

INTERSTATE COMMERCE COMMISSION  
WASHINGTON

---

REPORT NO. 3590  
UNION PACIFIC RAILROAD COMPANY  
IN RE ACCIDENT  
AT SALT LAKE CITY, UTAH, ON  
SEPTEMBER 19, 1954

---

SUMMARY

---

|                     |  |             |
|---------------------|--|-------------|
| Date:               | September 19, 1954   |             |
| Railroad:           | Union Pacific  |             |
| Location:           | Salt Lake City, Utah                                       |             |
| Kind of accident.   | Collision  |             |
| Equipment involved: | Passenger train  | Cut of cars |
| Train number.       | 103  |             |
| Engine number:      | Diesel-electric<br>units 936, 950B,<br>and 944B            |             |
| Consists:           | 14 cars  | 7 cars      |
| Speeds:             | 19 m. p. h.  | Standing    |
| Operation.          | Operating rules; yard limits                               |             |
| Track:              | Single; tangent, 0.12 percent<br>descending grade westward |             |
| Weather:            | Clear  |             |
| Time:               | 8 03 p. m.   |             |
| Casualties:         | 36 injured   |             |
| Cause:              | Open switch  |             |

INTERSTATE COMMERCE COMMISSION

---

REPORT NO 3590

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

UNION PACIFIC RAILROAD COMPANY

---

October 14, 1954

---

Accident at Salt Lake City, Utah, on September 19, 1954,  
caused by an open switch.

