

## INTERSTATE COMMERCE COMMISSION.

REPORT OF THE CHIEF OF THE BUREAU OF SAFETY IN  
RE INVESTIGATION OF AN ACCIDENT WHICH OCCURRED  
ON THE UTAH RAILWAY NEAR MARTIN, UTAH, ON  
AUGUST 26, 1922.

October 27, 1922.

To the Commission:

On August 28, 1922, there was a head-end collision between two freight trains on the Utah Railway near Martin, Utah, resulting in the death of 1 employee and the injury of 4 employees.

## Location and method of operation.

This accident occurred on the Utah Railway Junction-Mohrland District extending between Mohrland and Utah Railway Junction, Utah, a distance of 25.5 miles; it is a single-track line over which trains are operated by timetable and train orders, the operating rules of The Denver and Rio Grande Railroad System being in effect. Train orders are transmitted both by telegraph and by telephone.

The point of collision was in a tunnel 800 feet in length known as Tunnell No. 1, about 240 feet from its western portal. This tunnel is located approximately 0.8 of a mile east of Martin and 0.6 of a mile west of Jacobs, it has a curvature of 8° to the north and the track extending through it is at a grade of 1.2 per cent descending westward. The weather was clear at the time of the accident, which occurred about 2.53 p.m.

## Description.

Westbound freight extra 102 consisted of 33 loaded coal cars and a caboose, hauled by engine 102 and was in charge of Conductor Nickerson and Engineman Johnson. At Hiawatha, its initial station 19.8 miles east of Jacobs, it received form #31 train order No. 306 reading as follows:

"Engine 102 run extra Hiawatha to Martin not pass Jacobs until two thirty five 2.35 p.m. No. 606 engine 2 wait at Martin until three fifteen 3.15 p.m. for Extra 102 west."

In addition to this order an order was received to run carefully between two certain points, together with a clearance card, all of which were delivered to Conductor Nickerson personally by Dispatcher Gutzler, the train dispatchers office being located at Hiawatha. The train departed from Hiawatha at 1.10 p.m. At Mile Post 8½ a stop of about 15

minutes was made for the purpose of inspecting the train in accordance with special instructions contained in the timetable, the train proceeded, passed Jacobs at 2.45 p.m., entered the east portal of Tunnel No. 1 and collided with eastbound extra 3 while running at a speed estimated to have been between 8 and 10 miles per hour.

Eastbound freight extra 3 consisted of a caboose and 7 empty coal cars; it was being pushed by engine 3 headed east, and was in charge of Conductor Burke and Engireman Ratliffe. At Martin it received train order, form 31, No. 309 reading:

"Eng 3 run extra Martin to Jacobs. This order annulled three fifteen 3.15 p.m. No. 606 Eng 2 run two 2 hours and thirty 30 minutes late, Martin to Jacobs. No. 312 Eng 2 run two 2 hours and thirty 30 mins late Jacobs to Standardville."

The train departed from Martin at 2.45 p.m. entered Tunnel No. 1, and collided with Extra 102 west while running at a speed estimated to have been 5 or 6 miles per hour

The caboose of Extra 3 was completely destroyed and the east end of the first empty coal car was crushed in and both trucks damaged. Engine 102 was derailed and its front end slightly damaged. After the train of Extra 3 had been pulled out of the tunnel, the wreckage remaining together with the timber lining of the tunnel caught fire and locomotive 102 and the first six cars of Extra 102 had to be abandoned. Efforts to smother or otherwise extinguish the fire proved futile.

#### Summary of evidence.

The statements of the employees involved indicate that neither of these two trains knew of the existence of the other, each supposing that it held the entire right to the track as specified in its orders and there was no warning of the impending accident before it occurred. The speed of trains through this tunnel is restricted by sign boards, placed at each portal, to six miles per hour; at the time of the accident the speed of extra 102 had accelerated to approximately 8 or 10 miles per hour owing to the grade conditions, although the air brake system was working properly. The crews of both trains stated that it was customary to get train orders similar to orders No. 306 and 309.

Conductor Nickerson of Extra 102 stated that he compared his watch with the standard clock before leaving Hiawatha, but did not compare with any other member of the crew. He stated that train order 306 was delivered to him personally by Dispatcher Gutzler, he took the order to the round house and when he delivered it to the engineer they

discovered that it did not bear the superintendent's initials, he then called the dispatcher and the dispatcher told him to add the initials to the order.

