U.S. Department
of Transportation
**Federal Railroad
Administration**

Certain Fatalities Investigated By The Federal Railroad Administration Third and Fourth Quarters 1988

**Office of Safety
Washington, D.C. 20590**

May 1991

ACCIDENTS REPORTS ACT - 45 USC 41

Section 41

"Neither the report required by Section 38 of this title nor any report of the investigation provided for in Section 40 of this title nor any part thereof shall be admitted as evidence or used for any purpose in any suit or action for damages growing out of any matter mentioned in said report or investigation."

INTRODUCTION

This report represents the Federal Railroad Administration's findings in its investigation of 13 railroad employee fatalities suffered during the second half of 1988. Not included are the employee fatalities that occurred as a result of train derailments, collisions, or rail-highway crossing accidents; these are reported in the 1988 Summary of Accidents Investigated by the Federal Railroad Administration.

The purpose of this report is to direct public attention to hazards that exist in the day-to-day operation of railroads, to guide the overall Federal program to promote the safety of railroad employees, and to supply rail management, rail labor, and all other interested parties with information and analysis for use in training and other action to prevent similar accidents.

Grady Cothen
Associate Administrator
for Safety

CAUSE DIGEST

		REPORT NUMBER	PAGE
1.	TRANSPORTATION EMPLOYEES		
	a. Failure to position clear of moving equipment	18	10
	b. Loss of footing while attempting to board moving car	19	13
	c. Failure to stand clear of oncoming train	23	25
	d. Attempting to close an angle cock on moving equipment	25	31
	e. Failure to clear for an approaching train	26	33
	f. Failure to protect against equipment movement	27	36
2.	MAINTENANCE-OF-WAY EMPLOYEES		
	a. Failure to ensure adequate clearance when exiting locomotive cab	15	1
	b. Loss of control of company vehicle	16	4
	c. Freight car collision with hi-rail truck	20	16
	d. Failure to maintain a firm footing or a secure handhold on moving equipment	21	18
	e. Failure to remain clear of moving equipment	22	21
	f. Failure to fasten boom safety chains	24	28
3.	MAINTENANCE-OF-EQUIPMENT EMPLOYEES		
	a. Failure to clear for moving equipment	17	6

SUMMARY OF ACCIDENTS INVESTIGATED INVOLVING ONE OR MORE FATALITIES

RAILROAD	ACCIDENTS
ATSF	1
BN	2
CGA	2
CR	1
CSX	3
MNCW	2
NIRC	1
UP	1

ACCIDENT INVESTIGATION REPORTS

		Page
15.	Metro North Commuter Railroad New York, New York	1
16.	Burlington Northern Railroad Richmond, Minnesota	4
17.	CSX Transportation Nashville, Tennessee	6
18.	Union Pacific Railroad Company Spring, Texas	10
19.	Central of Georgia Railroad Company Glenns, Georgia	13
20.	Burlington Northern Railroad Loveland, Colorado	16
21.	Metro North Commuter Railroad New York, New York	18
22.	Northeast Illinois Railroad Corporation Chicago, Illinois	21
23.	The Atchison, Topeka and Santa Fe Railway Company City of Commerce, Texas	25
24.	Central of Georgia Railroad Company Wrightsville, Georgia	28
25.	CSX Transportation, Incorporated Hialeah, Florida	31
26.	Consolidated Rail Corporation Mattawana, Pennsylvania	33
27.	CSX Transportation, Incorporated Wildwood, Florida	36

REPORT: 15

RAILROAD: Metro North Commuter Railroad (MNCW)

LOCATION: New York, New York

DATE, TIME: July 29, 1988, 7:52 a.m.

PROBABLE CAUSE: Employee failed to ensure adequate clearance when exiting locomotive cab side door of moving train.

EMPLOYEE: Occupation . . . . . Facility Manager

Age . . . . . 38 years

Length of Service . . . . . 13 years

Last Rules Training . . . . . May 11, 1988

Last Safety Training . . . . May 11, 1988

Last Physical Examination . . June 2, 1987

Circumstances Prior to the Accident

On the day of the accident at 5:15 a.m., a train crew consisting of an engineer and a conductor, reported for duty following the required off-duty periods at Poughkeepsie, NY. Train No. 816 was a regularly scheduled southward commuter train which operated from Poughkeepsie to New York, NY, making various station stops en route. Train No. 816 was a push-pull type train operating in the push mode. From the north, it consisted of two class FL-9 locomotives, Nos. 2010 and 2005, six coaches and a control car. The engineer was operating the train from the cab of the control car. The conductor was performing his duties in the coaches of the train.

Unknown to the crew, during the station stop at Croton-Harmon, a Facility Manager boarded the unoccupied cab of locomotive No. 2010. Train No. 816 departed Croton-Harmon at 6:57 a.m. The Facility Manager went on duty at 7 a.m. at Croton-Harmon, commuting by train to Grand Central Terminal in New York where he supervised mechanical forces in the terminal.

In the accident area, which is known as the Express Level, there are 42 tracks, 36 passenger platforms and two utility platforms. At the point of accident, track No. 32 is situated between two platforms, a passenger platform located to the west of the track and a utility platform located to the east of the track. Trains arriving on track No. 32 discharge passengers onto the passenger platform. Lighting is provided by overhead fluorescent fixtures.

The Accident

Train No. 816 operated from Croton-Harmon to Grand Central Terminal without incident, arriving at approximately 7:42 a.m. Train No. 816 was then assigned to track No. 32 in Grand Central Terminal. As train No. 816 was stopping short of the track No. 32 bumping block, the Facility Manager exited the east side door of the cab of locomotive No. 2010. The employee struck a 6-foot-wide support column on the utility platform and was pinned between the support column and the side of locomotive No. 2010. Two MNCW mechanical employees leaving the train en route to work discovered the victim at 7:52 a.m. The Facility Manager was declared dead at the scene.

Post-accident Investigation

There were no witnesses to the accident.

Limited clearances exist between a train on track No. 32 and several of the support columns located on the utility platform (track No. 31 platform) in the vicinity of the accident. The clearance between the step of locomotive No. 2010 and the support column at the point of accident is only nine inches. The clearance between the body of locomotive No. 2010 and the support column at the point of accident is only 13 inches.

No exceptions were taken to the operation of the train or to its brake system.

Results of toxicological testing of the deceased and of the train crew were negative.

Applicable Rules

Metro North Commuter Railroad

S7-D Safety Rule Book

Maintenance of Equipment Employees

> 4243. While getting on or off, working inside or under locomotive, observe overhead and side clearance, and confine movements to space available to prevent striking head or other part of body.
>
> 4116. Get on or off train, turntable, transfer table, movable bridge, elevator, self-propelled or other equipment or machinery or vehicle that moves on

wheels only when it is stopped and on the side away from live track when practicable.

REPORT: 16

RAILROAD: Burlington Northern Railroad (BN)

LOCATION: Richmond, Minnesota

DATE, TIME: August 8, 1988, 9:55 a.m.

PROBABLE CAUSE: Loss of control of company motor vehicle.

A possible factor contributing to the extent of injury was the employee's apparent failure to utilize a seat belt.

