derailment of a passenger train on the Grand Trunk Western Railroad at South Bend, Ind., which resulted in the death of 2 employees, and the injury of 2 express messengers and 2 residents of a dwelling adjacent to the railroad. This accident was investigated in conjunction with a representative of the Public Service Commission of Indiana.

Location and method of operation

This accident occurred on the South Bend Sub-division of the Chicago Division, which extends between Battle Creek, Mich., and Griffith, Ind., a distance of 140.56 miles; in the vicinity of the point of accident this is a double-track line over which trains are operated by time-table, train orders, and an automatic block-signal system. Joint track operation with the New York Central Railroad extends on a viaduct from High Street westward to Arnold Street., a distance of 1.57 miles. Approaching from the east, the Grand Trunk Western track is tangent for almost 2 miles and then there is a 2 degree curve to the left 1,873 feet in length, called the 18th Street curve, followed by 3,653 feet of tangent extending across the St. Joseph River bridge, and then there is a 7 degree curve to the right 1,030 feet in length extending to the junction with the New York Central tracks the first marks of derailment appeared on this 7 degree curve at a point 61 feet from its leaving end. The grade is slightly undulating, the average grade for westbound trains being 0.25 per cent ascending where the initial derailment occurred.

In the joint track territory the tracks of the New York Central Railroad parallel the tracks of the Grand Trunk Western Railroad on the south. At a point about 400 feet east of the junction at High Street the spur track of the South Bend Toy Works leads off the track of the New York Central Railroad toward the north-west and crosses the tracks of the Grand Trunk Western Railroad, this crossing with the westbound main track of the Grand Trunk Western Railroad being at a point 126 feet east of where the first marks of derailment appeared. The superelevation of the south rail on the Grand Trunk Western main track was practically uniform, the maximum being 3 3/4 inches, but at the point where the spur track crossed it the superelevation reduced to 3/16 inch, following which it increased to 1 7/16 inches, and then tapered off to 1 1/4 inches at the point where the first marks of derailment appeared.

Diagram

Inv. No. 1763 Grand Trunk Western R.R. South Bend, Indiana April 28, 1932.

The track is laid with 100-pound rails, 39 feet in length, with an average of 24 ties to the rail-length tie-plated, double-spiked on the inside, and ballasted with gravel and stone to a depth of 12 inches.

When a westbound train on the Grand Trunk Western Railroad enters upon the track circuit at a point 2.9 miles east of High Street viaduct, or at automatic block signal 1033, an annunciator is sounded and a red light is also caused to be displayed in the inter-locking tower at South Bend and the leverman is required to record the time at which this takes place on a sheet provided for that purpose. The station at South Bend is located 0.9 mile west of High Street, while the interlocking tower is located just west of the station

west of the station.

ime-table instructions, the maximum speed for passenger trains is 60 miles per
es per hour on the westbound main track over the switch leading from the old
0 miles per hour around the 7 degree curve approaching the joint track

The weather was clear at the time of the accident, which occurred about 4.15 a.m.

Description

Westbound passenger train No. 5 consisted of three baggage cars, one mail car, two baggage cars, one coach and two Pullman sleeping cars, in the order named, hauled by engine 6037, of the 4-8-2 type, and was in charge of Conductor Mirfield and Engineman Groves. The cars were of all-steel construction, with the exception of the third arid fifth cars, which were of steel-underframe construction. This train left Cassopolis, 22.96 miles west of South Bend and the last open office, at 3.53 a.m., according to the train sheet, eight minutes late, and was approaching the joint track at High Street, South Bend., when it was derailed while traveling at a speed estimated to have been between 30 and 40 miles per hour.

Engine 6037 and its tender turned over on their left sides and slid along on the south rail of the westbound track and the north rail of the eastbound track for a distance of more than 500 feet, stopping parallel with the tracks. The first car rode the retaining wall of the viaduct until finally its head end toppled off the viaduct at Marietta Street, the car coming to rest with its head end on the street, 18 feet below, and its rear end on the retaining wall. The second car fell off the retaining wall between High and Marietta Streets and damaged an adjacent dwelling, injuring two of its occupants. The third to the seventh cars, inclusive, stopped in zig-zag fashion across the tracks, upright, and one pair of wheels of the lead truck of the first Pullman sleeping car was also derailed. The employees killed were the engineman and fireman.

Summary of evidence

Conductor Mirfield, who was riding in the seventh car, estimated the speed to have been about 40 miles per hour while rounding the 18th Street curve; he felt a lurch and started to reach for the air and set the brakes, but before he could do so a service application was made by the engineman which reduced the speed to 25 miles per hour. The brakes were then released and the train seemed to proceed toward High Street at normal speed, the conductor estimating it to have been 30 miles per hour on entering the curve on which the accident occurred. He could not recall that the air brakes were applied while rounding this particular curve, and he said that there was no lurch of the train; he could feel the wheel flanges crowding the outside rail, as usual, but nothing to make him feel uneasy or to think that there was any danger until the derailment actually occurred, exactly at 4.15 a.m. He examined the track and was unable to find any marks on the ties made by the engine before it turned over, and was unable to say what caused the accident. Conductor Mirfield conversed with Engineman Groves at Battle Creek and at that time the engineman appeared to be in normal condition.

