

INTERSTATE COMMERCE COMMISSION

REPORT OF THE DIRECTOR OF THE BUREAU OF SAFETY CONCERNING AN
ACCIDENT WHICH OCCURRED ON THE PENNSYLVANIA RAILROAD
AT WYOMING, DEL., ON APRIL 2, 1933.

May 25, 1933.

To the Commission:

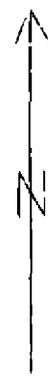
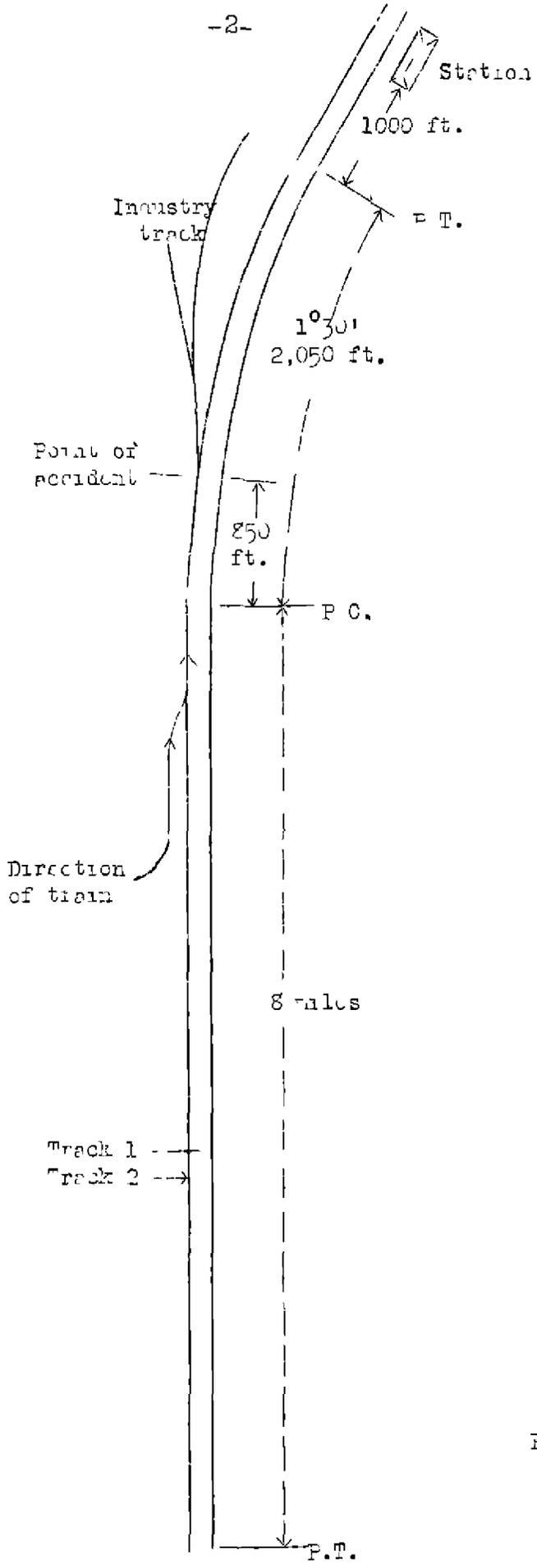
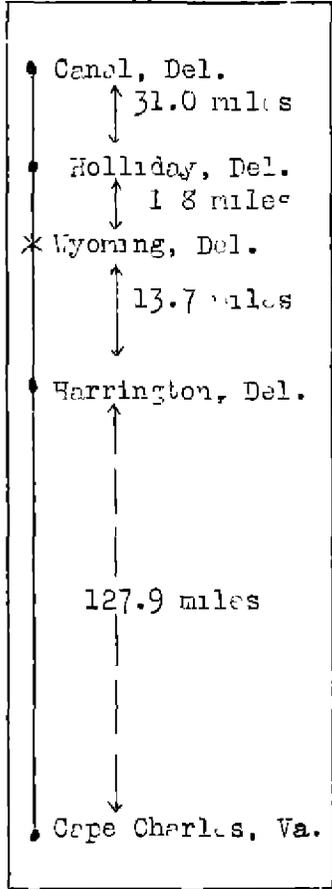
On April 2, 1933, there was a derailment of a passenger train on the Pennsylvania Railroad at Wyoming, Del., which resulted in the death of 2 employees and the injury of 5 passengers.

