

**RAILROAD ACCIDENT INVESTIGATION**

REPORT NO 4101

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**ERIE-LACKAWANNA RAILROAD COMPANY**

**GARRETTSVILLE, OHIO**

**SEPTEMBER 15, 1966**

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**INTERSTATE COMMERCE COMMISSION**

WASHINGTON

## SUMMARY

DATE	September 15, 1966	
RAILROAD	Erie-Lackawanna	
LOCATION	Garrettsville, Ohio	
KIND OF ACCIDENT	Head-end collision	
TRAINS INVOLVED	Freight	Freight
TRAIN NUMBERS	Work Extra 1011	Extra 7381 East
LOCOMOTIVE NUMBERS	Diesel-electric unit 1011	Diesel — electric units 7381, 7382, 7391
CONSISTS	3 cars, caboose	110 cars, caboose
ESTIMATED SPEEDS	2 m.p.h.	15 m.p.h.
OPERATION	Timetable, train orders, automatic block-signal system	
TRACK	Single, 4°00' curve, 0.55 percent ascending grade westward	
WEATHER	Clear	
TIME	7 55 a.m.	
CASUALTIES	8 injured	
CAUSE	A train dispatcher verbally authorizing a work train extra to proceed westward on a main track occupied by an opposing train.	
RECOMMENDATION	That the Erie-Lackawanna Railroad Company immediately take the action necessary to insure compliance with its operating rules.	

INTERSTATE COMMERCE COMMISSION  
RAILROAD SAFETY AND SERVICE BOARD

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RAILROAD ACCIDENT INVESTIGATION

REPORT NO 4101

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ERIE-LACKAWANNA RAILROAD COMPANY

SEPTEMBER 15, 1966

SYNOPSIS

*On September 15, 1966, a head-end collision occurred between two Erie-Lackawanna Railroad freight trains at Garrettsville, Ohio, resulting in the injury of eight train-service employees*

*The accident was caused by the train dispatcher verbally authorizing a work train extra to proceed westward on a main track occupied by an opposing train*

LOCATION AND METHOD OF OPERATION

The accident occurred on that part of the Mahoning Division extending between North Randall and SN Junction, Ohio, a distance of 38.2 miles. In the accident area this is a single-track line over which trains operate by timetable, train orders, and an automatic block-signal system. The control circuits of the block-signal system are arranged on the absolute-permissive block principle

The collision occurred on the main track, 26.3 miles east of North Randall and 1,690 feet east of the station at Garrettsville.

Automatic signals 34-2M and 38-2M, governing eastbound movements on the main track, are 3.5 miles west and 1.0 mile

east of the collision point, respectively. Automatic signal 38-1M, governing westbound movements on the main track, is located opposite signal 38-2M.

Because of track curvature and vegetation on the north side of the track structure, the view between opposing trains nearing the collision point is considerably restricted.

Details concerning the main track, signals, carrier's operating rules, trains involved, damages, and other factors are set forth in the appendix.

The east end of the yard at North Randall is designated as Cannons. XR is about 1.5 miles east of Cannons. Eastward from XR to KS, a distance of 17.8 miles, the railroad is a single-track line. Further eastward, between KS and HM, a distance of 1.5 miles, it is a double-track line. The single-track line on which the collision occurred extends eastward from HM to RB, a distance of 14.1 miles.

At Mahoning, 7.0 miles east of HM, a long auxiliary track parallels the main track on the north. A portion of the auxiliary track is designated as a siding. A crossover connects the west end of the siding to the main track. The west crossover-switch is facing point for eastbound movements on the main track and is 2.4 miles east of signals 38-2M and 38-1M.

#### DESCRIPTION AND DISCUSSION

At 4 30 p.m. the day before the accident, a train and engine crew assigned to a regular local freight run went on duty at North Randall, and performed switching operations for several hours at that point with locomotive 1011. After these operations were completed and a short train was assembled for movement eastward to Mahoning, the locomotive proceeded with the train to a wayside telephone at XR. The conductor then telephoned the train dispatcher and was issued train order No. 102, which read in part as follows:

ENG 1011 WORKS EXTRA 1 06 AM UNTIL 8 29 AM BETWEEN  
XR AND MAHONING NOT PROTECTING AGAINST WESTWARD  
EXTRA TRAINS \*\*\*

Under the provisions of this order, Work Extra 1011 was authorized to proceed eastward to Mahoning without protecting against westbound extra trains. The order conferred no authority for Work

Extra 1011 to move westward between XR and Mahoning without protection against opposing eastbound trains. Since the railroad between XR and Mahoning is in automatic block-signal territory, Work Extra 1011 was not required, under a provision of Rule 99, to protect against following freight trains while en route eastward between XR and Mahoning.