Baggageman Hodgson was also riding in the seventh car; while he could not estimate the speed, yet in his opinion the train entered the curve at 18th Street at more than the usual rate of speed, but he brakes were applied, and he did not think any more about it. Approaching the curve at High Street he got up and started ahead into the baggage car, but the train entered the curve at an unusual rate of speed and then the accident occurred, throwing him over against the side of the car.

Brakeman Smith was also riding in the seventh car; he too thought that the train entered the curve at 18th Street a little hard., saying that the air brakes were applied about the time the engine entered the curve and that he felt a lurch of the car in which he was riding. He could not estimate the speed, but thought it was normal after rounding the curve. Brakeman Smith then started through the coach and a passenger inquired as to the time; he looked. at his watch and said it was 4.14 a.m., and as he did so the coach commenced to bump up and down as a result of the derailment.

Flagman Dunn was riding on the rear car; he said that the train entered the curve at 18th Street faster than usual, about 40 miles per hour, and he felt the air brakes apply about when the engine reached the curve, reducing the speed to about 30 miles per hour; he did not notice any increase in speed between this point and the point of accident.

New York Central Leverman Shultz, on duty in the tower governing joint track operation at South Bend, stated train No. 5 entered upon the track circuit and the annunciator started to buzz at 4.12 a.m., and the red light also was displayed on the chart. He had no record of the time the accident occurred, but was notified as to that time later on. The record he keeps is in accordance with time compared from a standard clock each morning.

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT NO. 3470

GRAND TRUNK WESTERN RAILROAD COMPANY IN RE ACCIDENT NEAR LINDEN, MICH., ON JUNE 29, 1952

Report No. 3470

SUMMARY

Date:	June 29, 1952	
Railroad:	Grand Trunk Western	
Location:	Linden, Mich.	
Kind of accident:	Head-end collision	
Trains involved:	Freight	: Freight
Train numbers:	Extra 3723 East	: Extra 3743 West
Engine numbers:	3723	: 3743
Consists:	51 cars, caboose	: 102 cars, caboose
Estimated speeds:	10 m. p. h.	: 40 m. p. h.
Operation:	Timetable and train orders	
Track:	Single; tangent; 0.43 percent ascending grade eastward	
Weather:	Raining	
Time:	2:30 a.m.	
Casualties:	6 injured	
Cause:	Failure to obey meet order	

INTERSTATE COMMERCE COMMISSION

REPORT NO. 3470

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

GRAND TRUNK WESTERN RAILROAD COMPANY

July 31, 1952

Accident near Linden, Mich., on June 29, 1952, caused by failure to obey a meet order.

REPORT OF THE COMMISSION

On Ju[illegible] 2[illegible], th[illegible] h[illegible] [illegible] sion between to freight trains on the Grand Trunk Western Railroad near Linden, M[illegible] resulte[illegible] the injury of six train-service employees. This accident was investigated in conjunction with a r[illegible] of the ....chigan Public Service Commission.

Diagram

Report No. 3470 Grand Trunk Western Railroad Linden, Mich. June 29, 1952

Location of Accident and Method of Operation

This accident occurred on that part of the Detroit Division extending between Durand and Detroit, Mich., 66.97 miles. In the vicinity of the point of accident this is a single-track line, over which, at the time of the accident, trains were operated by timetable and train orders. There as no block system in use. At Linden, 11.68 miles east of Durand, a siding 1.23 miles in length parallels the main track on the north. The east siding-switch is 3,470 feet east of the station. The accident occurred on the main track at a point 2.22 miles east of the east siding-switch at Linden. From the west there are, in succession, a tangent 8.84 miles In length, a 0 degree 30' curve to the left 1,375 left, and, a tangent 775 feet to the point of accident and 2.37 miles eastward. The grade is 0.43 percent ascending eastward at the point of accident.

This carrier's operating rules read in part as follows:

This carrier's operating rules read in part as follows:

88. (SINGLE TRACK) At meeting points * * *

Between * * * extra trains, the train in the inferior time table direction must take the siding;

* * *

89. (SINGLE TRACK) * * *

When necessary to stop to meet a train, the train holding the main track must stop clear of the switch to be used by the other train in taking the siding.

* * *

214. * * *

Conductors and enginemen must require their brakemen and firemen to read aloud and know the contents of all train orders.

Forms of Train Orders

* * *

Form A-(SINGLE TRACK) Fixing meeting points for opposing trains.

(1) * * *

Extra 702 North meet Extra 703 South at B.

* * *

Trains receiving these orders will run to the designated points and there meet in the manner prescribed by the Rules.

* * *

Timetable special instructions provide that east-bound trains are superior to trains of the same class in the opposite direction.

The maximum authorized speed for the trains involved was 45 miles per hour.

Description of Accident

Extra 3723 East, an east-bound freight train, consisted of engine 3723, 51 cars and a caboose. At Durand, the last open office west of the point of accident, the crew received, among others, copies of train order No. 1 reading as follows:

ENG 3743 RUN EXTRA PONTIAC TO DURAND MEET EXTRA 3723 EAST AT LINDEN.

Extra 3723 East departed from Durand at 1:55 a.m., passed the east siding-switch at Linden, where it was required to stop clear of the fouling point unless Extra 3743 West was into clear on the siding, and while moving at an estimated, speed of 10 miles per hour it collided with Extra 3743 West at a point 2.22 miles east of the east siding-switch.