Location and method of operation

This accident occurred on that part of the Delmarva Division extending between Canal, Del., and Cape Charles, Va., a distance of 174.4 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 a manual block-signal system. The accident occurred at a point about 2,200 feet south of the station at Wyoming, approaching this point from the south, the track is tangent for a distance of more than 8 miles, followed by a 1°30' curve to the right approximately 2,050 feet in length, the accident occurring on this curve at a point about 350 feet from its southern end. The grade is 0.3 percent descending for north-bound trains at the point of accident.

The tracks are numbered 1 and 2, for north-bound and south-bound movements, respectively, and the accident occurred on track 2, at a switch leading off to the west through a No. 10 turnout to an industrial track, this being a trailing-point switch for normal movements. The switch stand is of the low Century type and is located on the west side of the track; it is not equipped with a target or lamp, the lamp indicating the position of this switch being operated from an auxiliary stand located between the main tracks, connected to the switch by a rod fastened to the west switch point. The lamp has flared discs that serve in place of a target for day indications, while the night indications are green and red, displayed when the switch is closed and open, respectively. The center of the lens is 2 1/6 inches above the top of the south-bound rail and the night indication can be seen from the engineman's side of a north-bound train, moving on the south-bound track, for a distance of approximately 1,300 feet, but is not clearly discernible until the engine reaches a point about 1,000 feet from the switch.

The weather was clear at the time of the accident, which occurred about 3 10 a.m.



Inv. No. 1815
 Pennsylvania R.R.
 Wyoming, Del.
 April 2, 1933

Description

North-bound passenger train no. 450 consisted of 1 express car, 1 combination baggage and coach, 2 coaches, 6 Pullman sleeping cars, 1 express car, and 1 business car, all of steel construction and in the order named, hauled by engine 5341, and was in charge of Conductor Holloway and Enginemen Burkhard. At Harrington, 13.7 miles south of Wyoming, the crew received a copy of train order no. 3, form 19, giving their train right over opposing trains on track 2 from Harrington to Holliday, the latter station being located 1.8 miles north of Wyoming. The train entered on the south-bound track at Harrington, departing from that point at 2 56 a.m., 4 minutes late, and was derailed at the industrial track switch south of the station at Wyoming while traveling at a speed estimated to have been between 30 and 50 miles per hour.

The train entered the industrial track, derailling the engine, tender, the first six cars, and the forward truck of the seventh car. The engine came to rest on its left side about 400 feet from the switch, with the tender alongside the engine but in reversed position and bottom up. The first car was directly behind the engine and tender, upright and at right angles to the track, with about two-thirds of the car inside a nearby warehouse. The other derailed cars remained upright in various positions, fouling both main tracks as well as the industrial track. A box car which had been standing on the industrial track was knocked off of its south truck and was driven northward a short distance. The employees killed were the engineman and fireman.

Summary of evidence

Conductor Holloway stated that the crew took charge of the train at Delmar and while waiting for it to arrive he talked with the engineman and fireman, both of whom appeared to be in normal condition, and he again talked with the engineman at Seaford. While the movement against the current of traffic was being made he heard the whistle signal required to be sounded when operating in this manner, and he also heard the road-crossing whistle signals being sounded. He was riding in the third car and as the train neared the curve at Wyoming he started towards the rear of the car to look over the train while it rounded the curve, but before he reached the platform the car was derailed, he had felt no brake application prior to the accident, and estimated the speed to have been 50 miles per hour. About two hours later he went back towards the rear of the train, and as he approached the switch he observed that the lamp was burning and displaying a red indication, although the lamp seemed to be turned slightly, he did not examine the switch to determine its condition. He continued beyond that point and after passing the switch he glanced back, from the direction in which the train approached it, and the lamp also showed a red indication. He also said that the visibility was good and lights could be seen for a considerable distance.

