RAILROAD EMPLOYEE FATALITIES INVESTIGATED BY THE FEDERAL RAILROAD ADMINISTRATION IN 1979

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION
OFFICE OF SAFETY

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INTRODUCTION

This report represents the Federal Railroad Administration's findings in the investigation of railroad employee fatalities during 1979. Not included herein are fatalities which occurred during train operation accidents, which are reported under another type of investigation.

The purpose of this report is to direct public attention to the hazards inherent in day-to-day operations of railroads. It provides information in support of the overall Federal program to promote the safety of railroad employees. It also furthers the cause of safety by supplying all interested parties information which will help prevent recurrent accidents.

Joseph W. Walsh
Chairman
Railroad Safety Board

CAUSE DIGEST

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SUMMARY OF ACCIDENTS INVESTIGATED
INVOLVING ONE OR MORE FATALITIES

RAILROAD	ACCIDENTS
AGS	1
AMTRAK	1
ATSF	4
BN	4
BO	1
CGA	1
CNW	8
CO	3
CR	7
DRGW	2
DWP	1
EJE	2
ICG	7
LI	1
LN	3
MILW	1
MKT	1
MP	3
NW	5
NWP	1
PBR	1
PTRA	1
RFP	1
SCL	2
SLSF	2
SOO	2
SOU	1
SP	1
SSW	1
UP	6
	Total 75

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REPORT: 1

RAILROAD: Chesapeake and Ohio Railway Company

LOCATION: Howell, Michigan

DATE: January 3, 1979

The Accident

A 55-year-old work equipment engineer was fatally injured in a highway accident near Howell, Michigan on January 3, 1979. Employed by the Chesapeake and Ohio Railway (C&O), the work equipment engineer had 23 years of experience. The weather was dry and cloudy.

Background

The work equipment engineer was first employed by the C&O in August 1955 in the Maintenance of Way Department. He was promoted to equipment supervisor in March 1970 and promoted to the position of work equipment engineer in June 1975.

Circumstances of the Accident

The work equipment engineer was operating an eastbound C&O motor vehicle on Michigan State Highway 59 near Howell. At about 4:40 p.m., the vehicle crossed the center line of the highway and struck a westbound mail package truck head-on. The collision resulted in the death of the work equipment engineer at the accident site.

Applicable Rules

Not applicable.

Analysis

Not applicable.

Cause

Death resulted from acute traumatic hemorrage and shock caused by injuries sustained in the vehicle collision.

REPORT: 2

RAILROAD: Consolidated Rail Corporation

LOCATION: Harrisburg, Pennsylvania

DATE: January 4, 1979

The Accident

A 54-year-old utility yard brakeman was fatally injured when run over by two freight cars on January 4, 1979 at about 3:15 a.m. in Rutherford Yard in Harrisburg, Pennsylvania. Employed by the Consolidated Rail Corporation (Conrail), the brakeman had 22 years of service. The weather was clear and cold.

Background

The accident occurred on track No. 10 of the eastbound hump classification yard. There are 33 east-west tracks in the yard, numbered 1 through 33 consecutively from the north. Cars are classified in an eastward direction over the hump with the car speed controlled by a master retarder and a final retarder. Switches on the hump, the west end of the classification yard, and the retarders are electro-pneumatically operated from a control station located in a tower on the north side of the hump's east slope. Each track is equipped with inert retarders at the east end.

The Reading Division of Conrail was operating under Reading Company rules and instructions. Records indicate that the brakeman was last examined on the operating rules on March 12, 1963. His last physical examination was held on April 11, 1975. Although the carrier issues a safety rule book to each employee and conducts periodic safety meetings, attendance is not mandatory. Carrier records did not indicate when the brakeman last attended a safety meeting.

Circumstances of the Accident

The east hump-yard crew consisted of an engineer, a conductor, a front brakeman, a rear brakeman, and two utility field brakemen. They reported for duty at 11:00 p.m. on January 3, 1979. The crew had the required off-duty period and had performed hump switching service without incident.