Extra 3743 West, a west-bound freight train, consisted of engine 3743, 102 cars and a caboose. At Pontiac, 28.95 miles east of Linden, the crew received copies of train order No. 1. This train departed from Pontiac at 1:30 a.m., passed Holly, 8.8 miles east of Linden and the last open office, at 2:19 a.m., and while moving at an estimated speed of 40 miles per hour it collided with Extra 3723 East.

Both engines and tenders the first 10 cars and the front truck of the eleventh car of Extra 3723 East, and the first 7 cars of Extra 3743 West were derailed. The engines remained upright and approximately in line with the track. Each tender was separated from its engine, and the tenders and the derailed cars stopped in various positions on or near the track. The eleventh car of Extra 3723 East was slightly damaged. The engines and tenders and the other derailed cars were badly damaged.

The engineer, the fireman, and the front brakeman of Extra 3723 East and the engineer, the fireman, and the front brakeman of Extra 3743 West were injured.

It was raining at the time of the accident, which occurred at 2:30 a.m.

Discussion

Train order No. 1 established Linden as the meeting point between Extra 3723 East and Extra 3743 West. Under the rules Extra 3743 West was required to enter the siding at the east siding switch, and Extra 3723 East was required to stop clear of this switch unless Extra 3743 West was into clear on the siding.

The conductor of Extra 3723 East received copies of several train orders, including train orders No. 1, at Durand. The other members of the crew were on the train and the train was moving when he left the office. He handed copies of the train orders to the front brakeman as the engine passed him, and then boarded the caboose as the rear end of the train passed. Each member of the crew read the train orders, and each understood the requirements of train order No. 1. As this train was approaching Linden the speed was about 40 miles per hour. The enginemen were in their usual positions in the cab of the engine, the front brakeman was on the deck of the engine, and the conductor and the flagman were in the caboose. The brakes of the train had been tested and had functioned properly when used en route. The engineer said that because of a heavy rain and a strong wind be kept the window on his side of the cab closed during most of the trip. A traffic-control system was being installed on this line, and the signal masts had been erected but the signals were not placed in is service until 9 days after the accident occurred. The engineer said that after seeing a signal mast which he thought was the mast located about 1-1/2 miles west of Linden he stood up and put on his jacket. Before he returned to his seat he saw what he assumed to be the crossing-whistle sign for a rail-highway grade crossing west of the west siding-switch at Linden, and he sounded the grade-crossing whistle signal. When the engine entered the curve west of the, point where the accident occurred the engineer became aware that the train had passed Linden. He immediately made an emergency application of the brakes. The speed of the train was reduced to about 10 miles per hour when the collision occurred. The engineer said afterward that apparently he was confused as to the location of his train and passed the signal mast west of Linden without seeing it, then when he saw the signal mast at Linden he mistook it for the mast located about 1-1/2 miles west o that station. He thought that the engine may have passed the siding while he was engaged in putting on

about 1 1/2 miles west of that station. He thought that the engine may have passed the siding while he was engaged in putting on his jacket. The fireman said that he was aware of the location of the train as it passed Linden, but he overlooked the fact that Linden was the meeting point between his train and Extra 3743 West. When the engine entered the curve east of Linden he observed the headlight of the opposing train and called a warning to the ether employees on the engine. The front brakeman said that because he was bothered with an aching tooth he was riding on the deck of the engine instead of on the brakeman's seat. Until he heard the fireman call a warning he was not aware of the location of the train. The conductor and the flagman said that they were engaged in performing clerical work after the train departed from Durand and that they each went to the rear platform of the caboose and inspected the train at intervals. The flagman went to the rear platform when the train was in the vicinity of Linden, but because of the rain and darkness he could not immediately identify a landmark which would Indicate the exact location of the train. A short time later he realized that the train had passed Linden. The brakes were applied in emergency by the engineer before the flagman or the conductor could take action to stop the train.

The engineer, the fireman, and the front brakeman of Extra 3743 West were so seriously injured that they could not be questioned during this investigation. The conductor and the flagman said that the speed was about 40 miles per hour as the train approached the point at which the accident occurred. These employees were In the caboose and were not aware that an accident had occurred until they investigated to ascertain the cause for the abrupt stop east of Linden.

Cause

It is found that this accident as caused by failure to obey a meet order.

Dated at Washington, D. C., this thirty-first day of July, 1952.

By the Commission, Commissioner Patterson.

(SEAL) W. P. BARTEL,

Secretary.

FOOT NOTE:

1. Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT NO. 3485

GRAND TRUNK WESTERN RAILROAD COMPANY IN RE ACCIDENT AT BURTON, MICH., ON SEPTEMBER 26, 1952

Report No. 3485

SUMMARY

Date:	September 26, 1952		
Railroad:	Grand Trunk Western		
Location:	Burton, Mich.		
Kind of accident:	Derailment and collision		
Trains involved:	Passenger	:	Passenger
Train numbers:	22	:	57
Engine numbers:	6040	:	6037
Consists:	7 cars	:	8 cars
Estimated speeds	Standing	:	40 m. p. h.
Operation:	Timetable and train orders		
Track:	Single; tangent; 0.17 percent descending grade westward		
Weather:	Clear		
Time:	3:28 a.m.		
Casualties:	2 killed; 5 injured		
Cause:	Train approaching meeting point and entering turnout at an excessive rate of speed		

[illegible] VESTIGATION REPORTS UNDER THE ACCIDENT REPORTS ACT OF

[illegible] 1 [illegible] NY

[illegible], 1952

Accident at Burton, Mich., on September 26, 1952, caused by a train approaching a meeting point and entering a turnout at an excessive rate of speed.