Brakeman Hoey, who was riding in the tenth car, said his first knowledge of anything wrong was when he felt a series of

jerks, the train stopping about 20 or 30 seconds later. Realizing that something was wrong, he immediately procured flagging equipment and went back to protect, and as soon as he got off the train, approximately 280 feet south of the switch and between the main tracks, he noticed that the switch lamp was clearly displaying a red indication.

Baggage man Pardee, who was in the second car, heard road-crossing whistle signals sounded after departing from Harrington; in fact, a crossing signal which was being sounded for a highway crossing located a short distance north of the point of accident was not completed, as after three blasts of the whistle had been sounded the brakes were applied in emergency, the derailment occurring shortly afterwards. He estimated the speed at the time the brakes were applied at 50 miles per hour and at the time of the accident at 30 miles per hour. Some time after the accident, accompanied by an officer of the Delaware state police, he examined the switch and found the lever of the switch stand latched in the open position and the switch lock, which was partly open and appeared to have been battered, was lying on the south head-block tie, while the switch throw-rod was bent. He did not examine the switch points, although he concluded the engine had encountered an open switch, and he said that the switch lamp was burning and appeared to be partly turned, although he thought it showed more red than green for a train approaching it.

General Superintendent Whitlock was occupying the business car and was awakened as a result of the derailment. He immediately dressed and went out on the rear platform, which was about six car lengths south of the switch, and noticed that the lamp was showing a distinct red signal. Some time later he examined the switch and found it partly open, with the throw-rod badly bent, but with no marks or abrasions appearing on it, indicating that the switch had been opened and then run through by a south-bound train before the arrival of train no. 450. Master Carpenter Calawell also was occupying the business car and was awakened by what he thought was an emergency application of the brakes, and about 10 or 15 seconds later he heard the cars piling up, his own car coming to a gradual stop. He observed the switch lamp and examined the switch and found them in the same condition as described by Superintendent Whitlock: the west switch point was open approximately 4 inches and the east point was open about 1 inch.

Signal Supervisor King arrived at the scene of accident about one hour after its occurrence and after attending to other duties he went to the switch and made as thorough an examination as was possible. The switch lock was lying on the south head block and was unlocked, the hasp being open about 5/8 inch. He carefully examined the lock and found that it had been tampered with and damaged. The keyhole cover was bent inward and the corners of it were burred, and at the left of the keyhole there was a sharp cut. On the back of the lock there were marks near the hinged portion, indicating that the lock had been struck by some metallic object.

He closed the lock and later tried to open it with a switch key but was unable to do so. The switch lever was in open position and was firmly latched, the connecting rod was bent northward in an arc, about 7 inches from normal, and the curve of the rod was uniform with no marks on it to indicate that anything had come in contact with it. The right or east switch point was standing away from the main track rail about 7/8 inch and a portion of the tip was broken out for a distance of 4 inches, apparently having been done during the course of derailment. In addition, there were pronounced abrasions on the side of the point, between the point and the main rail, and from their appearance he had no doubt that the switch had been run through by a south-bound train. The first wheel mark was a light indentation on a tie 46 feet north of the point of switch, between the east main track rail and the lead rail of the turnout, followed by other marks which increased in density until they reached a point 10 or 12 feet from the frog, where the ties became splintered. He also examined the track for a distance of about 1,500 feet south of the switch and found no irregularities.