Engineman Johnson of Extra 102 stated that he compared his watch with the clock in the Provo office before starting out, he did not remember comparing with the Conductor, he did not compare with a standard clock and did not know whether there was a standard clock located at Hiawatha. He stated that at the time of the accident the headlight on his engine was not burning as he had twisted the bulb off and forgot to get a new one.

Conductor Burke of Extra 3 stated that he was in the office at Martin while train order 309 was being received and read it over the operators shoulder, he told the operator to sign his (Burke's) name to the order and he in turn made out the clearance card and signed the operator's name to it. After receiving the order he took it and handed it to the fireman to give to the engineer.

Operator Opperman on duty at Martin, stated that as Conductor Burke was in a hurry to get to Jacobs by 3.15 p.m. he signed Conductor Burke's name to order 309 and he allowed Burke to make out the clearance card and this had been the practice; he does not recall whether Burke read the order, but he knew that Burke knew what the order was.

Train Dispatcher Gutzler who, on the day of the accident, was performing clerical duties in connection with usual station agent's work, stated that when he issued order No. 309 he was so busy with his clerical work looking up rates and extending way-bills that he did not look back at any of the orders previously issued except the last few words of order 306, from which he took the time 3.15 p.m. and used that time in order 309 when he should have used 2.35 p.m. He discovered his mistake about a minute and a half after the order had been completed and he immediately tried to get the operator at Martin both by telegraph and telephone but was unsuccessful in communicating with him until after the accident occurred. Dispatcher Gutzler stated that since he has been acting as a train dispatcher it has been the practice to use the single train order system and in issuing train orders giving a train rights over opposing trains he had done so without issuing the order to the train whose rights are restricted. In the case of orders No. 306 and 309 they were not issued to train No. 606 and train 612 at all, his explanation being that he was waiting until he got all the time on them that he could. He stated that this system of issuing train orders was based on the supposition that an operator must get permission from the train dispatcher before he could clear

a train, but he was unable to recall the rule that made this a requirement. He stated that he had never been criticised for this manner of dispatching.

Dispatcher Gutzler had filled out the questionnaire on operating rules upon being promoted to train dispatcher and had delivered it to the Assistant Superintendent, the examination however had not been certified to and he did not know whether he had passed except that he had been retained in the service.

Trainmaster Thompson stated that he had been sent down to that District by Vice-President & General Manager Anderson with instructions to watch the work of the train dispatchers and that he had taken charge on July 25, he met Superintendent Vaughn on July 23rd but had not seen him since as he had been engaged at other points on the road in connection with labor troubles. He had checked the train dispatchers order books three times since he has been with the Company but found the orders were all right under the single order system. He stated that when he came to this district he found the single order system in effect, but did not know whether such a system is authorized by the operating rules. However he did not consider it a safe system and he intended to change it but he had been so busy in connection with the distribution of empty equipment for the mines that he had not got around to it. He had not called the attention of the Superintendent or General Manager to the system he found in use, nevertheless he considered that he should have been instructed by the Superintendent before making any change.

#### Conclusions.

This accident was caused by the issuing of a lap order resulting in two opposing extra trains being given running rights over the same section of track without provision being made for a meeting point, for which Train Dispatcher Gutzler is responsible.

In issuing order No. 306, to extra 102, Dispatcher Gutzler inserted a restriction that it must not pass Jacobs until 2.35 p.m. and then added a provision that train No. 606 would wait at Martin until 3.15 p.m. When he issued order No. 309 to Extra 3 east, he glanced back at order No. 306 as written in his book and saw the figures 3.15 p.m., which he mistook for the waiting limit placed upon Extra 102, and used that time when he should have used 2.35 p.m.

Rules governing the issuance of train orders are quoted in part as follows:

201. \*\*\* They must be brief and clear, in the prescribed forms when applicable and without erasure, alteration or interlineation.

202. Each train order must be given in the same words to all persons or trains addressed.

208. A train order to be sent to two or more offices must be transmitted simultaneously to as many of them as practicable.

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Then not sent simultaneously to all, the order must be sent first to the superior train.

213. "Complete" must not be given to a train order for delivery to an inferior train until the order has been repeated of the "X" response sent by the operator who receives the order for the superior train.