REPORT OF THE COMMISSION 1

PATTERSON, Commissioner:

On September 26, 1952, there was a derailment of a passenger train and a collision between derailed equipment of that train and a passenger train standing on an adjacent track on the Grand Trunk Western Railroad at Burton, Mich. This accident resulted in the death of two train-service employees, and the injury of two railway-mail clerks and three train-service employees. The accident was investigated in conjunction with a representative of the Michigan Public Service Commission.

Diagram

Report No. 3485 Grand Trunk Western Railroad Burton, Mich. September 26, 1952

Location of Accident and Method of Operation

This accident occurred on that part of the Detroit Division extending between Grand Haven and Durand, Mich., 121.33 miles, a single-track line, over which trains are operated by timetable and train orders. There is no block system in use. At Burton, 103.97 miles east of Grand Haven, a siding 3,570 feet in length parallels the main track on the north. The derailment occurred on the siding at a point 222 feet west of the east siding-switch, and the collision occurred immediately west of the point of derailment. The main track is tangent throughout a distance of 1.06 miles immediately west of the east siding-switch and 4.85 miles eastward. The grade is 0.17 percent descending westward at the point of accident.

In the vicinity of the point of accident the structure of the main track consists of 100-pound rail, 39 feet in length, relaid in its present location in 1950 on an average or 23 treated ties to the rail length. It is fully tieplated with double-shoulder tieplates, single spiked, and is provided with 4-hole joint bars and an average of 8 rail anchors per rail. It is ballasted with crushed rock

single-spiked, and is provided with 4-hole joint bars and an average of 8 rail anchors per rail. It is ballasted with crushed rock ballast to a depth of 8 inches below the bottoms of the ties. The turnout at the east end of the aiding is provided with a No. 10 spring-rail frog. The degree of curvature of the lead curve is 7 degrees 15'. The siding is laid with 100-pound rail through the turnout to compromise joints located 165 feet west of the switch, and 80-pound rail west of these joints. It is fully tieplated, double-spiked between the switch and the point of tangent on the siding, and single-spiked west of that point. It is laid on an average of 19 treated hardwood ties to the rail length and is ballasted with crushed stoner and pit-run ballast to a depth of 6 inches below the bottoms of the ties.

The switch stand at the east siding-switch is of the hand-throw, intermediate-stand type, and is located 9 feet 1-3/4 inches north of the center-line of the main track. It is equipped with an oil-burning lamp, which displays a green aspect in the direction of approaching trains when the switch is lined in normal position and a red aspect when the switch is lined for entry to the siding. The centers of the lenses of the lamp are 7 feet 2-1/8 inches above the level of the tops of the ties. A circular red banner 1 foot 6 inches in diameter is attached to the spindle at a point 5 feet 2 inches above the level of the tops of the ties. This banner is parallel to the track when the switch is lined in normal position and at right angles to the track when the switch is lined for entry to the siding.

This carrier's operating rules read in part as follows:

14. Engine Whistle Signals

NOTE--The signals prescribed are illustrated by "o" for short sounds, "-----" for longer sounds. * * *

(Sound) (Indication, Purpose or Use)

* * *

(g) o o Answer to any signal not otherwise provided for.

* * *

16. Air Communicating Signals

NOTE--The signals prescribed are illustrated by "o" for short sounds, "-----" for longer sounds.

(Sound) (Indication)

* * *

(1) o o ----- Approaching meeting or waiting points (See Rule 90).

17. A headlight will be displayed to the fronts of every train by night, but must be concealed or extinguished when a train turns out to meet another train and has stopped clear of the main track with switches closed, * * *

17a. On engines equipped for the purpose the head-light will be dimmed * * * at meeting points * * *

27. * * *

Employees using a switch where the switch light is imperfectly displayed or absent must, if practicable, correct or replace the light.

* * *

72. * * *

Trains in the direction specified by the time table are superior to trains of the same class in the opposite direction.

88. (SINGLE TRACK) At meeting points trains must take the siding as herein prescribed, unless otherwise provided.

Between trains of the same class * * * the train in the inferior time table direction must take the siding;

* * *

A train required to take siding for an opposing train must pull in when practicable. * * *

90. (SINGLE TRACK) The conductor of every passenger train must give communicating signal 16 (1) between one and three miles from every station at which it is to meet or wait for a train, or to clear a train which is superior to it either by right, class or direction, when the engineman must immediately make running test of the brake and then give whistle signal 14 (g) in acknowledgment. Should the engineman fail to respond to signal 16 (1) as herein prescribed, immediate action must be taken to stop the train.

104. ***

* * *

A trainman of a train occupying the main track at meeting or passing point will, when practicable, open the switch for the expected train, and protect the switch until relieved by a trainman of the other train * * *

* * *

214. * * *

* * *

Conductors and enginemen must require their brakemen and firemen to read aloud and know the contents of all train orders

Conductors and enginemen must require their brakemen and firemen to read aloud and know the contents of all train orders.

Forms of Train Orders

Form A--(SINGLE TRACK) Fixing meeting points for opposing trains.

(1) No. 2 Eng. 402 meet No. 1 Eng. 401 at B. * * *

* * *

Trains receiving these orders will run to the designated points and there meet in the manner prescribed by the Rules.

* * *

Timetable special instructions provide that east-bound trains are superior to trains of the same class in the opposite direction.