EMPLOYEE:

Occupation	Equipment Maintainer
Age	35 years
Length of Service	14 years
Last Rules Training	February 18, 1983
Last Safety Training	February 18, 1983
Last Physical Examination	October 15, 1982

Circumstances Prior To the Accident

At approximately 6:00 a.m. on the day of the accident, a traveling equipment maintainer departed his residence in Duluth, MN, after a weekend off duty. The mechanic was driving a 1-ton maintenance truck bound for South Shore, SD, a distance of approximately 300 miles.

In the accident area, Minnesota Highway 23 is a two-lane asphalt road with gravel shoulders that slope downward from the surface.

The weather was sunny and clear; the temperature was 75° F.

The Accident

At 9:55 a.m., approximately 3-1/2 hours driving time from Duluth, the mechanic was proceeding west on Minnesota Highway 23, 1-1/2 miles west of Richmond, negotiating a 1-degree 30-minute curve to the left. At the end of the curve, the truck gradually traveled to the right, leaving the pavement, and crossed the gravel shoulder for approximately 200 feet until the right side of the vehicle rolled down the slope of the embankment. The truck then struck the slope of a driveway, causing the truck to upset and turn over a number of times. It came to a stop approximately 150 feet beyond the driveway on ground 10 to 12 feet lower than the

surface of the road. During the rollover sequence, the driver, who was the lone occupant in the vehicle, was thrown from the cab. He was found lying fatally injured on the ground 45 feet short of where the truck came to rest.

The equipment maintainer was reported to be breathing when an ambulance arrived. The injured employee lapsed into cardiac arrest en route to the St. Cloud Hospital in Saint Cloud, MN, where resuscitation was discontinued and he was declared dead at 11:40 a.m.

Post-accident Investigation

The type of the fatal injuries sustained by the driver indicates that the vehicle may have rolled over him after he was ejected from the cab. The seat belts were found in a normal retracted position indicating the occupant apparently was not wearing the seat belt.

The right front tire of the truck was found to be deflated after the accident. However, there were no scuff marks noted by the state patrol on the pavement. The tire tracks on the shoulder were made by a normally inflated tire which indicated that the tire probably deflated after impacting the slope of the driveway.

Although some highway resurfacing work had been done recently on this segment of highway, the tire marks of the right side of the vehicle on the new gravel shoulder indicate that the truck rolled freely off the pavement without apparent correction to the point of upset at the driveway entrance.

Results of toxicological testing performed on the victim during an autopsy were negative.

Applicable Rules

Burlington Northern Railroad Safety Rules

Highway Motor Vehicle Operation

No. 336(d) - Fasten seat belts and other restraints, harnesses and require all passengers to do likewise.

REPORT: 17

RAILROAD: CSX Transportation (CSX)

LOCATION: Nashville, Tennessee

DATE, TIME: August 11, 1988, 4:08 p.m.

PROBABLE CAUSE: Failure of the service attendant to position himself clear of moving equipment.

A contributing factor was the failure of the groundman of the fueling station movement to position himself on the leading end of the lead locomotive.

EMPLOYEE:		
	Occupation	Locomotive Service Attendant
	Age	41 years old
	Length of Service	9 years
	Last Rules Training	none
	Last Safety Training	August 11, 1988
	Last Physical Examination . .	August 16, 1979

Circumstances Prior to the Accident

Diesel Shop Movement

On the day of the accident at 3 p.m., a locomotive service attendant (victim) and a general laborer reported for duty at the Radnor Diesel Shop for duties which included the switching of locomotives. The employees were instructed by the shop foreman to move two locomotives from the shop to the fueling station and to bring two locomotives back. Three locomotives were to be moved northward out of the fueling station in order to permit the movement of the other two to the fueling station. The machinist, who was operating the three locomotives, was positioned on the east side of the north, or leading, locomotive. The service attendant, who was performing groundman's duties, was located on the east side of the south or trailing locomotive. As the consist moved northward on track No. 3, the machinist had stopped the locomotives at the track No. 2 switch, repositioned the switch, and was returning southward to the locomotive control compartment.

The service attendant dismounted from the east side of the south locomotive, and walked around the end of the consist to the west

side to reposition the track No. 4 switch. The service attendant then walked eastward around the south end of the locomotives to give a hand signal. Because of the curvature of the track, the service attendant had to step onto adjacent track No. 1 to have sight of the machinist's position on the locomotive.

Fueling Station Movement

On the day of the accident at 3 p.m., two other service attendants reported for duty at the Radnor Fueling Station after the required off-duty periods. Their assignment was to move four locomotives from the West Pit Track, spot one locomotive on track No. 1 and proceed to the Old Coal Chute track for additional switching. The four locomotives were moved northward from the West Pit Track and shoved southward onto track No. 1 where the south locomotive was cut off. As the remaining three locomotives were moved northward en route to the Old Coal Chute, the consist was being operated from the east side of the middle locomotive by one of the service attendants. The other service attendant was standing on the southeast corner step of the trailing locomotive.

Accident Area

In the accident area, Radnor Locomotive Fueling Station has six tracks lying in a north-south direction, two servicing and four ready tracks. The accident site is located where the tracks converge on the north end.

The weather was clear and the temperature was 93° F.

The Accident

At the time of the accident, the victim was standing on track No. 1 facing northward with his back to the approaching locomotives that were performing the fueling station movement. The machinist from the diesel shop movement was returning to his locomotives after throwing track No. 2's switch when he observed the victim standing on track No. 1. He waved and yelled in an attempt to warn the victim of the approaching locomotives. The service attendant apparently failed to hear or see the warnings and was struck from behind by the lead locomotive of the fueling station movement which was traveling at approximately five mph. The time was 4:08 p.m. The victim was found under the lead locomotive, lying perpendicular between the rails. He was taken to the Southern Hills Hospital where he was pronounced dead on arrival.

Post-accident Investigation

An investigation revealed the crewmen of the two switching assignments were unaware of each other's assignments. The fueling station movement was being operated from the middle

locomotive because the lead locomotive was shut down. The groundman was not located on the lead locomotive to properly control the fueling station movement.

On April 11, 1988, the carrier eliminated the engine hostlers who had been performing switching duties in the fueling station area, and assigned their duties to locomotive maintenance personnel. Classes on the operation of locomotives for locomotive maintenance personnel were held on March 30, and 31, 1988, but the four employees involved in this incident were not part of those classes. All other training for such personnel on handling and operating locomotives had come from on-the-job training. No other formal training was given by the carrier.

Each employee was issued a copy of the CSX Transportation Safety Handbook. Daily safety meetings are held at each work location, where a safety rule of the week and other safety rules are read and discussed.

Mandatory FRA post-accident toxicological testing was performed on the fatally injured service attendant and the two service attendants who were handling the fueling station movement that struck him. The fatally injured service attendant tested positive for marijuana metabolite. The carboxylic acid metabolite of delta-9-tetrahydrocannabinol was detected in the blood at a concentration of 8 ng/ml and in the urine of 27 ng/ml. No other drugs or alcohol were identified. The two surviving service attendants tested negative.