Work Extra 1011 left XR at 1:10 a.m. on the day of the accident and performed switching operations at several points en route eastward. About five hours later, it passed signal 34-2M at HM and entered the single-track line involved. After stopping at Garrettsville, it proceeded eastward and passed signals 38-2M and 38-1M. Soon thereafter, it entered the Mahoning siding via the crossover at the west end and, about 7 00 or 7 15 a.m., stopped on the siding at the east end. After the train moved onto the siding, a crew member restored the west crossover-switch to normal position, but left the east crossover-switch in reverse position. It was a customary practice for crews on this local freight run to leave the latter crossover-switch in reverse position, after entering the siding, to provide block-signal protection against other train movements while they performed switching operations at Mahoning. Under such circumstances, eastward signals 34-2M and 38-2M display Approach and Stop-and-Proceed aspects, respectively, and westward signal 38-1M displays a Stop-and-Proceed aspect.

After Work Extra 1011 stopped on the siding, the conductor reported to the train dispatcher from a wayside telephone and discussed the necessity of the work extra returning to North Randall by 8:30 a.m. to avoid violation of the 16 continuous hours provision of the Hours of Service Act. The dispatcher then instructed the conductor to do whatever switching could be accomplished at Mahoning within a short period, and verbally authorized Work Extra 1011 to return to North Randall at completion of those operations. He neglected, however, to inform the conductor that Extra 7381 East had left North Randall and was proceeding toward Mahoning. The conductor reported his discussion with the dispatcher to the engineer and informed him that the dispatcher had verbally authorized their train to proceed to North Randall upon completion of the switching operations at Mahoning. Neither the conductor nor the engineer, or any other crew member, took exception to this verbal authorization as it was a long established practice for a work extra on the local freight run to return to XR and North Randall under such authorization.

After switching at Mahoning for a short time, Work Extra 1011, reentered the main track via the crossover at the west end of the siding. It then proceeded westward on the return trip to XR and North Randall without train order authority or flag protection against eastbound trains operating on the single-track portions of the railroad between XR and Mahoning, and without the crew members having any knowledge about the operation of Extra 7381 East.

The work extra, consisting of one diesel-electric unit, a caboose and three cars, in that order, left Mahoning at 7 48 a.m., according to the conductor. A few minutes later, it stopped short of signal 38-1M, which displayed a Stop-and-Proceed aspect. The train then passed that signal and proceeded westward at about 8 miles per hour, according to the engineer's and fireman's estimates. Shortly thereafter, it entered the curve on which the collision occurred. About 7 55 a.m., as the train moved on that curve, the engineer saw Extra 7381 East come into view at a distance which he estimated as between 600 and 800 feet. He promptly applied his train brakes in emergency and alighted, with the fireman, from the locomotive. A few moments later, when its speed was reduced to about 2 miles per hour, according to the engineer's estimate, Work Extra 1011 collided with Extra 7381 East, 1,690 feet east of the Garrettsville station. The conductor, front brakeman, and flagman of the work extra were unaware of anything wrong before they heard the brakes of their train apply in emergency shortly before the collision.

The engineer, fireman, and front brakeman of each train, and the conductor and flagman of Work Extra 1011, were injured.

Extra 7381 East, an eastbound freight train, consisting of 3 diesel-electric units, 110 cars and a caboose, left Cannons (North Randall) about 6.25 a.m., the day of the accident. Before leaving, the conductor telephoned the train dispatcher and was issued train order No. 102 along with order No. 106, which read in part as follows

\*\*\*

ENG 7381 RUN EXTRA XR TO RB

\*\*\*

The conductor furnished the engineer with copies of both orders, and all the crew members read and understood the orders. A

few minutes after leaving Cannons, Extra 7381 East passed XR. Approximately 1 hour 30 minutes later, it neared signal 34-2M at HM while moving at 25 miles per hour, according to both enginemen. They said signal 34-2M displayed an Approach aspect, and the engineer said he reduced the speed to about 15 miles per hour as the train passed that signal and entered the single-track line involved. Shortly thereafter, the train entered a curve to the right and began to pass the Garrettsville station. As it moved on the curve, the engineer saw the headlight of Work Extra 1011 come into view a short distance ahead and he applied his train brakes in emergency. A few seconds later, before its speed was materially reduced, Extra 7381 East collided with Work Extra 1011.