The maximum authorized speed for passenger trains was 57 miles per hour on the main track and 15 miles per hour through turnouts.

Description of Accident

No. 22, an east-bound first-class passenger train, consisted of engine 6040, one express-refrigerator car, one baggage car, one box express car, one baggage car, one baggage-mail car, one sleeping car, and one conch, in the order named. The second car was of steel underframe construction, and the other cars were of all-steel construction. At Ionia, 39.83 miles west of Burton, the crew received copies of train order No. 205 reading as follows:

No 22 Eng 6040 meet No 57 Eng 6037 at Burton

This train departed from Ionia at 2:34 a.m., 14 minutes late, departed from St. Johns, 13.8 miles west of Burton and the last open office, at 3:05 a.m., 10 minutes late, and stopped on the main track at Burton about 3:20 a.m., with the front of the engine 239 feet west of the east siding-switch. About 8 minutes later the side of the train was struck by derailed equipment of No. 57.

No. 57, a west-bound first-class passenger train, consisted of engine 6037, one baggage car, two express-refrigerator cars, one mail car, two baggage cars, one sleeping car, and one coach, in the order named. The second, third, and fifth cars were of steel underframe construction, and the other cars were of all-steel construction. The crew received copies of train order No. 205 at Durand. This train departed from Durand at 2:51 a.m., 26 minutes late, departed from Owosso, 5.81 miles east at Burton and the last open office, at 3:20 a.m., 30 minutes late, and while it was entering the siding at Burton at a speed of about 40 miles per hour the engine and tender and the first four cars were derailed at a point 222 feet west of the east siding-switch. Portions of the derailed equipment struck the side of No. 22.

The rear truck of the second car and both trucks of the third car of No. 22 were derailed to the south. Separations occurred between the second and third cars and between the third and fourth cars. The second car stopped approximately in line with the track. The third car stopped with the front end and the rear end 8 feet and 5 feet, respectively, south of the center-line of the main track. The north sides of the engine and tender and the first and the third cars were considerably damaged. The north side and the appurtenances under the floor of the second car were badly damaged and the underframe of this car was bent. The front end of the fourth car was slightly damaged. The engine and tender of No. 57 stopped on their right sides, approximately in line, with the front of the engine on the main track at a point 492 feet west of the east siding switch and the rear of the tender 55 feet north of the center line of the main track. Separations occurred between the tender and the first car and between the first and second, second and third, and third and fourth cars. The first car stopped with the front end against the rear of the tender and the rear end against the rear end of the first car of No. 22. The second car stopped with the front end against the rear end of the first car and the rear end about 50 feet north of the main track. The third car stopped with the front end against the rear end of the second car and the rear end against the rear end of the tender of the engine of No. 22. The fourth car stopped approximately in line with the siding, with the front end against the rear end of the third car. None of the derailed cars overturned. The engine and tender and an of the derailed cars were badly damaged.

The engineer and the fireman of No. 57 were killed. The fireman of No. 22 and the brakeman and the baggageman of No. 57 were, injured.

The weather was clear at the time of the accident, which occurred at 3:28 a.m.

Engine 6037 is of the 4-8-2 type. The total weight in working order is 354,110 pounds, distributed as follows: engine-truck wheels, 58,930 pounds; driving wheels, 235,380 pounds; and trailing-truck wheels, 59,800 pounds. The specified diameters of the engine-truck wheels, the driving wheels and the trailing-truck wheels are, respectively, 33 inches, inches, 73 inches and 43 inches. The driving wheelbase is 19 feet 6 inches long, the total wheelbase is 41 feet 9 inches, and the total length of the engine and tender, coupled, is 92 feet 1-1/2 inches, The tender is of the Vanderbilt type and is equipped with two 6-wheel trucks. Its capacity is 13,500 gallons of water and 18 tons of coal. The total weight when fully loaded is 250,000 pounds. At the time of the accident the engine was making its first trip after completion of a monthly inspection. The engine was not equipped with a speed-recording device.

Discussion

Train order No. 205 established Burton as the meeting point between No. 22 and No. 57. Under the rules No. 57, the inferior train, was required to enter the siding at the east switch, and No. 22 was required to stop clear of this switch unless No. 57 was into clear on the siding. Surviving members of the crews of both trains so understood.

After No. 22 stopped at Burton the engineer dimmed the headlight and the brakeman proceeded to the east siding-switch and lined the switch for entry to the siding. The brakeman remained in the vicinity of the switch. Both of these employees observed that there appeared to be no light in the switch lamp. A short time after No. 22 stopped, the headlight of No. 57 became visible. The brakeman said he heard the engineer of No. 57 sound the grade-crossing whistle signal for a rail-highway grade crossing located about 1 1/2 miles east of the east siding-switch at Burton. About the same time the headlight of No. 57, which had been lighted brightly, was dimmed. The brakeman said that as No. 57 approached the switch the sound of the exhaust indicated that the speed of the train was not being reduced. He walked toward the approaching train and gave stop signals, and he had reached a point about 40 feet east of the switch when No. 57 passed him. He said that his signals were not acknowledged and that there was no charge in the sound of the exhaust between the time he first heard it and the time the front of the train entered the siding. He said there wan no indication that the engineer of No. 57 had made a brake application until after the engine had passed the switch. At that time sparks began to fly from the wheels of the train. The derailment occurred almost immediately afterward. The engineer of No. 22 said that the headlight of No. 57 was dimmed when No. 57 was a considerable distance east of the siding switch, and that it was extinguished when No. 57 reached a point 400 or 500 feet east of the switch. Because he thought it