---

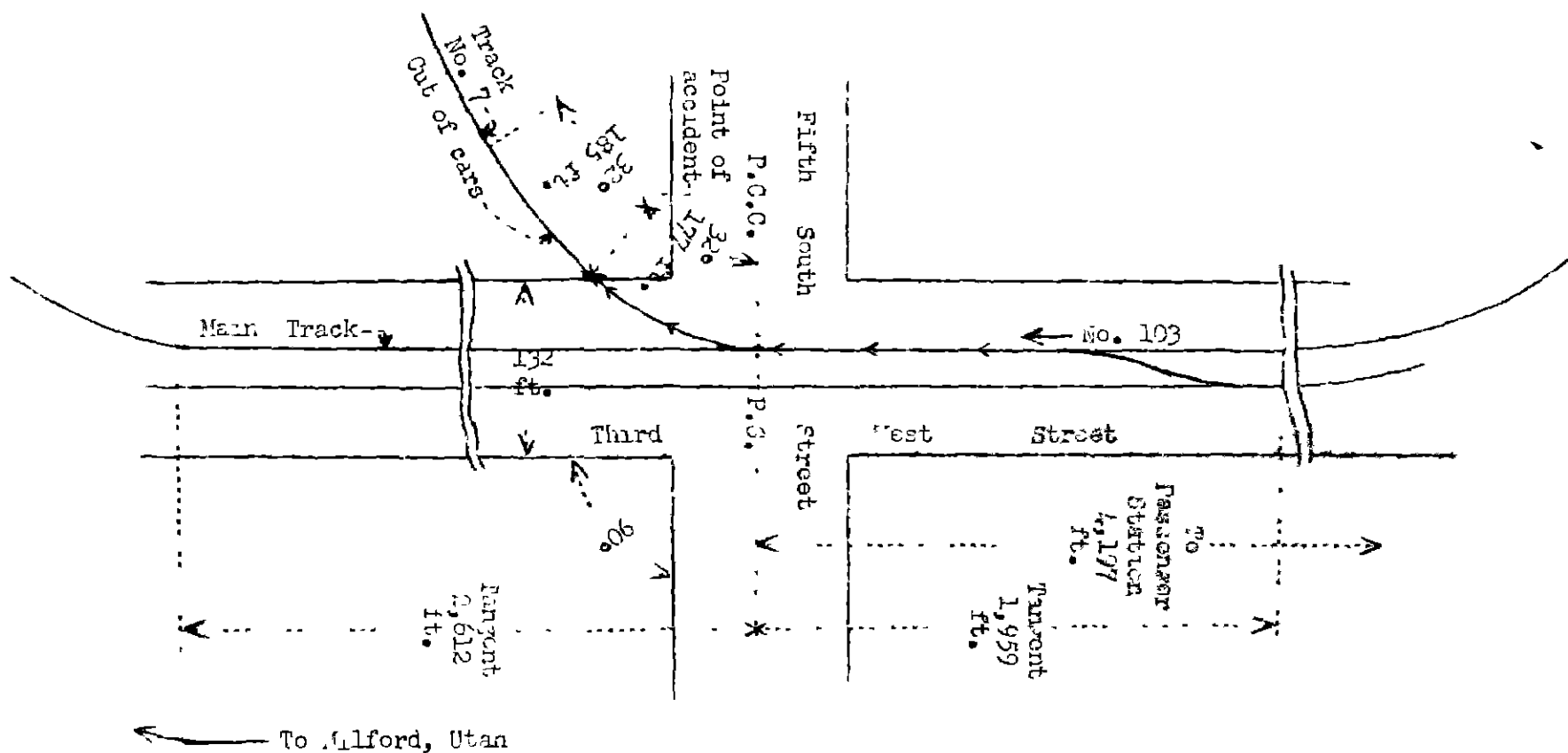
<sup>1</sup>  
REPORT OF THE COMMISSION

CLARKE, Commissioner

On September 19, 1954, there was a collision between a passenger train and a cut of cars on the Union Pacific Railroad at Salt Lake City, Utah, which resulted in the injury of 19 passengers, 2 Pullman Company employees, 12 dining-car employees, 1 mechanical department employee, and 2 train-service employees.

---

<sup>1</sup>  
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.



Report No. 3590  
 Union Pacific Railroad  
 Salt Lake City, Utah  
 September 19, 1954

Salt Lake City, Utah  
 (Point of accident)  
 207.2 ft.  
 Milford, Utah

Location of Accident and Method of Operation

This accident occurred on that part of the Utah Division extending between Salt Lake City and Milford, Utah, 207.2 miles. Between Second South Street, located immediately west of the passenger station at Salt Lake City, and a point 1.8 miles west of the passenger station, this is a single-track line, over which trains are operated by rules and special instructions. There is no block system in use. A traffic-control system extends between the latter point and Milford. Within yard limits at Salt Lake City an auxiliary track designated as track No. 7 diverges from the main track toward the north at a point 4,197 feet west of the passenger station. The switch is facing-point for west-bound movements. The accident occurred on track No. 7 at a point 177 feet west of the east switch. The main track is tangent throughout a distance of 1,959 feet immediately east of the east switch of track No. 7 and 2,612 feet westward. From the east on track No. 7 there is a compound curve to the right, having a maximum curvature of 32°, 177 feet to the point of accident and 185 feet westward. The grade on the main track is 0.12 percent descending westward at the east switch of track No. 7.

The east switch of track No. 7 is located in the intersection of Third West Street and Fifth South Street, which intersect at an angle of 90 degrees. Between points 1,959 feet east and 2,612 feet west of this switch the main track is laid near the center of Third West Street. This street is 132 feet in width and is surfaced with bituminous material to the level of the tops of the rails. The turnout at the east end of track No. 7 is constructed with a No. 7 Double-tongue switch, and the operating lever is enclosed in a housing located between the switch points. The cover of the housing is level with the surface of the street and the tops of the rails. It is necessary to raise the cover in order to operate the throw lever. In this area a number of industrial tracks diverge from the main track, and the main track is used extensively for switching movements. None of the switches in Third West Street is equipped with a switch target or a switch lamp, employees can determine the position of a switch only by observing the position of the switch points.

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

93. Within yard limits, all trains and engines must move prepared to stop within the distance track is seen to be clear.

\* \* \*

104. The normal position of a main track switch is for main track movement and it must be lined and locked in that position except when changed for immediate movement. When set in other than normal position, an authorized employe must remain near enough to the switch to be able to line it for main track upon the approach of a train or engine.

Switches must not be handled by unauthorized persons.

Those authorized to handle switches must see that they are properly lined for route to be used. It must be seen that switch points are closed against stock rail and that indication of target or lamp corresponds with position of switch.

Switches must be left in proper position after having been used and must not be left open for a following train or engine unless in charge of a member of crew of such train or engine or an assigned switchtender.

Conductors are responsible for position of switches used by them and their trainmen, except where switch-tenders are stationed.

Enginemen must keep in mind the location of switches at all points, and, when practicable, must see that switches near the engine are properly lined. At night, they must observe if required switch lights are burning and show proper indication.

104 (C). \* \* \*

If a switch lock is missing or found to be defective, a new one must be supplied. If this cannot be done, a report must be made to train dispatcher.

Timetable special instructions read in part as follows:

266 (R). \* \* \*

At Salt Lake City \* \* \* conductor of westward train using Passenger Line must receive permission from train dispatcher before starting. Proceed signal must be received from Second South Street switchtender, which will be authority to proceed to beginning of CTC territory.

The maximum authorized speed for trains moving on Third West Street is 12 miles per hour.