Trackwalker Cook stated that he covered the entire length of his section on April 1 and first reached the switch involved about 1 p.m., at which time he filled the lamp. He reached the switch on his return trip about 2:40 p.m., and then inspected it and found the switch and its appurtenances in normal condition; he did not operate the switch, having no key in his possession. Section Foreman Wilson stated that he unlocked and operated this switch when he made his regular weekly inspection of switches on March 30, finding it in proper working condition he relocked it in normal position. He again inspected it on March 31, but did not operate it, and at that time the switch was locked and the lock showed no evidence of tampering. Upon arrival at the scene of accident at 5:30 a.m., he decided that the switch had been run through by a train moving southward on track 2. He later saw the switch lock and from its damaged condition he thought that it could have been forced open without the use of a switch key. Further testimony by the foreman, track walker, and four section laborers concerning the possession of switch keys was conflicting, but it was developed that the foreman was the only one authorized to have a key although at least one other key was in the hands of the laborers, who exchanged it among themselves when necessity required, and the foreman knew of its existence. Records furnished by the agent at Wyoming showed that the last train to use the switch was on March 19 when a car was removed from the industrial track.

Dispatcher Atkinson stated that he issued train order no. 3 for the purpose of moving train no. 450 around a north-bound local freight train, which had been delayed at Harrington on account of the engine being derailed, and as this train still had considerable work to perform north of the station, he thought it advisable to route the passenger train over track 2, which would prevent a further delay to the freight train of about one hour. There are no rules or special instructions regarding reverse movements but

it is frequently necessary in order to avoid delaying other trains and is done at the discretion of dispatchers, with the sanction of superior officers.

Engineman Jones, of south-bound passenger train no. 463, which left Wyoming at 5:15 p.m., April 1, stated that he did not see the indication of the switch lamp on account of its position on the inside of the curve. Fireman Statts, of the same train, stated that after putting in a fire he looked ahead from the gangway on the left side of the engine and observed that the switch lamp was displaying a clear indication and also noticed that the switch points were in normal position. These two employees were on north-bound passenger train no. 470, which passed Wyoming about 1:45 a.m., April 2, but neither of them observed the indication of the switch lamp at that time.

Fireman Holland, of south-bound passenger train no. 467, which left Wyoming about 7:15 p.m., April 1, noticed that the switch lamp was displaying a green indication, his engineman was Engineman Burkhard, killed in the subsequent derailment of train no. 450.

Engineman Conaway, of south-bound passenger train no. 447, which departed from Wyoming about 1:05 a.m., on the day of the accident, stated that when the switch lamp came into his view the engine had almost reached it, and it was then displaying green and appeared to be in proper focus, he had previously inquired of the fireman as to the indication of this light and the fireman had reported that it was green. Fireman Shockley said he observed this switch lamp about the time the engineman inquired about it and it was showing a bright green indication. None of the members of the crews of the last trains to pass Wyoming preceding the accident noticed anybody in the vicinity of the switch.

Brakeman Poore, of extra 4098, one of the work trains that cleared the wreckage, stated that about 1 p.m. on the date of the accident, while he was flagging south of that point, a man by the name of Dunlap approached and said he had found the switch lock in a path alongside the track the previous afternoon and had placed it on one of the head-block ties, afterwards notifying a crossing watchman at Wyoming, who replied that he had nothing to do with it, and Mr. Dunlap then told the watchman he would put the lock in its proper place but when he tried to place the lock in position he found it was damaged. As soon as possible after this conversation Brakeman Poore reported the matter to the trainmaster.

Robert C. Dunlap, who lives a short distance south of the switch, was then interviewed and he stated that while on his way to Wyoming during the evening of April 1 he found a switch lock in the path on the west side of the tracks, about 5 feet from the switch stand, and picked it up and placed it on the end of a tie. Noticing that the switch was not locked he informed the crossing watchman, at about 6:20 p.m., and the watchman replied that he had nothing to do with it. Shortly afterwards he told the watchman

that he would put the lock on the switch on his way home, but when he attempted to snap the lock in place it would not open far enough to insert the hasp in the keeper, due to the damaged condition of the lock. He then replaced the lock on the south head-block tie and proceeded home without having noticed the position of the switch points or the lamp. Mr. Dunlap identified the crossing watchman with whom he claimed to have held the conversation in question, who was Watchman Doane.

Crossing Watchman Doane denied that he talked with or that he even saw Mr. Dunlap, in fact, he said he was not acquainted with the man and had never seen him until taken to Mr. Dunlap's house for identification on April 2. Watchman Doane said that no one mentioned the switch to him on April 1 and that he did not learn of the accident until several hours after its occurrence.