Applicable Rules

CSX TRANSPORTATION
SAFETY HANDBOOK

6. Employees reporting for duty, on duty, on Company property or while occupying facilities provided by the Company are prohibited from having in their possession, using or being under the influence of alcoholic beverages or intoxicants.

Employees shall neither report for duty nor perform service while under the influence of, nor use while on duty or on Company property, any drug, medication or other substance, including prescribed medication, that will in any way adversely affect the employees alertness, coordination, reaction, response or safety.

The illegal use of a drug, narcotic or other substance that affects alertness, coordination, reaction, response or safety, is prohibited while on duty, while on Company property or while occupying facilities

provided by the Company.

810. Employees must expect the movement of trains, cars or equipment on any track, at any time, in either direction.

811. When required to be on or around tracks, employees must be alert and watchful and must keep out of danger. They must remain off and clear of the track structure at all times, unless required to be there in the performance of their work. Employees must look in both directions before stepping on or getting close to any track.

CSX TRANSPORTATION

OPERATING RULES

EFFECTIVE APRIL 5, 1987

103. When cars are shoved and conditions require, a trainman must take a conspicuous position on the leading car. * * *

REPORT: 18

RAILROAD: Union Pacific Railroad Company (UP)

LOCATION: Spring, Texas

DATE, TIME: September 22, 1988, 8:00 p.m.

PROBABLE CAUSE: Failure of the rear brakeman to position himself clear of moving equipment.

EMPLOYEE: Occupation . . . . . Brakeman

Age . . . . . 29 Years

Length of Service . . . . . 10 Years

Last Rules Training . . . . . June 1987

Last Safety Training . . . . . June 1988

Last Physical Examination . . October 24, 1987

Circumstances Prior to the Accident

HOSA-22

On the day of the accident at 4:30 p.m., the crew of train No. HOSA-22, consisting of an engineer, conductor, head brakeman, and rear brakeman, went on duty at Settegast Yard in Houston, TX. The train, consisting of 3 locomotives and 56 cars, departed Settegast Yard at about 7:15 p.m. en route to Lloyd Yard in Spring, TX, a distance of 22.2 miles. The train arrived at Spring at approximately 7:50 p.m.

Lloyd Yard is a flat switching yard consisting, in part, of a west and an east yard. The north end of the west yard has two switching leads with the west lead connecting tracks No. 201, 202 and 203 and the east lead connecting track Nos. 204 through 207. The north end of the east yard consists of tracks Nos. 1 through 16 with one lead track that converges with the two leads of the west yard.

Train No. HOSA-22 entered track No. 203 at the south end of the west yard, and proceeded to the north end of the track. The train crew of HOSA-22 was aware that a local switcher, train No. LPA04-22, was working at the north end of west yard on the east lead track.

The rear brakeman departed the lead locomotive about five or six carlengths before the locomotives reached the north switch of track No. 203. He had instructions to make a cut between the

sixth and seventh car of his train and pickup of several cars on track No. 202. The front brakeman departed the locomotive and stood near switch No. 203 at the north end of the yard. The conductor departed the locomotive and went to the yard office for paperwork. The train continued to pull ahead about four miles per hour onto the west lead track. At this time the rear brakeman apparently stood between the rails of track No. 204, facing south, looking for the sixth car in his train and giving car lengths by radio to the engineer.

From the locomotive's position on the west lead, the engineer was unable to see the rear brakeman. He called the rear brakeman several times on the radio, did not get a response, and then stopped the train. The engineer then sent the front brakeman to look for the rear brakeman.

The area of the yard where the rear brakeman was working was dark and the weather was clear.

Local Switcher LPA04-22

At 6:30 p.m. on the day of the accident, the crew of LPA04-22, a local switcher, went on duty at Lloyd Yard. About 8 p.m., the local switcher was switching cars at the north end of west yard on the east lead to track Nos. 204 and 207. The locomotives of HOSA-22 were on the west lead that serves track Nos. 201 through 203. The two leads parallel each other at about a 45-degree angle from the yard tracks.

The engineer of LPA04-22 was operating the locomotive; the conductor was standing at the north switch of the crossover from the west lead to track No. 207; the front brakeman was at track No. 204's north switch; and the rear brakeman was in the east yard. The switcher had 30 cars and kicked the first six cars, of which SOU 531286 was the lead car, into No. 204; two cars into No. 207; and another 12 cars into 204, while holding onto 10 cars.

The Accident

The rear brakeman of train HOSA-22 was struck from behind by car SOU 531286. The victim was found face down in the middle of the track. The victim's cap and radio were found about 15 feet further south between the rails of track No. 204. The front brakeman arrived and picked up the radio, called for help, and began to administer CPR. An ambulance took the rear brakeman to Houston Northwest Medical Center, Houston, Texas, where he was pronounced dead on arrival.

Post-accident Investigation

The victim was found 165 feet inside the clearance point on track

No. 204. His lantern was located between Nos. 203 and 204. Track center measurements between Nos. 203 and 204 are 15-1/2 feet. The footing consists of both small and large ballast that provides a firm walkway.

Evidence indicates that SOU 531286, a loaded box car, was the car that struck the victim. Track 204 is welded rail and the cut of six cars were all roller bearing cars, which, when rolling, would produce little noise. In addition, train HOSA-22 was rolling by on Track 203, and the rear brakeman was occupied looking for the car where he was to make the cut.

Post-accident toxicological tests of the deceased were negative.

Applicable Rules

General Code of Operating Rules

General Rule K. Employees must expect the movement of trains, engines, cars, or other movable equipment at any time, on any track, in either direction.

REPORT: 19

RAILROAD: Central of Georgia Railroad Company (CGA)

LOCATION: Glenns, Georgia

DATE, TIME: October 7, 1988, 6:35 p.m.

PROBABLE CAUSE: Loss of footing while attempting to board a moving car.

A contributing factor was the performance of a switching move in a recognizable hazardous area.

EMPLOYEE:

Occupation	Switchman
Age	40 Years
Length of Service	11 Years
Last Rules Training	February 2, 1988
Last Safety Training	December 1985
Last Physical Examination	October 1977

Circumstances Prior to the Accident

On the day of the accident, after receiving the required off-duty period, a four-man switch crew consisting of a switch foreman, an engineer and two switchmen, went on duty at 3:59 p.m., in Columbus Yard, Columbus, GA. After performing switching duties in the yard, the crew was instructed to operate as Extra 5226-5042 northward to milepost R6. Milepost R6 is located 435 feet north of the north switch to the auxiliary track at Glenns. The crew departed Columbus Yard at 5:30 p.m., with two lite locomotives. At Columbus Packaging, located at milepost 5.1, the crew switched out DOCX 46532, an empty covered hopper car, spotted DOCX 44663 and placed the other cars back in the plant. DOCX 46532 was positioned on the south end of the locomotives. The train then moved northward toward Glenns, GA., with the intent of using the siding to run around the car to place it on the north end of the locomotives for the return move to Columbus.

At Glenns, located 5.8 miles north of Columbus Yard, the main track descends 1.2 percent to the south. A double-ended auxiliary track, 1708 feet in length, is located to the east and is parallel to the main track at Glenns.