#### Description of Accident

No. 103, a west-bound first-class passenger train, consisted of Diesel-electric units 936, 950B, and 944B, coupled in multiple-unit control, one baggage car, one dormitory car, two coaches, one lounge-dining car, two sleeping cars, one dining car, one club car, and five sleeping cars, in the order named. All cars were of lightweight steel construction. This train departed from the passenger station at Salt Lake City at 7:58 p. m., 38 minutes late, and while moving at a speed of approximately 19 miles per hour the front end of the train entered track No. 7 and collided with a cut of seven freight cars at a point 177 feet west of the east switch.

No. 103 stopped with the front of the locomotive 65 feet west of the point of accident. West of a point approximately 125 feet west of the switch, the south rail of track No. 7 was overturned. The first Diesel-electric unit and the front truck of the second Diesel-electric unit of No. 103 and the four more easterly cars on track No. 7 were derailed. None of the derailed equipment overturned. The first Diesel-electric unit of No. 103 and the east car on track No. 7 were damaged.

The fireman, the flagman, and an assistant supervisor of mobile power were injured.

The weather was clear and it was dark at the time of the accident, which occurred about 8.03 p. m.

#### Discussion

As No. 103 was approaching the point where the accident occurred the enginemen and a general electrical foreman were maintaining a lookout ahead from the control compartment at the front of the locomotive. An assistant supervisor of mobile power entered the control compartment a short time before the train reached the east switch of track No. 7. The members of the train crew were in various locations in the cars of the train. The headlight was dimmed, and the oscillating signal light was lighted. The brakes of the train, which were in electro-pneumatic operation, had been tested at Salt Lake City and had functioned properly when a running test was made after leaving the station. The throttle was in off position. The

employees on the locomotive did not observe the position of the east switch of track No. 7 as their train approached it. When the engineer became aware that the locomotive was entering track No. 7 he made a service application of the brakes, but immediately afterward, when he observed the cars on track No. 7, he moved the brake valve to emergency position. According to the tape of the speed-recording device, the speed was approximately 19 miles per hour when the brake application became effective. The engineer thought that the speed had been slightly reduced when the collision occurred.

After the accident it was found that the east switch of track No. 7 was lined for entry to that track. The switch lock was hooked through the keeper but was not locked. The switch points were not damaged. After the equipment of No. 103 was removed, the switch was lined in normal position. It was then found that the switch lock was defective and could not be locked.

The investigation disclosed that the east switch of track No. 7 was used by the crew of a yard locomotive about 1 hour 45 minutes before the accident occurred. The yard conductor of this crew was the first member of the crew to operate the switch. He said that when he reached the switch he found that the switch lock was hooked through the keeper but was not completely closed and locked. The last movement which the locomotive made over the switch was a movement from track No. 7 to the main track. One of the yard brakemen said that he alighted at the switch and after the locomotive entered the main track he lined and locked the switch in normal position. He said that the switch lock was somewhat difficult to lock, but that the lock did not appear to be defective and when he left the switch he was satisfied that it was locked. He said that after operating the switch he observed that the switch points were properly lined for movement on the main track. The yard conductor was on the rear footboard of the locomotive as the northward movement was made. He said he saw the yard brakeman raise the cover of the housing and operate the switch after the locomotive passed. Both the engineer and the other yard brakeman said that the yard brakeman alighted at the switch, but they did not notice whether he operated the switch. After the locomotive entered the main track it moved eastward a short distance, then moved westward on a track which parallels the main track on the south. Both the yard conductor and the yard brakeman who was on the locomotive said that they observed the position of the east switch of track No. 7 as the locomotive passed it and that the switch was lined for movement on the main track. There were no movements over the switch between the time the yard locomotive departed and the time No. 103 arrived.

On September 22, 1954, observations were made to determine the distances at which the position of the switch points of switches located in the vicinity of the point of accident are visible from the control compartment of a south-bound Diesel-electric locomotive. It was dark at the time the observations were made. It was found that when the headlight was dimmed, the condition under which the movement was being made at the time of the accident, it was impossible to determine the position of the switch points from the control compartment of the locomotive, and that even with the headlight lighted brightly the position of the switch points could not be determined from the control compartment until immediately before the front end of the locomotive passed them. In view of the operating conditions in this vicinity means should be provided for readily determining that the switches are lined properly for movement on the main track.

Cause

This accident was caused by an open switch.

Dated at Washington, D. C., this fourteenth day of October, 1954.

By the Commission, Commissioner Clarke.

(SEAL)

GEORGE W. LAIRD,

Secretary