The investigation of this accident disclosed that the train order system in use is what is commonly called the "single order system." In this system each train is given an individual order and no attempt is made at issuing the order in the same order in the same words to all trains affected. Early in the days of railroad development this system was abandoned as unsafe on account of the errors likely to be made on the train dispatcher and the possibility of misinterpretation on the part of those who were to execute them. In its stead was adopted the "double order system" by which the order for all trains affected is transmitted simultaneously and each train holds a duplicate of that held by the others. Not only was there an antiquated and unsafe system of issuing of train orders being used on this railroad, but from the statement of Dispatcher Gutzler and an examination of the train dispatchers order book it appears that it was the practice to issue train orders restricting the rights of trains without even furnishing a copy of such orders to the trains thereby restricted. Under such a practice the protection furnished train movements depends entirely upon the alertness, carefulness and memory of the train dispatcher. In case of error on the part of the dispatcher as in this case, or of failure of communications, a condition would be created which is almost certain to result in disaster.

Under the rules adopted by this company it was not permissible to use the single train order system, the prescribed forms must be used when applicable, orders must be given in the same words to all trains addressed, they

should be sent to all addresses simultaneously, and when not so sent they must be sent to the superior train first, and complete must not be given to the inferior train until the order for the superior train has first been acknowledged by the operator receiving the same. Dispatcher Gutzler customarily disobeyed all of these rules. He used the single order system, he used a form of his own which was not prescribed by the rules and which did not provide for any clearance time, the order was not transmitted simultaneously to all trains affected and in many instances the orders were not transmitted to the superior train at all. The only excuse offered by Dispatcher Gutzler was that it was the custom when he came there. As far as his other work was concerned, his duties as train dispatcher were paramount and nothing whatever should have been allowed to interfere with them.

While the direct cause of this accident was an error on the part of Dispatcher Gutzler resulting in a lap order, the underlying cause was the single train order system which was in use on this railroad contrary to all safe railroad practice, and for which the Superintendent, Trainmaster and Chief Dispatcher and other operating officials are responsible.

The attitude of Trainmaster Thompson in connection with this accident is amazing. He had been sent to this district by the Vice-President and General Manager largely for the purpose of watching the train dispatchers; he knew that the single train order system was being used and in his own mind thought that it was unsafe, but he did not know whether or not it was permitted under the operating rules; he had checked the train dispatchers order book three times yet failed to discover such glaring faults as that restrictive orders were being issued without even providing a copy to the train whose rights were restricted thereby; he knew that the single order system was unsafe and intended to have it changed but had not done so on account of having so much work in connection with the distribution of empty equipment among the mines. Another excuse was that he did not consider he had any authority to make any change in the dispatching system without being instructed to do so by the Superintendent, yet he had never spoken to the Superintendent about it or called his attention to the unsafe system in use. Such negligence on the part of a supervising officer whose primary duty is to keep in touch with the operating details so as to insure safety of operation is inexcusable.

The investigation of this accident also disclosed several other practices, which, while not involved in the accident, indicate loose operating methods and lack of supervision. The members of the crew of Extra 102 apparently made no effort to compare watches with each other; the engineman had not compared with a standard clock and in fact

did not know where the standard clock was located, there being only one prescribed by time-table and that being at Hiawatha. In receiving train order No. 309 the Operator signed the Conductor's name to the order and the Conductor in turn signed the operator's name to the clearance card; the order was not read aloud and when delivering the order Conductor Burke handed it to the Fireman to give to the engineman instead of delivering it to the engineman himself as required by the rules. However, where the train dispatcher and trainmaster are ignorant of the rules and do not themselves comply with them, obedience from other employees can hardly be expected. The train order system of train operation in its highest state of efficiency leaves much to be desired in the way of safety, but where such a system is operated as it was on this railroad, even a reasonable degree of safety is lacking. Had there been an adequate block system in use on this line it would have provided a check against such errors on the part of the train dispatcher and this accident would probably have been prevented.

The Utah Railway should at once place in effect a safe method of train operation and take steps which will insure obedience to its rules in order to prevent further accidents of this character.

Train Dispatcher Gutler entered the service of the Utah Railway as an operator June 15, 1920, was promoted to Dispatcher May 1, 1921, and had a clear record. At the time of the accident he had been on duty 6 hours and 50 minutes.

Respectfully submitted,

W. P. Borland,

Chief, Bureau of Safety.