would be difficult for the employees on the engine of No. 57 to locate the switch while looking toward a headlight, the engineer of No. 22 immediately extinguished the headlight of his engine. He then became aware that No. 57 was approaching at a speed at which it could not enter the siding safely. He alighted front the engine immediately before the collision occurred. He said that sparks flying fro the wheels after the engine of No. 57 entered the siding indicated that the brakes were applied at that time. Neither the engineer nor the brakeman could estimate the speed at which No. 57 entered the siding. The fireman of No. 22 was injured in the accident, and he was not questioned during this investigation. The conductor, who was at the rear of the train, was not aware that anything was wrong until the collision occurred.

The crow of No. 57 received copies of several train orders, including train order No. 205, at Durand. This crew consisted of the engineman, the conductor, the baggageman, and one brakeman. With the exception of the baggageman, all of these employees were in the station when the train orders were delivered. Each of them read the orders. It was customary for the train dispatcher to arrange for No. 22 to take the siding at the meeting point with No. 57, and the conductor and the brakeman said that before the enginemen left the station there was some discussion as to why the dispatcher had not arranged for No. 22 to take the siding at Burton on this occasion. They were positive that both the engineer and the fireman understood that train order No. 205 required No. 57 to take the siding. After station work at Durand was completed the train proceeded to Owosso, where the first car of the train was set off. After the engine was re-coupled to the train the brakes were tested by a car inspector and were found to function properly. The conductor and the brakeman said that the engineer made a running test of the brakes soon after the train departed from the station. These employees said that they both proceeded to the rear vestibule of the rear car when the train was in the vicinity of a rail-highway grade crossing located 2.66 miles east of the east siding-switch at Burton. Immediately after the train passed the crossing the brakeman sounded the signal prescribed by rule No. 16 (1) on the communicating signal system. Both employees said that the engineer immediately made a running test of the brakes. They accepted this action as an acknowledgment of the signal. Neither of them beard the sound of the engine whistle, but they said that it frequently is impossible to hear the whistle from the rear vestibule of the rear car and they did not consider the absence of a whistle signal unusual. The conductor thought that the speed was between 40 and 45 miles per hour at this time. The brakeman was unable to estimate the speed. Afte the engineer made the brake application both of these employees entered be rear car. The conductor said that the brakes were applied a second time as the train approached Burton and he assumed that the engineer was making a normal reduction in speed preparatory to entering the siding. He thought that the derailment occurred about 30 seconds after the brakes became applied. The brakeman said that when he thought the train should be approaching the siding switch he stepped to the rear vestibule. The brakes became applied several seconds after he entered the vestibule, and he thought the derailment occurred about 10 seconds later. The baggageman, who was in the fifth car, said that the brakes were applied and released in the vicinity of the crossing east of Burton, and that they were not again applied until several seconds before the derailment occurred. Two mail clerks who were in the fourth car thought that the brakes item applied either immediately before or immediately after the car in which they were riding entered the siding. The enginemen were killed in the accident, and it could not be determined why the speed of the train was not properly controlled. The switch lamp at the east siding-switch was examined several hours after the accident occurred. The lamp wan found to be lighted, but the inside of the lamp was coated. with soot to the extent that the light was not clearly visible through the lenses.

The fact that No. 57 customarily held the main track at the meeting point with No. 22 and the probability that, after the headlight of No. 57 became extinguished, the enginemen of No. 57 could not determine the position of the switch, because of the condition or the switch lamp, may have had considerable bearing on the failure of the engineer to control the speed properly. The positions of the controls of the engine at the time of the accident could not be determined, because of damage to the cab and the boiler head.

The statements of the witnesses and the surving members of the crew of No. 57 indicate that No. 57 entered the siding at a speed which would cause the engine to roll and thrust laterally. Examination of the track after the accident occurred disclosed that apparently a wheel was forced across the south rail of the siding as a result of a lateral thrust combined with a rocking motion of the engine. Throughout a distance of 265 feet immediately east of the point of accident the track was displaced from normal alinement. Between a point 40 feet east of the switch and a point on the siding 84 feet west of the switch the track was shifted to the south a distance of about 1 inch. Between the letter point and a point 225 feet west of the switch the track was shifted to the north a distance of 3 to 4 inches. Beginning at a point 216 feet west of the switch there were marks which indicated that a flange or flanges had been bearing heavily against the south rail of the siding. The metal in the top of this rail had flowed and formed a 5/32-inch lip on the gage side of the head. Between points 216 feet and 218 feet west of the switch this lip was cut away and a cut 1/2 inch in depth extended into the head a distance of 1/4 inch. Throughout the next 3 feet 9 inches there were light flange marks on the gage side of the head. West of these marks the lip tins cut away throughout a distance of 10 inches, and the head of the rail bore marks indicating that a wheel had crossed the rail. Beginning at a point 225 feet west of the switch the track was torn out throughout a distance of 305 feet.

Cause

It is found that this accident was caused by a train approaching a meeting point and entering a turnout at an excessive rate of speed.

Dated at Washington, D. C., this seventeenth day of November, 1952.

By the Commission, Commissioner Patterson.

(SEAL) GEORGE W. LAIRD,

Acting Secretary.

