

[FE-24-98](#) (document link)

SUMMARY FOR FE-24-98:
SELECTED AND POSSIBLE CONTRIBUTING FACTORS

SELECTED FACTORS

Railroad: New Jersey Transit Rail Operations

Location: Glen Rock, New Jersey

Region: Region 1

Month: October

Date: 10/02/98

Time: 5:37 p.m., EST

Data for Fatally Injured Employee(s)

Assistant Conductor

49 years old

25 years of service

Last rules test/training: August 1998

Last safety training: August 1998

Last physical: October 1997

Data for All Employees (Craft, Positions, Activity)

Craft: Transportation

Passenger Train No. 1612

Conductor

Assistant Conductor

Engineer

Hoboken Train Dispatcher

Activity: Railroad employees were conducting passenger service.

SUMMARY FOR FE-24-98

POSSIBLE CONTRIBUTING FACTORS

EVENT

An Assistant Conductor was seriously injured (dying four days later) when struck by a train.

PCF No. 1

The incident occurred when, in non-compliance with railroad operating rules, the Assistant Conductor attempted to board a moving train as it was leaving the station.

PCF No. 2

Interviews revealed that the Conductor and Assistant Conductor had had an arrangement for over a year in which the Conductor requested no assistance with passenger loading/unloading at three stations, one of them Glen Rock. (This was in violation of a railroad operating rule.) Therefore, he did not anticipate that the Assistant Conductor would be out on the platform, rather than on board the train when he closed the doors.

PCF No. 3

The Conductor's position on the train (leading end) was improper. He was unable to observe the platform as the train departed from the station. The Conductor's view of the platform from the front of the train was severely restricted because of track curvature.

PCF No. 4

Insufficient training of train service employees on proper door operation *on all types of NJTR's passenger equipment* was a factor. Only new, inexperienced employees received any classroom and field training on door operation.

PCF No. 5

During the post-accident investigation, the Assistant Conductor's key was found in one of the door operation stations, perhaps suggesting he thought the key would prevent the doors from closing. A test of the equipment determined that the key had no effect on the operation of the other doors when operating from the front of the train. (The Assistant Conductor had worked most of his career on the Newark Division, having transferred to the Hoboken Division 18 months prior to the accident. Passenger equipment used on the Newark Division had a feature on the door control panel that prevented the door from closing when a key was inserted in the door control panel. Also, those doors had another feature that caused the doors to stop closing when someone or something hit the rubber on the end of the door. The door would re-open if the end rubber was hit.)

REPORT: FE-24-98

RAILROAD: New Jersey Transit Rail Operations (NJTR)

LOCATION: Glen Rock, New Jersey

DATE & TIME: Oct. 2, 1998, 5:37 p.m., EST

PROBABLE CAUSE: The Assistant Conductor was seriously injured (dying four days later), when in non-compliance with railroad operating rules, he attempted to board a moving train as it was leaving the station.

EMPLOYEE:

Occupation:	Assistant Conductor
Age:	49 Years
Length of Service:	25 Years
Last Rules Test/Training:	Aug. 3, 1998
Last Safety Training:	Aug. 3, 1998
Last Physical:	Oct. 4, 1997

CIRCUMSTANCES PRIOR TO THE ACCIDENT

The Assistant Conductor reported for work at NJTR's Woodbine Terminal on Oct. 2, 1998 at 7:10 a.m. He was working his regular assignment (SV07), and prior to reporting for duty, he had a statutory off-duty time of 10 hours and 14 minutes.

The Assignment SV07 Crew operated Passenger Train No. 1612 to Hoboken, N.J. At Hoboken, the Crew went off duty from 9:28 a.m. until 1:30 p.m., four hours and two minutes. The next train the Crew worked was Train No. 1257, leaving Hoboken at 4:58 p.m., scheduled to arrive at Waldwick, N.J. at 5:51 p.m.

The Train Crew comprised a Conductor (43 years of service), Assistant Conductor (25 years of service), and an Engineer (48 years of service). The Crew Members were regularly assigned to this job, and had statutory off-duty time of 10 hours and 14 minutes prior to the 7:10 a.m. report time.

Train No. 1257 comprised four coaches and one locomotive in push-pull operation. The Engineer operated the train westbound (timetable direction) from the controls of the cab car (5136).