The crew arrived at the south switch to the auxiliary track and

saw that there were no cars on the track. According to the foreman, the first switchman suggested that he get off at this point, remove the derail and walk up the track. The train moved to the north end of the siding to kick the car southward into the track. The first switchman planned to mount the moving car and stop it at the south end of the siding by setting the handbrake.

The first switchman dismounted and removed the derail and started walking toward the north. The other crewmembers moved to the north switch. The foreman dismounted and removed the derail on the north end of the track while the other switchman dismounted and lined the switch to the track. The foreman instructed the engineer to kick DOCX 46532 into the track. The second switchman uncoupled the car at a speed estimated by crewmembers to be between 2 and 6 mph. The handbrake was positioned on the west side of the south end of the car. The second switchman stated that he saw the first switchman walking toward them between the main track and the auxiliary track. After he uncoupled the car, the second switchman's view of the other switchman was obstructed by the car.

It was daylight and the weather was clear with a temperature of 65° F.

The Accident

The foreman stated that after removing the derail, he crossed over to the west side of the track, where he watched the first switchman as he walked on the slope between the main track and the auxiliary track until the slope became steep. The foreman stated that, from his vantage point of approximately 1100 feet away, he saw the switchman loose his footing on the slope. At that time he estimated that the car was about 25 feet from the switchman. The foreman ran toward the fallen crewmember. When he arrived, he saw that the car had run over the switchman. The fatally injured switchman died almost instantly at approximately 6:35 p.m.

Post-accident Investigation

The roadbed on the main track is on a fill with the slope extending from the shoulder of the main track roadbed, downward, to the edge of the ties of the auxiliary track.

In the accident area, the slope consists of rock ballast from the shoulder of the main track down to a point about one and one-half feet from the end of the crossties. At this point, the slope of loose subgrade material steepens to an angle of approximately 45° to the end of the crossties of the auxiliary track. The auxiliary track is 4 feet, 11 inches lower than the main track. The distance from the east rail of the main track to the west rail of the auxiliary track is 11 feet, 4 inches.

An inspection of car DOCX 46532 revealed no condition that could have contributed to the accident. The car is a center flow, pneumatic unloading type, covered hopper car designed to be unloaded through tubes connected to the bottom of the car. One tube is located inside each set of trucks and one near the center of the car. They extend at right angles to the car, out to about the edge of the truck sides. Each tube is covered with a cap. On the west side evidence of the accident was found on the cap of the center tube, and on the L-3 and L-4 wheels.

The grade of this track descends southward at 1.65 percent for 200 feet south of the north switch turnout, then descends at 0.73 percent southward to the point of accident and approximately 230 feet beyond. The grade then descends southward at 0.20 percent for 300 feet to the south switch.

The crew kicked the car into the auxiliary track from the north switch. Estimates of the speed of the car by crewmembers varied from 2 mph to 6 mph. After striking the switchman, the car rolled through the south auxiliary track onto the main track and was finally stopped approximately one mile south after a chase with the locomotive by surviving crewmembers.

Post-accident speed tests conducted by the carrier are deemed inconclusive because they did not adequately duplicate actual conditions.

Results of toxicological testing of the deceased employee were negative.

Applicable Rules

NORFOLK SOUTHERN CORPORATION

SAFETY
AND
GENERAL CONDUCT RULES

1071. Employees must not attempt to get on or off locomotives or cars moving over 6 MPH except in emergency.

REPORT: 20

RAILROAD: Burlington Northern Railroad Company (BN)

LOCATION: Loveland, Colorado

DATE, TIME: Oct. 17, 1988, 4:40 p.m.

PROBABLE CAUSE: A freight car, whose handbrake was released by a 9-year-old youth, traveled downgrade 1.61 miles and collided with an on-track hi-rail pick-up truck.

EMPLOYEE:

Occupation	Track Inspector
Age	35 Years
Length of Service	13 Years
Last Rules Training	Feb. 11, 1988
Last Safety Training	Sept. 16, 1988
Last Physical Examination	Jan. 21, 1985

Circumstances Prior to the Accident

BN Track Inspector

On the day of the accident at 7:30 a.m., a BN track inspector went on duty at Ft. Collins, CO, to inspect track and perform light maintenance, working westward on the railroad between Longmont and Wellington, CO. At about 4:35 p.m., the track inspector had stopped his on-track hi-rail pick-up truck to tighten track bolts at milepost 59.85, a distance of about 1.6 miles from the east end of Loveland siding. The track inspector used an engine-driven air compressor and impact wrench to tighten the track bolts at a rail joint. He was bent down over the rail working about five feet behind the tailgate of the truck.

Empty Covered Hopper Car

At about 12:30 a.m. on the previous day, an empty covered hopper car, BN 410254, was switched onto the east end of the BN's siding at Loveland, CO. BN 410254 was placed against the east end of two cars previously damaged in a derailment. No coupling was made because the east end of the adjacent damaged car had sustained coupler damage. The air brakes on BN 410254 were placed in emergency and the handbrake on the car was applied. It was intended that BN 410254 would act as a stop for a possible rollout of the two damaged cars. The railroad grade from the

location of the three cars at milepost 61.46 descends to the east for a distance of 1.6 miles at an average rate of 0.84 percent. This is a single main track not equipped with a signal system.

The weather was mild, clear, and windy with partly to variably cloudy skies. The temperature was about 71° F.

The Accident

At approximately 4:35 p.m., the handbrake on the empty covered hopper car was released by a 9-year-old youth. The car rolled eastward out of the Loveland siding through the siding switch that was lined and locked for the main track. The car continued to gain speed on the descending grade. At about 4:40 p.m., while traveling at a speed estimated at 40-50 mph, the hopper car struck the hi-rail vehicle. The impact drove the hi-rail vehicle eastward into the track inspector. Both the hi-rail vehicle and the freight car passed over the track inspector. He was pronounced dead at the scene by the Larimer County Coroner's Office.

Post-accident Investigation

Interviews with crewmembers indicated that when the empty covered hopper car was placed on the siding at about 12:30 a.m. on October 16, 1988, the handbrake and air brakes on the car were applied. The freight car's air brake released sometime during the following 40 hours, but the handbrake retained the freight car on the siding until the handbrake was released by the 9-year-old youth. After the handbrake was released, the empty covered hopper car immediately began to roll downgrade to the east. The youth then jumped from the moving car, which subsequently attained an estimated speed of 50 mph before striking the hi-rail pick-up truck. Information concerning the actions of the youth was developed by the City of Loveland Police Department. The age of the youth precluded further investigation by the Federal Railroad Administration.

Results of post-accident toxicological testing of the deceased by the Larimer County Coroner's Office during an autopsy were negative.

Applicable Rules

None.

REPORT: 21

RAILROAD: Metro North Commuter Railroad (MNCW)

LOCATION: New York, New York

DATE, TIME: October 25, 1988, 10:00 a.m.

PROBABLE CAUSE: The employee failed to maintain a firm footing or a secure handhold while riding on moving equipment.