FOODNOTE

1. Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Patterson for consideration and disposition.

INTERSTATE COMMERCE COMMISSION

WASHINGTON

REPORT NO. 3534

GRAND TRUNK WESTERN RAILROAD COMPANY AND THE NEW YORK CENTRAL RAILROAD COMPANY IN RE ACCIDENT NEAR JACKSON, MICH., ON SEPTEMBER 14, 1953

Report No. 3534

SUMMARY

Date:	September 14, 1953	
Railroads:	Grand Trunk Western	: New York Central
Location:	Jackson, Mich.	
Kind of accident:	Side collision	
Equipment involved:	Track motor-car	: Passenger train
Train number:	: 625	
Consist:	: 1 Diesel-powered car	
Estimated speeds:	Standing	: 50 m.p.h.
Operation:	Interlocking	
Tracks:	Single; tangent; 0.58 percent descending grade westward	: Double; tangent; practically level
Weather:	Cloudy	
Time:	8:40 a.m.	
Casualties:	1 killed	
Cause:	Failure properly to control speed of track motor-car approaching railroad crossing at grade	

REPORT NO. 3534 1

I TER (MAKING ACCIDENT INVESTIGATION REPORTS UNDER THE ACCIDENT REPORTS ACT OF MAY 6, 1910.

GRAND TRUNK WESTERN RAILROAD COMPANY AND THE NEW YORK CENTRAL RAILROAD COMPANY

October 16, 1953

Accident near Jackson, Mich., on September 14, 1953, caused by failure properly to control the speed of a track motor-car approaching a railroad crossing at grade.

REPORT OF THE COMMISSION 1

CLARKE, Commissioner:

On September 14, 1953, there was a side collision between a track motor-car on the Grand Trunk Western Rail-road and a passenger train on the New York Central Railroad near Jackson, Mich., which resulted in the death of one maintenance-of-way employee. This accident was investigated in conjunction with representatives of the Michigan Public Service Commission.

Diagram

Report No. 3534 Grand Trunk Western Railroad near Jackson, Mich. Sept. 14, 1953.

Location of Accident and Method of Operation

This accident occurred at the intersection of the Grand Trunk Western Railroad, hereinafter referred to as the G.T.W., and the New York Central Railroad, hereinafter referred to as the N.Y.C., near Jackson, Mich. An interlocking station at the intersection is designated by the G.T.W. as M.C.R.R. Crossing. This designation is used in this report. The crossing is located on that part or the Detroit Division of the G.T.W. extending between Jackson and Pontiac, Mich., 71.46 miles, and on that part of the Michigan Division of the N.Y.C. extending between Jackson and Grand Rapids, Mich., 94.47 miles. In the vicinity of the point of accident the G.T.W. extends from southwest to northeast. The N.Y.C. extends from southeast to northwest and crosses the G.T.W. at an

the G.T.W. extends from southwest to northeast. The N.Y.C. extends from southeast to northwest and crosses the G.T.W. at an angle of 24 degrees 05'30". Timetable directions on both lines are east and west, and these directions are used in this report. M.C.R.R. Crossing is 1.54 miles east of Jackson on the G.T.W. and 1.47 miles west of that station on the N.Y.C. In this vicinity the G.T.W. is a single-track line, over which trains are operated by timetable and train orders. There is no block system in use. From the west there are, in succession, a 4 degrees curve to the left 496 feet in length, a tangent 333 feet, a 3 degrees 30' curve to the right 676 feet, and a tangent 70 feet to the point of accident and a considerable distance eastward. At the point of accident the grade is 0.58 percent descending westward. In the vicinity of the point of accident, the N.Y.C. is a double-track line, over which trains moving with the current of traffic are operated by signal indications. From the east there are, in succession, a 1 degrees 25' curve to the left 1,221 feet in length and a tangent 454 feet to the point of accident and 38 feet westward. The grade is practically level. An embankment which rises to a height of approximately 6 feet above the level of the tops of the rails parallels the westward main track on the north immediately east of the crossing.

Movements over the crossing are governed by interlocking signals. The approach and home interlocking signals governing west-bound movements on the westward main track of the N.Y.C. line are located, respectively, 3,360 feet and 563 feet east of the crossing. The interlocking station is located in the northeast angle of the intersection. The interlocking normally is lined for movements on the N.Y.C. The interlocking station is unattended except when a G.T.W. employee is assigned to operate the interlocking for the movement of a G.T.W. train over the crossing.

Operating rules of the N.Y.C. read in part as follows:

14. Engine Whistle Signals

Note.--The signals prescribed are illustrated by "o" for short sounds; "--" for longer sounds. * * *

Sound.	Indication.
* * *	
(m) -----	Approaching stations, junctions, and railroad crossings at grade * * *

* * *

Regulations governing the use and operation of track motor-cars of the G.T.W. read in part as follows:

* * *

When approaching railroad * * * crossings, * * * cars must be operated with caution at reduced speed and prepared to stop immediately. * * *

The maximum authorized speeds were 60 miles per hour for the passenger train and 30 miles per hour for the track motor-car.

Description of Accident

A G.T.W. track motor-car occupied by a section foreman and three sectionmen, departed eastward from the section tool house at Jackson soon after 7:30 a.m., and proceeded to a rail-highway grade crossing located approximately 1/2 mile east of M.C.R.R. Crossing. About 15 minutes later, when it was found that additional equipment was required, the track motor-car, occupied by the section foreman and one sectionman, departed west-bound in backward motion en route to the section tool house at Jackson. It stopped on the intersection of the G.T.W. track and the N.Y.C. westward main track at M.C.R.R. Crossing, and immediately afterward it was struck by No. 625.