Locomotive 4203 was on the rear (east end) of the train and headed east. The Conductor worked the head two coaches and operated the passenger doors from the west-end of the second car. Departing stations, he communicated with the Engineer using hand signals and the train's communicating buzzer. The Assistant Conductor worked the rear two cars.

En route, the Conductor opened doors at each station and received a hand signal from the Assistant Conductor prior to closing the doors and signaling the Engineer to proceed. The Conductor and the Assistant Conductor had an agreement that at Glen Rock, Ho-Ho-Kus, and Waldwick, the Assistant Conductor would not be at the doors of the train to assist passengers and relay a hand signal. The Conductor said he had received hand signals from the Assistant Conductor at each stop until Glen Rock. At Glen Rock, the Conductor opened the doors from his position on the second coach and went to the platform to observe that all passengers were clear of the train. Approximately five or six passengers got off, and he got back on the train and closed the doors. He then used the communicating buzzer to signal the Engineer to proceed. The Conductor was not aware that the Assistant Conductor was missing until the next scheduled stop at Ridgewood. After departing Ridgewood, he radioed the Hoboken Train Dispatcher and notified him that the Assistant Conductor may have been left behind. It was then that he was informed of the accident.

THE ACCIDENT

Two individuals, who were selling raffle tickets on the station platform at Glen Rock, witnessed the accident. The witnesses reported seeing the Assistant Conductor exit the train from the third coach. They indicated they had spoken with the Assistant Conductor and asked if he wanted to purchase a raffle ticket. He declined and turned toward the train. As the doors were closing, the Assistant Conductor attempted to push the door open with his hand. The train began moving, and he pulled his hand out and ran toward the rear of the train, against the direction of movement, and attempted to board the locomotive at the left rear step. The Assistant Conductor ran along the platform and apparently lost his balance, was pulled off the platform, and rolled under the locomotive's fuel tank. The witnesses stated that they did not observe the Assistant Conductor signaling or communicating with anyone on the train prior to the accident. The Assistant Conductor was transported by ambulance to a local hospital where he died of his injuries four days later (Oct. 6, 1998).

POST-ACCIDENT INVESTIGATION

The post-accident investigation focused on:

- The en route train operation between the Conductor and Assistant Conductor to determine how they communicated with each other at station stops, specifically the application of NJTR's Operating Rules 105 and 106;
- NJTR management's enforcement of Rules 105 and 106;
- Training provided to Train Crews; and

- Testing of train doors involved in this accident and a random sample of doors on other equipment.

Application of Operating Rules 105 and 106

Rule 105 requires Train Crew Members to position themselves on the platform, at open doors, for the purpose of assisting passengers on and off the train. While not specifically stated in the rule, the practice is for Crew Members to use a hand signal to signal the Crew Member operating the doors that it is all clear at his/her position.

Rule 106 has two provisions relevant to the accident:

- The Conductor or Crew Member assigned by the Conductor must observe that no passengers are boarding or exiting and that the exterior door's indicating lights are extinguished to the front and rear of the train before activating the close door button at the specific location; and
- On all equipment, the Conductor or Crew Member assigned by the Conductor will position himself/herself in the rear vestibule of the working portion of the train when the train is ready to depart each station and will observe the platform from the open door (or window if the window can be opened) until the entire train has cleared the platform.

The interview with the Conductor revealed that the Conductor and Assistant Conductor had worked together for more than one year. During that time, the Conductor had instructed the Assistant Conductor not to assist with passenger loading/unloading at three stations. Glen Rock was one of the three stations. The Conductor's rationale was that only a few passengers get off at these stations and he did not need help.

The Conductor stated that he always worked the doors from the front of the train and that he always looked at the platform and closed all train doors including the door at his station. He then signaled the Engineer to proceed. He said he never looked out after closing the doors because, in his opinion, it was dangerous. He also stated that he never observed the platform as the train was departing because he felt it was too dangerous and not possible on this type of equipment.

NJTR Management's Enforcement of Rules 105 and 106

Discussions with NJTR's Superintendent of Rules and Operations, the Line Superintendent for Glen Rock, and the Senior Trainmaster indicated that Rule 106, requiring a Crew Member to be on look out from the rear of the train, was not consistently applied. On the Morristown, NEC, North Jersey Coast, and Boonton Lines, doors were worked from the rear, and the platform was observed, but on the Raritan, Southern Tier, Main, and Bergen County Lines, the doors were operated from the front of the train, making observation of the platform difficult for the entire time the train was departing, especially at stations with curves.