The third-trick train dispatcher, who went off duty at 6 45 a.m., the day of the accident, issued train order No. 102 to the conductors of both trains and also issued train order No. 106 to the conductor of Extra 7381 East. When he went off duty at 6 45 a.m., he did not make a transfer to the relieving first-trick dispatcher as prescribed by Rule 803, but verbally called the first-trick dispatcher's attention to the movement of Extra 7381 East and Work Extra 1011, and to the outstanding train orders. He did not recall mentioning the operation of Extra 7381 East to the conductor of Work Extra 1011 at any time. According to the third-trick dispatcher's statements, it had long been a customary practice to verbally authorize work extras on the local freight run to return to XR and North Randall from Mahoning without train order authority for the westward movement or flag protection against opposing trains.

In essence, the first-trick dispatcher's statements agreed with those of the third-trick dispatcher. He said he took the verbal transfer from the third-trick dispatcher at about 6 45 a.m., and the third-trick dispatcher called his attention at this time to the outstanding train orders and to the movement of Work Extra 1011 and Extra 7381 East. He further said he had not made or received a written transfer, as prescribed by Rule 803, during his years of service as a dispatcher, and carrier officials had never taken any exception to the practice of verbal transfers. He stated that he became occupied with movements on another district shortly after taking the transfer from the third-trick dispatcher, and that he was busily engaged with those movements when the conductor of Work Extra 1011 telephoned from Mahoning. At this time, according to his statements, the first-trick dis-

patcher gave the conductor verbal authority for Work Extra 1011 to return to XR and North Randall after completion of switching operations and, apparently due to being preoccupied with movements on another district, overlooked the fact that Extra 7381 East had left Cannons (North Randall) and was proceeding toward Mahoning.

#### FINDINGS

At the time of the accident, Extra 7381 East was proceeding eastward as authorized by train orders No. 102 and 106.

Train order No. 102 established XR and Mahoning as the working limits for Work Extra 1011 and, under the provisions of that order, the work extra was authorized to proceed eastward from XR to Mahoning not protecting against westbound extra trains. The order did not provide authority for the work extra to return westward to XR from Mahoning without train order or flag protection against eastbound trains. After Work Extra 1011 arrived at Mahoning, the train dispatcher verbally authorized it to return westward to XR and North Randall without, apparently because of an oversight, informing any of its crew members about the movement of Extra 7381 East. Work Extra 1011 then completed switching operations at Mahoning and proceeded westward on the main track, as verbally authorized without any train order or flag protection against eastbound trains, resulting in the accident. It is evident that had the train dispatcher arranged for the westward movement of Work Extra 1011 by train orders, as prescribed by rule, the train order authority for the westward movement would have contained instructions that it was effective after Extra 7381 East arrived at Mahoning and the accident probably would have been averted.

The investigation disclosed that for several weeks prior to the accident it had been common practice for train dispatchers to issue train orders similar to order No. 102 to work extras on the local freight run involved, and to verbally authorize the work extras to return to XR and North Randall from Mahoning without protection against opposing trains. The investigation also disclosed this practice was apparently condoned by carrier officials, despite verbal protests made on occasions by crew members assigned to the local freight run. In addition, the investigation disclosed several other common practices which violated the carrier's operating rules pertaining to the operation



of trains by train orders, and these practices because of lax supervision were also apparently condoned by carrier officials. In view of the fact that the above-mentioned common practices are detrimental to the safe operation of trains, it is evident that the carrier should immediately take whatever measures necessary to obtain compliance with its operating rules.

#### CAUSE

This accident was caused by the train dispatcher verbally authorizing a work train extra to proceed westward on a main track occupied by an opposing train.

#### RECOMMENDATION

It is recommended that the Erie-Lackawanna Railroad Company immediately take the action necessary to insure compliance with its operating rules.

*Dated at Washington, D C , this 6th  
day of March 1967  
By the Commission, Railroad Safety  
and Service Board*

(SEAL)

H NEIL GARSON,  
*Secretary*

## APPENDIX

*Track*

From the east on the main track there are, in succession, a short tangent, and a compound curve to the right, having a maximum curvature of  $4^{\circ}00'$ , 2,953 feet to the collision point and 395 feet westward. From the west there are, successively, a long tangent, a compound curve to the right, having a maximum curvature of  $4^{\circ}00'$ , 2,009 feet, a tangent 258 feet, and the curve on which the collision occurred.

The grade for westbound trains in the collision area is 0.55 percent ascending.