EMPLOYEE:

Occupation	Track Foreman
Age	44 years
Length of Service	3 years, 5 months
Last Rules Training	September 16, 1988
Last Safety Training	October 25, 1988
Last Physical Examination	July 14, 1988

Circumstances Prior to the Accident

On the day of the accident at 8 a.m., a track foreman reported for duty at the track supervisor's office in Grand Central Terminal. He was assigned to supervise a crane operator and a trackman. Their job was to work with an on-track maintenance-of-way crane in Grand Central Terminal. They were to use the crane and a flat car to pick up and load a stock rail and a switch point on track No. 53, couple to a gondola, and move all three pieces of equipment to Mott Haven Yard in the Bronx. After reviewing the safety rule of the day with the supervisor, they left the office at 9:30 a.m. and proceeded to track No. 83 where the crane and flatcar were tied up.

The crane and the flat car moved from track No. 83 to track No. 53 without incident. After loading the required material, the crane and flat car were returned from track No. 53 to track No. 83 to couple to the gondola.

Moving north on Ladder M at 9:55 a.m., the crane was traveling with the boom facing south and the flat car was on the south end of the crane cab. The crane operator was in the crane cab on the east side, looking out of the rear window of the cab observing the track and signals ahead. The foreman was standing on a step attached to the south end of the cab, and the trackman was standing on the opposite side of the crane deck. The boom was in the trailing position located between the track foreman and the trackman.

The Accident

As the crane and flatcar moved northward on Ladder M, the crane operator glanced toward the trailing boom and noticed that the foreman was no longer standing on the cab step where he had been a few minutes before. The trackman felt the flatcar jump and immediately advised the crane operator to stop. The trackman walked around the flatcar and found the track foreman's body lying on the track under the flatcar.

The carrier's medical department responded and the foreman was pronounced dead at the scene.

Post-accident Investigation

The accident occurred at the beginning of a concrete crash wall located on the east side of Ladder M. The clearance between the side of the crane and the wall measured 10 inches. The foreman has worked within the terminal for the past several years, and was presumably familiar with the area.

The crane operator and the track laborer stated that they were travelling about 5 mph and there was no unusual movement of the crane or to the flat car prior to the accident. No exception was noted during a post-accident inspection of the crane and flat car. The track foreman was last observed standing on the cab step. The cab step is located outside and in front of the crane control compartment, 10 inches above the deck floor and approximately 26 inches to the end of the deck.

Results of toxicological testing of the deceased were negative.

Applicable Rules

Metro North Commuter Railroad

Safety Rules

Maintenance of Way Employees

Effective June 1, 1981

Self-Propelled Equipment

3300 Before starting movement or work the foreman, driver or operator must have a thorough understanding with each person riding on self-propelled or other equipment or machinery, car or trailer as to what duty each is to perform, and also assign seat location.

Stand on moving equipment that does not have seating arrangement only when authorized to do so by the foreman, driver or operator and the facility permits staying within the end and side limits, maintaining handholds, have unobstructed flat space for both feet, be clear of moving parts, controls and operator and it is otherwise safe to do so. Do not get on or off moving equipment.

REPORT: 22

RAILROAD: Northeast Illinois Railroad Corporation (NIRC)

LOCATION: Chicago, Illinois

DATE, TIME: November 20, 1988, 7:07 p.m.

PROBABLE CAUSE: Failure to remain clear of moving train.

A contributing factor was the carrier's failure to provide proper protection.

EMPLOYEE: Occupation . . . . . Signal Maintainer

Age. . . . . 41 years

Length of Service. . . . . 18 years, 5 months

Last Rules Training. . . . May 10, 1988

Last Safety Training . . . May 10, 1988

Last Physical Examination. December 11, 1981

Circumstances Prior to the Accident

Signal Maintainer and Maintenance-of-Way Gang

On the day of the accident a signal maintainer reported for duty at 7 a.m., at the Riverdale Station. He was assigned to follow a maintenance-of-way gang that was undercutting and surfacing track No. 2 between milepost 14.84 and 15.22. He was assigned to repair rail bond wires damaged by the surfacing equipment. The maintenance-of-way gang was provided protection from train movements by a Power Supervisor's Notice that was in effect between 9 a.m. and 3 p.m.

The maintenance-of-way gang worked past 3 p.m. and into the evening without receiving an extension of time from the Load Supervisor. The work was estimated to be completed by approximately 8 p.m. The Load Supervisor is responsible for issuing the Power Supervisor's Notice to train crews.

About 6 p.m., knowing that he would have been on duty for twelve hours at 7 p.m., the signal maintainer proceeded to the Kensington Control Tower where he notified the Load Supervisor that he was going off duty at 7 p.m., and arranged for a relief signal maintainer to complete the remaining repairs. The signal maintainer returned to the area where the maintenance-of-way gang was working and began installation of a junction box at the 39A crossover switch on track No. 2.

Train No. 817

At 6:05 p.m., the engineer of train No. 817 went on duty at Randolph Station after completing the required off-duty period. Train No. 817 is a regularly scheduled southbound commuter train that operates, with intermediate stops, between Chicago and Park Forest South, IL. After departing Randolph Street Station, train No. 817, consisting of two electric locomotives in multiple unit control, proceeded without incident to Kensington Station where it made a scheduled stop.

In the accident area, NIRC operates in either direction over three tracks that extend in a north-south direction. These tracks are used for commuter service between Chicago and the southern suburbs. From the west to the east, the tracks are designated as the Blue Island Lead and tracks No. 1 and 2.

It was dark with overcast skies; the temperature was about 37° F.

The Accident

Train No. 817 departed Kensington Station on track No. 2 at 7:05 p.m., one minute behind schedule. The Kensington Tower Operator used the No. 27 crossover to route the train to track No. 1. According to the engineer, after the train cleared the crossover, he observed a clear signal indication and increased the train's speed to 30 mph. The engineer's view of track No. 1 was clear. Lights on the track surfacing equipment were visible south of the bridge on track No. 2.

As the train closely approached, the signal maintainer stepped back between the rails of track No. 1. A track inspector, seeing the approaching train, attempted to get the signal maintainer's attention by signaling with his flashlight and yelling. The signal maintainer did not respond or move and was struck by the left front corner of the lead unit.

Emergency medical personnel and police were called to the scene. The victim was transported to Christ Community Hospital in Oak Lawn, IL., where he was pronounced dead at 8:05 p.m.

Post-accident Investigation

The engineer on Train No. 817, had read the Power Supervisor's Notice for Sunday, November 20, 1988, which indicated that the track department would be working on track No. 2 within the limits of Kensington Interlocking between milepost 14.84 and 15.22, and that track No. 1 and the Blue Island Lead would be occupied by Burro cranes and a work train that would clear for trains.

The Power Supervisor's Notice had expired when train No. 817 departed the Kensington Station. The work train and the Burro cranes had tied up and were in the clear. Track No. 2 was out of service and track No. 1 and the Blue Island Lead were clear. No General Order or Special Instruction was issued to extend the Power Supervisor's Notice or to notify trains that the maintenance-of-way gang on track No. 2 was working outside of the time frame specified by Special Instruction 10 G. The signal maintainer had gone off duty but remained at the work site to advise his relief of the remaining work to be performed.