A review of NJTR's Efficiency Check System, for compliance with 49 CFR Part 217, revealed that during the previous 12 months the railroad had conducted 607 tests and observations for compliance with Rules 105 and 106 (concerning passenger loading/unloading and door operations). Records indicated there were 100 incidences of failure to comply, resulting in counseling or letters of reprimand.

Employee Training

The Conductor stated that he had never received training on the operation of doors when he entered passenger service. He stated that the only equipment training he received was when new equipment went on line, and only one hour of training at that time.

NJTR's current rules training classes did not specifically provide instructions on door operations. However, the railroad stated that a question pertaining to Operating Rule 105 or 106 was always possible on the test. New employees received formal classroom and field training on door operation and emergency trouble shooting. They also participated in on-the-job assignments that enabled them to work trains and operate doors with experienced staff. FRA investigators were concerned that "experienced staff" may not have received adequate training in this area.

Discussions with NJTR's Rules Examiner and Training Staff revealed that, in the case of "older train service" employees, their qualifications were accepted by NJTR from previous railroad employers at the time NJTR took over passenger operations. In most cases, there were no records indicating the training these employees received nor their original qualification dates.

Testing of Equipment Door Operations

Testing of equipment doors was performed to determine if the doors would open throughout the entire train from any door operating station, and whether inserting the key in another door operating station would interrupt the operation.

First, a test was made on the car involved in the incident (1704). The test was to determine if a key in the No. 3 door operating station would prevent the Conductor from closing the door from a position several cars away. This test was performed because the Assistant Conductor's key was found in this door operation station, suggesting that he perhaps thought his key would prevent the doors from closing. The key had no effect on the operation of the other doors when operated from the front of the train.

The Assistant Conductor had worked most of his career on the Newark Division, having transferred to the Hoboken Division 18 months prior to the accident. Passenger equipment used on the Newark Division had a feature on the door control panel that prevented the door from closing when a key was inserted in the door control panel. Also, those doors had another feature that caused the doors to stop closing when someone or something hit the rubber on the end of the door. The door would reopen if the end rubber was hit.

Another test was performed to open and close the doors from the cab car. Some cab car door control locations did not open the doors throughout the train and in some cases, when operating

from the door control of a cab car, placing the key in another location interrupted the door operation.

Analysis

The practice of loading and unloading passengers at Glen Rock Station without the assistance of the Assistant Conductor was in violation of the railroad's Rule 105.

The practice of not observing the platform as the train departed the station was a violation of the railroad's Rule 106.

The most significant rule violated was NJTR's Safety Rule 354 which states in part "When getting on equipment, employees must be on equipment before it moves."

Insufficient training of train service employees on the proper operation of doors may have contributed to the accident. New train service employees received classroom and field training on door operation. NJTR should review training to ensure that all Conductors and Assistant Conductors, regardless of time in service, receive training on the operation of doors on all types of NJTR's passenger equipment.

Consistent application and enforcement of NJTR's Safety Rules 105 and 106 between Divisions and Branch Lines should be reviewed.

APPLICABLE RULES

NJTR's Safety Rules

When getting on equipment, employees must:

- (a) Be on equipment before it moves.

NJTR's Manual of Regulations for Conductors and Assistant Conductors

Rule 105: DUTIES

Conductors and Assistant Conductors must station themselves on the station platform at doors when passengers are entering and exiting their train. Conductors and Assistant Conductors must remain in position to render assistance in the entering and exiting of passengers. Such employees must make every effort to see that passengers do not board the wrong trains and are directed to the proper cars.

Rule 106: DOOR CONTROL

A. The Conductor of passenger trains equipped with electrically operated side doors, or Assistant Conductors designated by the Conductor will, before departure from any station, visually observe that no passengers are boarding or exiting and that exterior door

indicating lights are extinguished to the front and rear of the train before activating the close button at his or her local key station.

On all equipment, including Comet III and Comet IV with the end door bypass switch in the bypass position, the Conductor, or Assistant Conductor designated by the Conductor, will position himself/herself in the rear vestibule of the working portion of the train when the train is ready to leave each station and will observe the platform from his/her open door until the train has cleared the station.