*Signals*

Automatic signals 34-2M, 38-2M, and 38-1M are of the color-light type and are approach lighted. Their control circuits are arranged on the absolute-permissive block principle. Signal 34-2M is an absolute signal. The absolute block involved extends from this signal to RB, 7.1 miles east of Mahoning. Signals 38-2M and 38-1M are permissive signals. The aspects applicable to this investigation and the corresponding indications and names are as follows.

<i>Signal</i>	<i>Aspect</i>	<i>Indication</i>	<i>Name</i>
34-2M	Red-over-red	Stop	Stop
	Yellow-over-red	Prepare to stop at next signal Train exceeding medium speed must at once reduce to that speed.	Approach
38-2M	Red over No.	Stop then proceed at	Stop and
38-1M	plate	restricted speed.	Proceed

When the absolute block between signal 34-2M and RB is clear and an eastbound train passes signal 34-2M, that signal and the westward home signal at RB are caused to display Stop aspects, and all westward permissive signals within the absolute block, including signal 38-1M, are caused to display Stop-and-Proceed aspects. When the eastbound train enters the block of signal

38-2M, that signal is caused to display a Stop-and-Proceed aspect. The aspect displayed by signal 34-2M changes to Approach when the rear end of the eastbound train passes signal 38-2M. If the eastbound train enters the Mahoning siding via the crossover at the west end and both crossover switches are not restored to normal position, signals 34-2M and 38-2M continue to display Approach and Stop-and-Proceed aspects, respectively, and signal 38-1M continues to display a Stop-and-Proceed aspect. In the event that the train returns westward from the Mahoning siding and passes signal 38-1M while the block of that signal is unoccupied, signal 34-2M is caused to display a Stop aspect.

### *Carrier's Operating Rules*

MEDIUM SPEED - One half maximum authorized speed at point involved, but not to exceed thirty miles per hour, \*\*\*

RESTRICTED SPEED - Proceed prepared to stop short of train, obstruction or anything that may require the speed of a train to be reduced

EXTRA TRAIN - A train not authorized by a timetable schedule. It may be designated as

EXTRA - For any extra except passenger extra or work extra

\*\*\*

WORK EXTRA - Work train extra

S-97. Extra trains must not be run without train orders except \*\*\* as otherwise provided

99 When a train stops under circumstances in which it may be overtaken by another train, a member of the crew must go back immediately with proper signals a sufficient distance to insure full protection. When conditions require he will display lighted fuseses and when necessary, in addition, place two torpedoes \*\*\*

\*\*\*

The front of the train must be protected in the same way when necessary

\*\*\*

In ABS or TCS Territory protection against following trains on the same track is not required \*\*\*

201 For movements not provided for by timetable, \*\*\* train orders will be issued by authority and over the signature of the Superintendent \*\*\*

They must be brief and clear, in the prescribed forms when applicable, \*\*\* 205. Each train order must be written in full in a book provided for the purpose in the office of the train dispatcher, \*\*\*

## FORMS OF TRAIN ORDERS

### S-H

#### Work Extras

(1) Eng 292 works extra 6 45 A M until 5 45 P M between D and E

The work extra must, whether standing or moving, protect itself against extra trains within the working limits in both directions as prescribed by Rule \*\*\*

This may be modified by adding

\*\*\*

(b) Not protecting against eastward extra trains.

The work extra will protect only against westward extra trains. The time of regular trains must be cleared.

\*\*\*

Whenever extra trains are run over the working limits they must be given a copy of the work order sent to the Work Extra.

Should the working order instruct a work extra to not protect against extra trains in one or both directions, extra trains must protect against the work extra, if the order indicates that the work extra is protecting itself against other trains, they will run expecting to find the work extra protecting itself.

803 Each train dispatcher going off duty must enter, in ink, on the train dispatcher's train order book, record of all outstanding orders and know that they are understood by the relieving train dispatcher.

#### *Trains Involved*

Work Extra 1011 consisted of road-switcher type diesel-electric unit 1011, a caboose and three cars, in that order. The train brakes had been tested before leaving Mahoning and had functioned properly. As the train approached the collision point, the engineer and fireman were in the control compartment near the rear of the locomotive. The conductor, front brakeman, and flagman were in the caboose.

Extra 7381 East consisted of car-body type diesel-electric units 7381, 7382, and 7391, coupled in multiple-unit control, 110 cars and a caboose. The train brakes had been tested and

had functioned properly when used en route. As this train approached the collision point, the engineer and fireman were in the control compartment of the first diesel-electric unit. The front brakeman was in the control compartment of the third unit, and the conductor and flagman were in the caboose.