Results of toxicological testing of the deceased and of the train crewmembers were negative.

Applicable Rules

Northeast Illinois Railroad Corporation
(Rules adopted from the predecessor company)

Illinois Central Railroad Company
Safety Rules

Rule 126. Employee must:

(a) Expect the movement of trains, locomotive, or cars at any time, on any track in either direction.

(b) Keep a sharp lookout in both directions for approaching equipment, when it is necessary to walk or work on track.

(c) Look in both directions to make sure that a locomotive, car or train is not approaching before stepping onto or crossing tracks.

. . . . .

Northeast Illinois Railroad Corporation
Electric District
Power Supervisor's Notice
Sunday, November 20, 1988

Item-B Track department will be working within Kensington Interlocking on Track No. 2 between milepost 14.84 and milepost 15.22 with an Undercutter, Tamper, Ballast Regulator and Work Train. In addition, two Burro Cranes will be assisting the Undercutter removing debris. The Burro Cranes will be occupying Track No. 1 and the Blue Island lead but will clear for trains. The Work Train will be unloading stone at various locations within Kensington

Interlocking and will also clear for trains. Track No. 2 will be out of service within Kensington Interlocking between milepost 14.84 and milepost 15.22.

Northeast Illinois Railroad Corporation
Electric District
Special Instructions

10 G. Alphabetically listed items on the Power Supervisor's Notice will be issued to provide protection for men and equipment which may occupy and/or foul a main track while working. Protection will be effective between 9 a.m. and 3 p.m., unless otherwise advertised.

. . .

Train on adjacent track will maintain lookout for and pass work parties at restricted speed unless verbal authority or hand signal given with a green flag is received from the employee in charge which will authorize resumption of maximum authorized speed.

REPORT: 23

RAILROAD: The Atchison, Topeka and Santa Fe Railway Company (ATSF)

LOCATION: City of Commerce, California

DATE, TIME: November 21, 1988, 6:48 a.m.

PROBABLE CAUSE: The employee failed to stand clear of oncoming train.

EMPLOYEE:

Occupation	Conductor
Age	51 years
Length of Service	31 years
Last Rules Training	September 10, 1988
Last Safety Training	No Record
Last Physical Examination	November 24, 1987

Circumstances Prior to the Accident

Extra 3811 West

On the day of the accident, an ATSF crew, consisting of a conductor, engineer, front brakeman, and rear brakeman went on duty at 3:40 a.m. in San Bernardino, CA, after proper off duty periods. The crew was assigned to operate Extra 3811 West from San Bernardino to Hobart Yard, located in the City of Commerce. The train, consisting of 4 locomotives and 57 cars, departed San Bernardino at 4 a.m.

The train arrived at Hobart Yard at 6:10 a.m. As the train entered into the Middle Main track, the conductor and rear brakeman got off of the locomotive to advise the engineer by radio when the rear of the train was clear of the switches. After the train was clear of the switches, the conductor and rear brakeman were transported by carrier vehicle toward the front of the train to assist in switching operations.

The rear brakeman got out of the vehicle near the Long Beach Freeway overpass. He was equipped with a portable radio. The conductor was transported further east and got out of the vehicle near the Atlantic Avenue underpass. The conductor did not have a portable radio.

Amtrak Train No. 70

On the day of the accident, the conductor of Amtrak train No. 70 went on duty at 5:35 a.m., and a rear brakeman went on duty at 6:15 a.m., at Los Angeles, CA, Union Passenger Station. They were assigned to operate Amtrak passenger train No. 70 from Los Angeles to San Diego, CA. The engineer scheduled to operate Amtrak passenger train No. 70 did not report for duty; therefore, Amtrak officials instructed another engineer to operate Amtrak No. 70. The crewmembers had received a legal off-duty period prior to this assignment.

The train departed at 6:33 a.m., traveling east on the ATSF main track. The engineer was alone in the cab of locomotive ATK 220, controlling the five-car passenger train.

In the accident area at Hobart Yard, there are three main and two yard tracks. From the south, the tracks are known as the South Main, Middle Main, North Main, Set Out, and Yard Lead. Extra 3811 West was stopped on the Middle Main. The accident occurred on the North Main.

As the Amtrak train approached the accident area, it was being operated at maximum authorized speed of 79 mph in accordance with signal indications of a traffic control system. The engineer stated that he observed cars on the Middle Main track on his right and cars on yard tracks on his left. He was sounding the locomotive horn with the locomotive bell ringing.

The sun was rising, the sky was clear and calm.

The Accident

At 6:48 a.m., as Amtrak train No. 70 approached the Long Beach Freeway overpass, the engineer observed the conductor walking east between the Middle Main and the North Main tracks. The conductor was walking with his back to the approaching train. The Amtrak engineer began to sound the locomotive horn more frequently, and the conductor seemed to turn and look at the approaching train. However, he did not move out of the way and continued walking east with his back to the approaching train.

The engineer, realizing that putting the train brakes into emergency would not prevent the train from striking the conductor, made a full service brake application and brought the train to a stop. The right front of the locomotive's snowplow struck the conductor, and the train came to a stop about 1,584 feet beyond the point of impact. The conductor was pronounced dead at the scene by the deputy coroner.

Post-accident Investigation

The position of the conductor after the accident, marks on the passenger locomotive, and the cars standing on the Middle Main track were used to reconstruct the accident. It could not be determined why the conductor was walking in the walkway between the middle main track and the north main track. It also could not be determined why he did not stand clear of the approaching train.

According to the Amtrak engineer, the train had received a proper air brake test prior to departing the station, and a running air brake test was performed soon after departing. The engineer stated that he did not experience any problems with the operation of the train, including the air brake system. The brake system on Amtrak No. 70, including locomotive ATK No. 220, was inspected and tested by Amtrak personnel after the accident and found to be in proper operating condition. The horn, bell and headlight on the locomotive were also inspected, tested, and found to be in proper operating condition.

Results of toxicological testing of the deceased and of both train crews, ATSF and Amtrak, were negative.

Applicable Rules

GENERAL CODE OF OPERATING RULES

ATCHISON, TOPEKA AND SANTA FE RY. CO.

Effective October 28, 1985

GENERAL RULES

I. Employees must exercise care to prevent injury to themselves or others. They must be alert and attentive at all times when performing their duties and plan their work to avoid injury.

K. Employees must expect the movement of trains, engines, cars or other movable equipment at any time, on any track, in either direction.

Employees must not stand on the track in front of an approaching engine, car or other moving equipment.

* * * * *

REPORT: 24

RAILROAD: Central of Georgia Railroad (CGA)

LOCATION: Wrightsville, Georgia

DATE, TIME: November 28, 1988, 3:00 p.m.

PROBABLE CAUSE: Failure to fasten boom safety chains resulting in a maintenance-of-way equipment derailment.