In a statement dated April 8, Trainmaster McIntyre stated that Mr. Dunlap was taken into custody on April 5 and after a preliminary examination was committed to an institution for the insane. A member of the state police, who accompanied Mr. Dunlap to the institution, was said to have advised Mr. McIntyre that a preliminary examination was conducted by a physician and the physician said that Mr. Dunlap might be subject to possible mental lapses. Trainmaster McIntyre further stated that the member of the state police said Mr. Dunlap admitted making at least a partial operation of the switch, but could not remember the details as his mind at times seemed to be a blank.

Tests were conducted during the night of April 5 with an engine similar to the type of engine 5341 for the purpose of determining the distance the switch lamp could be seen with the engine approaching in either direction. Approaching from the south on the south-bound track, with the switch cocked, the same as it was when examined by Signal Supervisor King, the red light could be seen from the engineman's side for a maximum distance of about 1,300 feet and a clear view of the light could be had for about 1,000 feet, the lamp remaining constantly in view until the switch was reached. Approaching from the north, with the switch lined for a main-track movement, the green indication of the lamp first came into view from the fireman's side at a distance of 1,100 feet and was not obscured from that point to the switch; the lamp could not be seen from the engineman's side of a south-bound train.

An examination of the switch by the Commission's inspectors disclosed the conditions to be practically as described by the various witnesses. Examination and test of the switch lock, however, showed that it could be locked and unlocked without difficulty. The key-hole cover was indented near the center, which caused it to catch in the keyhole, but with a slight lift it became operative. There were three cuts or abrasions on the body of the lock which appeared to be of recent origin, made with a metallic object, but it could not be determined whether the blows to which the lock had been subjected would have produced sufficient force to open the lock, or whether it was opened by some one having a switch key.

Conclusions

This accident was caused by a damaged facing-point switch, which apparently had been run through by another train after having been opened as a result of malicious tampering.

Immediately after the accident officials of the company and members of the train crew observed the switch lamp displaying a red indication. Examination revealed that it was cocked nearly wide open with the operating lever latched in open position and the switch lock, which was considerably damaged, was lying on one of the head-block ties with the hasp about $5/8$ inch open. The throw rod was badly bent, the east switch point was open about $7/8$ inch, with a small portion of the point broken off, and the outside face of this switch point showed abrasions, indicating that the switch previously had been run through by a south-bound train. The last time the switch was used by a train crew was on March 19, the section foreman inspected and operated it on March 30, while the track-walker examined the switch, but did not operate it, at 2 40 p.m., April 1, and found nothing out of the ordinary.

Between the time the switch was last examined and the time of the accident, three south-bound passenger trains passed over this switch, the last movement being at 1 10 a.m., approximately two hours before the accident occurred, and the fireman of each of these trains stated that the switch lamp was displaying a green indication. It is evident, however, that at least one of these trains ran through this switch when it was set for the side track and with the lamp showing a red indication, which was not properly observed by the fireman.

Tests conducted subsequent to the accident disclosed that the engineman of train no. 450 could have seen the switch lamp for a distance of about 1,300 feet, although a clear view could not have been had until the engine reached a point about 1,000 feet from the switch. It is apparent that the lamp was burning and displaying a red indication at the time train no. 450 approached, and while the evidence is somewhat conflicting as to whether a brake application was made prior to the accident, it appears that no effort was made to stop before entering the switch, or just before the train reached that point.

Robert C. Dunlap, who resides a short distance south of the switch, said that he found the switch unlocked about 6 20 p.m., April 1, and that he notified the crossing watchman, but the watchman denied that he had ever seen Mr. Dunlap prior to the accident. The state police took Mr. Dunlap in charge and one of them reported that he subsequently said he might have raised the throw lever a short distance, although he was not certain as he suffers from occasional lapses of memory; he was committed to a state institution for observation.

Respectfully submitted,

W. P. BORLAND,
Director.