#### *Damages*

Work Extra 1011 was moved backward by Extra 7381 East and stopped with the front end against the locomotive of Extra 7381 East, 864 feet east of the collision point. The locomotive, caboose, and two cars were derailed. The caboose and one derailed car buckled from the train, overturned, and stopped alongside the track structure. The locomotive and the other derailed car stopped upright on and in line with the track structure, immediately in front of the third car, which was not derailed but was knocked off center at both ends. The locomotive, caboose and one derailed car were heavily damaged. The other two cars were slightly damaged.

Extra 7381 East stopped with the front end against the locomotive of Work Extra 1011. The first diesel-electric unit was derailed and was heavily damaged. The other two units were slightly damaged. The front of the first diesel-electric unit rose from its truck and telescoped the engine compartment at front of the locomotive of Work Extra 1011 throughout a distance of about five feet.

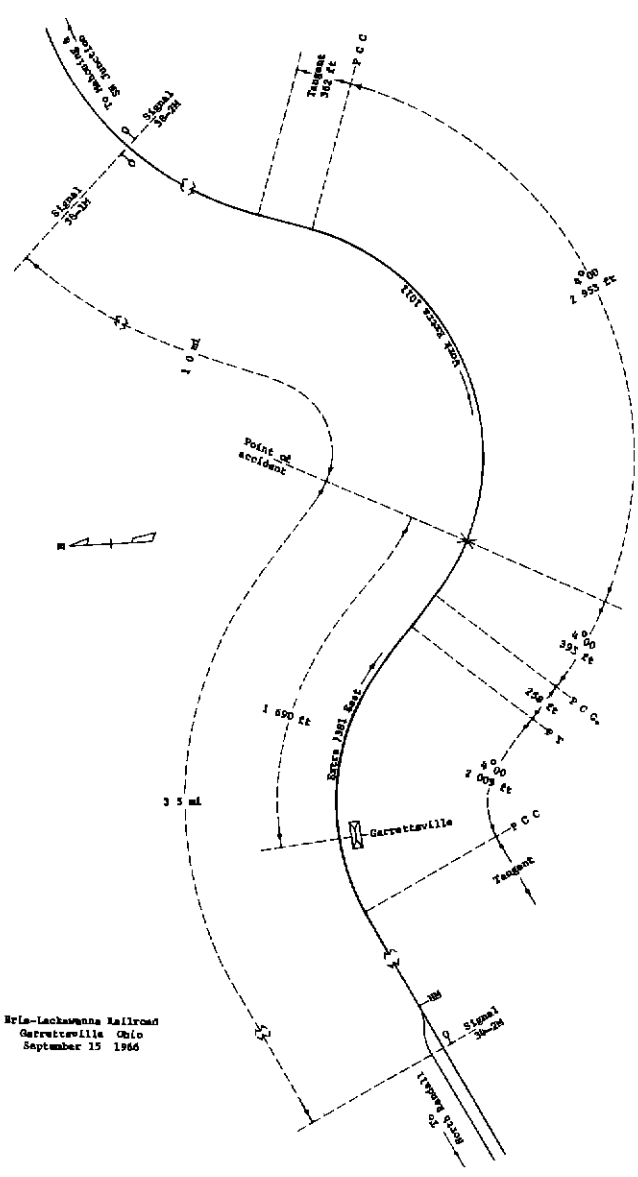
#### *Other Factors*

The accident occurred about 7 55 a.m., in clear weather.

The maximum authorized speed for Extra 7381 East in the territory involved was 30 miles per hour. The maximum authorized speed for Work Extra 1011 on the curve involved was restricted to 45 miles per hour.

The accident was investigated in conjunction with representatives of the Public Utilities Commission of Ohio.

According to their daily time returns, the engineer, fireman, conductor, flagman, and front brakeman of Work Extra 1011 had been continuously on duty 15 hours 25 minutes at the time of the accident. They were previously off duty 8 hours 1 minute, with the exception of the front brakeman, who had been off duty over 24 hours. All crew members of Extra 7381 East had been continuously on duty 12 hours 55 minutes at the time of the accident after having been off duty either 11 hours or 11 hours 1 minute.



○	SW Junction Ohio	1.5 mi
○	EH	7.1 mi
○	Mekoning	3.1 mi
*	Point of accident	0.3 mi
○	Garrettsville	1.2 mi
○	EH	1.5 mi
○	ES	17.9 mi
○	IX	1.5 mi
○	Carrollton	2.0 mi
○	North Randall Ohio	

Erie-Lackawanna Railroad  
 Garrettsville Ohio  
 September 15 1946

**Interstate Commerce Commission**  
**Washington, D. C. 20423**

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