EMPLOYEE:

Occupation	Machine Operator
Age.	31
Length of Service	11 Years
Last Rules Training	None
Last Safety Training.	November 28, 1988
Last Physical Examination . .	September 11, 1985

Circumstances Prior To The Accident

A seven-man track maintenance gang reported for duty at 8:00 a.m. in Tennille, GA, on the day of the accident. The gang, consisting of a foreman, five trackmen, and a machine operator, was assigned the task of replacing defective rails on the WT-LINE of the Central of Georgia Railroad, Coastal Division. The gang left Tennille, GA, by truck and drove to Dublin, GA, where a Kershaw Rail Changer Machine (RCM-8303) and replacement rail were located.

The rail changer was built by Kershaw Corporation to the specifications of the railroad company. A 25-foot boom with a winch was mounted on the rear of the frame at a 25-degree angle to the horizontal. Safety chains are used to stabilize the boom and prevent it from swinging while the machine is traveling between work locations. Two rail carts, each 7-feet long and used for carrying rail, trail behind the machine and are coupled with two drawbars several feet in length. The drawbars are fastened to the machine and carts with a 6-inch long, 1-inch diameter bolt. Both 2,170-pound rail carts are equipped with air brakes on all wheels. The 21,370 pound rail changer is propelled by use of hydrostatic drive, and is equipped with air brakes on all four wheels.

By 2:45 p.m. the gang had replaced eight defective rails between Dublin and Wrightsville, GA. The foreman and trackmen went ahead in the truck to prepare the next work site for rail replacement.

The machine operator proceeded north alone on the machine, which was pulling the two rail carts loaded with 11 rails, each 39 feet in length, with a total weight of 11,440 pounds.

In the accident area, the track is tangent and the grade descends one percent approaching an open deck timber trestle.

The weather was clear with a temperature of 56° F.

The Accident

At 3 p.m., the machine operator was proceeding north out of Wrightsville at an estimated speed of over 20 mph approaching the trestle. The trestle had a speed restriction of 10 mph. The front wheels of the machine derailed toward the left, or west, side of the track 14 feet onto the trestle.

After traveling nine feet, the rear wheels of the machine and the first rail cart derailed. The left wheels of the machine climbed the wooden wheel guards on the west side of the deck 32 feet north of the point of derailment.

The machine then travelled an additional 57 feet to the point where it fell off the trestle.

The operator either fell or jumped from the machine 10 feet before it fell off the trestle. He landed between the rails and was hit by the first rail cart and dragged 29 feet farther. At 3:30 p.m. the foreman and trackmen found the body lying between the rails under the first rail cart.

Post-accident Investigation

After retrieving the rail changer from the creek, an inspection indicated the air brakes had not been engaged. The key was in the ignition in the on position. The throttle was in idle position. The boom was in working position, without the safety chains connected for stability while traveling. The wheel marks on the bridge ties, in the last 10 feet before the operator dismounted, showed signs that the machine had been put in reverse.

At the point of derailment, the first marks made by wheel flanges on the ties are five inches west of the rails. After derailing, the machine ran 89 feet before it fell off the trestle, after climbing the wooden wheel guards. After the machine fell off the trestle, it went an additional 25 feet north, hitting a bridge cap midway, before landing in the creek. The rigid coupler broke, in front of the first rail cart, allowing the carts to remain on the bridge. The rail fell from the rail carts and landed in the creek north of the machine.

Test runs of the machine, conducted in Macon, GA, on December 1, 1988, were performed on a track with similar grade, surface, and alignment. The tests were run at speeds of up to 20.8 mph. At 20.8 mph the boom moves vertically 3 to 4 inches and laterally 8 to 10 inches without the safety chains connected. This movement causes a noticeable lifting movement of the front end of the machine. The test results and marks at the accident site indicate speed in excess of 20 mph.

Applicable Rules

None.

REPORT: 25

RAILROAD: CSX Transportation, Incorporated (CSX)

LOCATION: Hialeah, Florida

DATE, TIME: November 29, 1988, 11:10 a.m.

PROBABLE CAUSE: Attempting to close an angle cock on moving equipment.

EMPLOYEE:

Occupation	Yard Conductor
Age	42 years
Length of Service	20 years
Last Rules Training	October 12, 1988
Last Physical Examination	March 24, 1986

Circumstances Prior to the Accident

On the day of the accident, a yard crew, consisting of a conductor, engineer, and two brakemen, reported for duty at 7:59 a.m. in Hialeah Yard at Hialeah, FL, after receiving proper off duty periods. Hialeah Yard consists of 18 parallel tracks extending north and south. The grade is practically level.

About 10:50 a.m., the yardmaster gave the conductor a switch list of track No. 3 and requested him to cut out three bad order cars, then put the remaining cars back in track No. 3. Working at the south end of the yard, the crew removed two of the three bad order cars from track No. 3, switching with air in the brake system. They kicked a cut of cars northward back into track No. 3 to uncover the third bad order car. However, the cut failed to clear the ladder track, so they again coupled to the cut. After making the coupling, the conductor and brakeman reconnected the air brake system, and the conductor instructed the engineer to shove northward.

The weather was clear with a temperature of 72° F.

The Accident

As the movement proceeded northward, the conductor told the brakeman to prepare to uncouple from the cut of cars being shoved into the clear. The brakeman asked the conductor if he had remembered to close the angle cock at the south end of the bad order car, and the conductor replied, "I got it." At that time, the conductor was located one car south of the brakeman. The brakeman glanced southward and saw the conductor struggling

between the bad order car and a hopper car trying to grab hold of something to prevent being run over. The brakeman immediately told the engineer by radio to stop the movement. The conductor fell and the lead truck of the hopper car passed over him. The brakeman ran to assist the conductor and found his body lying face down on top of the frog for track No. 3. The conductor was pronounced dead at the scene by the Dade County Coroner.

Post-accident Investigation

Eyewitnesses saw the conductor between the moving cars. Examination of the car after the accident revealed that the angle cock was open. Therefore, it is believed that the conductor was between the moving cars attempting to close the angle cock when he fell.

Results of toxicological testing of the deceased and surviving crewmembers were negative.

Applicable Rules

CSX TRANSPORTATION SAFETY HANDBOOK

Rule 856 - When uncoupling moving equipment, the following procedure which is called "kicking cars" will be used.

a. Cars with air in the brake system:

(1) Stop the movement.

(2) Wait for the movement to come to a complete stop and for the slack to adjust and settle (do not overlook unexpected movements resulting from liquids sloshing in tank cars and from expansion of cushion underframe devices).

. . .

(4) Firmly close both angle cocks at point where separation is to be made.

(5) Step clear of the equipment and give the Engineer a signal to move the cars.

REPORT: 26

RAILROAD: Consolidated Rail Corporation

LOCATION: Mattawana, PA

DATE, TIME: December 1, 1988, 1:45 a.m.

PROBABLE CAUSE: Failure of employee to clear main track for an approaching train.