No. 625, a west-bound first-class N.Y.C. passenger train, consisted of one Diesel-powered passenger-mail car. This train departed from Jackson at 8:35 a.m., on time, passed the approach and home interlocking signals at M.C.R.R. Crossing; each of which indicated proceed, and while it was moving on the westward main track at an estimated speed of 50 miles per hour it struck the track motor-car at the crossing.

The track motor-car was demolished. The wreckage stopped on the north side of the N.Y.C. tracks at a point 180 feet west of the crossing. No. 625 stopped approximately 600 feet west of the crossing. The front end of the equipment of No. 625 was somewhat damaged.

The section foreman, who was operating the track motor-car, was killed.

The weather was cloudy at the time of the accident, which occurred about 8:40 a.m.

The track motor-car was of the belt-drive type and was equipped with 4-wheel brakes. It was powered by a 1-cylinder 8-13-horsepower motor and weighed 935 pounds. It had seating capacity for eight persons. The wheels were insulated to prevent the shunting of track circuits. A windshield and safety railings were provided.

During the 30-day period preceding the day of the accident the average daily movement over the crossing was 1.47 G.T.W. trains and 114.3 N.Y.C. trains.

Discussion

On the day of the accident a G.T.W, section force, consisting of a foreman and three sectionmen, went on duty at the section tool house at Jackson at 7:30 a.m. Soon afterward this force boarded a track motor-car and departed east-bound to perform service at a rail-highway grade crossing located approximately 1/2 mile east of M.C.R.R. Crossing. The surviving members of the force said that there had been a heavy dew during the night and that a considerable amount of moisture remained on the rails after they departed from Jackson. The section foreman stopped the track motor-car clear of the N.Y.C. tracks at M.C.R.R. Crossing, alighted and made an inspection of the crossing. The section force then proceeded castward to the point at which work was to be performed. About 14 minutes later it was found that additional tools and equipment were required to complete the work. The section foreman and one sectionman boarded the track motor-car and departed west-bound en route to the section tool house to obtain the additional supplies. The motor-car was being operated in backward motion.

As the track motor-car was approaching the point where the accident occurred the speed was about 15 miles per hour, as estimated by the sectionman. The sectionman was seated on the south side of the car, and the foreman was operating the controls from a seat on the apposite side. The sectionman said that it was the usual practice to stop before passing over the N.Y.C. tracks at M.C.R.R. Crossing, and that as the car approached the crossing the speed was being reduced. When the car reached a point about 60 feet east of the crossing he observed a train closely approaching on the N.Y.C. He immediately called a warning. He said that the foreman applied the brakes, but because of moisture on the rails the wheels of the track motor-car slid

warning. He said that the foreman applied the brakes, but because of moisture on the rails the wheels of the track motor-car slid and the car did not stop short of the crossing. The foreman and the sectionman alighted before the car reached the crossing. The car stopped on the crossing and immediately afterward it was struck by No. 625. The foreman was struck by flying wreckage. The sectionman said he thought that the track motor-car would have stopped short of the crossing if the rails had been day.

As No. 625 was approaching the point where the accident occurred the speed was about 50 miles per hour, as estimated by the engineer. The engineer was maintaining a lookout ahead from the control compartment at the front of the car. The members of the train crew were in the car to the rear of the control compartment. The headlight was lighted. The approach and the home interlocking signals each indicated Proceed. When the train was in the vicinity of the home signal the engineer sounded the whistle signal for the interlocking. The engineer said that after the train passed the home signal he turned momentarily and glanced at the indicator lights on the rear panel of the operating compartment to ascertain if the motors were functioning properly. He said that when he again looked forward the train was about 100 feet distant from the crossing and he observed the track motor-car moving toward the crossing on the G.T.W. He estimated that the track motor-car was 25 or 30 feet from the crossing when he first saw it. He immediately shut off the power and moved to apply the brakes, but the collision occurred before the speed of the train could be reduced.

The investigation disclosed that an embankment, buildings and vegetation adjacent to the tracks in the southeast angle of the intersection materially restrict the view which the operator of a west-bound G.T.W. track motor-car approaching M.C.R.R. Crossing has of the N.Y.C. tracks south of the crossing. From points on the G.T.W. track 150 feet, 100 feet, and 75 feet immediately east of the crossing, the N.Y.C. tracks south of the crossing are visible for distances of 100 feet, 250 feet, and 1,100 feet, respectively.

The rules of the G.T.W. require that the speed of a track motor-car approaching a railroad crossing at grade must be reduced and controlled in such manner that a track motor-car be stopped immediately. In the instant case the section foreman apparently misjudged the distance in which the track motor-car could be stopped under the conditions existing in the vicinity of the crossing.

Cause

It is found that this accident was caused by failure properly to control the speed of a track motor-car approaching a railroad crossing at grade.

Dated at Washington, D. C., this sixteenth day of October, 1953.

By the Commission, Commissioner Clarke.

GEORGE W. LAIRD,

(SEAL)

Acting Secretary.

FOOT NOTE

1 Under authority of section 17 (2) of the Interstate Commerce Act the above-entitled proceeding was referred by the Commission to Commissioner Clarke for consideration and disposition.