EMPLOYEE: Occupation. . . . . Signal Inspector

Age . . . . . 66 years

Length of Service . . . . . 46 years

Last Rules Training . . . . . April 4, 1988

Last Safety Training. . . . . July 22, 1988

Last Physical Examination . . October 26, 1988

Circumstances Prior to the Accident

Signal Inspector

On the day of the accident, after the required off-duty period, a signal inspector reported for duty at 7:30 a.m., at Huntington, PA. The signal inspector was working on his November signal reports. At about 11:42 a.m. the signal inspector received a call to report to a highway/rail grade crossing in Mattawana, PA, to repair a crossing gate. At 12:15 p.m. an Assistant Supervisor, Communications and Signals, was notified of the broken crossing gate and proceeded to the location to assist in the repair. The assistant supervisor arrived at the crossing at about 1 p.m. and a signal maintainer arrived at the crossing at about 1:30 p.m. The signal inspector arrived at the crossing about 1:40 p.m.

The highway/rail grade crossing device consists of standard flashers with gates, and protects a crossing-at-grade of State Highway 103 with two main tracks. The highway runs north and south and the two main tracks east and west. From the south, two tracks are numbered No. 1 main track and No. 2 main track. In the crossing area, the track centers are 24 feet, 6 inches. The tracks have a curvature of 2 degrees, 7 minutes to the right for eastbound train movements. The sight distance for train crewmembers is 1250 feet. The highway crossing is 33 feet wide.

The assistant supervisor and signal maintainer had lowered the gate in the northwest quadrant of the crossing and began to remove the broken pieces of the arm. After the signal inspector arrived, he stated that he would flag the crossing and went to his automobile to get his vest and red flag from the trunk. The automobile was parked between No. 1 and No. 2 main tracks, west of the highway grade crossing. After retrieving the items, the signal inspector then walked east and north toward the broken gate as a train approached.

Train TV-2

The crew of TV-2 went on duty at 6:45 a.m. at Conway, PA, after being off duty for 13 hours, 20 minutes. Conrail train TV-2 consisted of three locomotives, and 60 loaded cars. The engineer was seated on the right or south side of controlling locomotive CR 5056 and the brakeman was seated in the front seat, left or north side. The conductor was seated on the north side of the second locomotive.

The weather was daylight, clear and 40° F.

The Accident

Train TV-2 approached the Mattawana highway/rail grade crossing at about 1:45 p.m. eastbound on No. 2 main track at 59 mph according to the speed tapes removed from the locomotives.

The engineer was sounding the horn, the bell was ringing and the headlight was on bright. The signal inspector stood on the north side of the crossing near the north rail of No. 2 main track with his back toward the train. The engineer placed the train brakes into an emergency application when he realized that the signal inspector was not going to walk clear of No. 2 main track.

The signal inspector was struck by the left front of the lead locomotive, CR 5056, of train TV-2. He was pronounced dead at the scene by the Mifflin County Coroner.

Post-accident Investigation

According to another signal maintainer who ate lunch with the signal inspector, the signal inspector appeared normal.

The witnesses to the accident (engineer, brakeman, assistant supervisor, and signal maintainer) all stated that the victim had his back to the train and never made any attempt to get clear of No. 2 main track. According to four witnesses, the victim apparently believed train TV-2 was on No. 1 main track.

Results of toxicological testing of the deceased and crewmembers of the train TV-2 were negative.

Applicable Rules

Consolidated Rail Corporation

Maintenance-of-Way Employees

3035 - Expect equipment to move on track, in either direction at anytime. Therefore, employees must look in both directions before:

(a) Fouling or crossing track.

3215 - On receiving warning or knowing of approach of a train, all men must clear tracks at least 15 seconds before train reaches point of work, discontinue all activity and remain clear until receiving signal from the watchman (or foreman when watchman is not required) to resume work, unless under the following circumstances and provided the action specified is taken:

. . .

(b) Main Track
1) Upon the approach of train on any main track, clear the train-occupied track and the near adjacent track, preferably clear all main tracks. When not clear of all main tracks, stand erect and maintain sufficient lookout for trains in both directions to see on which tracks other trains approach, in order to clear tracks if necessary, to prevent being trapped.

. . . . .

REPORT: 27

RAILROAD: CSX Transportation, Incorporated (CSX)

LOCATION: Wildwood, Florida

DATE, TIME: December 16, 1988, 12:10 p.m.

PROBABLE CAUSE: The conductor failed to assure that cars would not move prior to going between the rails at the north end of the car.

EMPLOYEE: Occupation . . . . . Conductor

Age . . . . . 54 years

Length of Service . . . . . 35 years

Last Rules Training . . . . . December 2, 1988

Last Physical Examination . . February 24, 1986

Circumstances Prior to the Accident

After proper off duty periods, the assigned engineer, conductor, and brakeman of the train No. S-822 reported for duty at 10 a.m., at Wildwood, FL. The flagman, an extra man, had received a late call and reported late.

The Wildwood East Yard is comprised of six parallel tracks extending north and south and numbered 1 through 6 from west to east. The grade is practically level.

The crew performed routine switching duties and interchanged cars with the Florida Midland Railroad until shortly before noon. The crew was working at the south end of the yard and pulled a cut of cars southward from track No. 3 to begin making up their nine-car southbound train on track No. 6. First, in order, cars were kicked northward to track Nos. 5, 3 and 4, and then four empty wood rack cars were kicked to track No. 6.

The brakeman then noticed the conductor, who was not actively engaged in the switching operation, walking northward between track Nos. 5 and 6 with a red flag that was to be used as the rear end marker. The conductor usually installed the marker and the brakeman presumed the conductor was on his way to put it in the knuckle at the north end of the last wood rack car, SBD 403963, on track
No. 6.

The Accident

Other switching moves were made, then four loaded covered hopper cars were kicked northward onto track No. 6. The coupling did not make and the four wood rack cars started to move slowly northward. The brakeman directed the engineer to move onto track No. 5, but stopped the move when he saw the four covered hopper cars rolling southward out of track No. 6. He went to secure the cars and told the flagman to pick up the car on track No. 5 and come against the cars on track No. 6. As the locomotive was about to couple to the car on track No. 5, the flagman saw the body of the conductor lying between the rails of track No. 6. He had been run over by the four wood rack cars.

Post-accident Investigation

There were no eyewitnesses to the accident. A red flag was found wedged in the knuckle hole at the north end of SBD 403963, the north car on track No. 6, indicating the conductor was at the north end of the car when the four loaded covered hopper cars were kicked onto the track. The engineer estimated the speed of the cars to be between 3 mph and 5 mph.

Investigation revealed that when the coupling between the four covered hopper cars and the four wood rack cars failed to make, the wood rack cars rolled northward about 1,140 feet. Radios were used to perform the switching and all crewmembers had operative radios. However, there was no communication with the conductor for several minutes prior to the four loaded covered hoppers being kicked onto track No. 6.

Results of toxicological testing of the deceased and surviving crewmembers were negative.

Applicable Rules

CSX Transportation Operating Rules

P. Employees must expect the movement of trains, cars or equipment on any track, at any time, in either direction.

CSX Transportation Safety Handbook

810. Employees must expect the movement of trains, cars or equipment on any track, at any time, in either direction.

811. When required to be on or around tracks, employees must be alert and must keep out of danger. They must remain off and clear of the track structure at all times, unless required to be there in the

performance of their work. Employees must look in both directions before stepping on or getting close to any track.