At about 3:00 a.m., the hump conductor instructed the hump-yard crew to pull three cars westward off the west end of track No. 7 to be switched eastward into track No. 10, a clear track, then to assemble the cars on track No. 9.

Another yard crew was to pull 18 cars from track No. 2 to be classified over the hump. Two of these cars were to be switched into track No. 10. One of the utility field brakemen was assigned to apply hand brakes on the cars on track No. 10 and then assist in assembling the cars on track No. 9. The brakeman was advised via intercom by the hump conductor that three cars would be humped into track No. 10, followed by a cut of two cars. He was told to watch for the coupling. The brakeman acknowledged his receipt and understanding of the instructions. Both cuts of cars were announced over a loudspeaker system when they left the apex of the hump.

When the engineer and the brakemen completed the assembly of cars on track No. 9, the front brakeman discovered a lighted hand lantern and a knit cap on the brake step of a gondola car, the east car on track No. 10. He did not see the utility brakeman who was assisting on track No. 9 and walked westward along the south side of track No. 10. He found the utility brakeman lying across the south rail of track No. 10. The utility brakeman was pronounced dead at the scene.

Applicable Rules

320. Employes must avoid standing or walking on the tracks except when necessary in the performance of duty. They will at all times look out for trains or equipment in either direction. Walking or running on track ahead of moving engine or car is prohibited.

906. Employes must take proper stance, obtain firm foot-hold on brake step, maintain secure hand-hold, and guard against slipping or falling from any cause while operating hand brakes.

(Reading Company Safety Rules for the Guidance of all Employes)

Analysis

Post-accident investigators found that the vertical wheel geared-type hand brake on the east end of the east car on track No. 10 was partially applied. The lighted hand lantern and the knit cap on the brake step indicated that the brakeman had started to apply the hand brake on the east end of the east car of a standing three-car cut. He was standing in the gage of track, slightly toward the south rail and the second cut of two loaded cars was coupled to the west end of the standing cars. As a result of this coupling, the east car struck the brakeman and knocked him to the ground. The east truck of the east car passed over him and his clothing caught on the west truck. He was dragged about 60 feet. He apparently attempted to crawl over the south rail between the two east cars and was run over by the east truck of the second car.

There was no evidence of equipment defects or ground conditions which caused or contributed to this accident; there was no evidence of excessive coupling speed.

Cause

The employee stood in the gage of track while attempting to apply a hand brake in front of equipment which was subject to movement.

REPORT: 3

RAILROAD: Central of Georgia Railroad Company

LOCATION: Griffin, Georgia

DATE: January 10, 1979

The Accident

A 27-year-old conductor was killed when caught between two moving freight cars on January 10, 1979 at about 12:05 a.m., in the freight yard at Griffin, Georgia. Employed by the Central of Georgia Railroad Company, the conductor had 3-1/2 years service; one month of this service was as a conductor. The weather was clear and cold.

Background

In the accident area the railroad consists of two main tracks designated from the east as the northward main track and the southward main track. The southward track will be referred to as "main track". Five yard tracks extend north and south parallel to the main track on the west. These tracks are connected at the south end to a lead track which extends southward to a crossover. The crossover connects the lead track to the main track. Its north switch is located on the lead track at a point 11 feet south of the south switch of the yard track immediately west of the main track. The grade in the accident area is 0.75 percent descending southward. The accident occurred at the clearance point between the main track and the crossover.

The yard crew consisted of a conductor, a helper, and an engineer. They went on duty at Griffin at 10:00 p.m. the day before the accident, after having been off duty for the prescribed length of time.

The conductor was given verbal instructions on operating rules on December 16, 1978 when he accepted the conductor's assignment at Griffin. The carrier had made efficiency checks of the crew's performance on several occasions during 1978.

Circumstances of the Accident

During switching operations the yard crew permitted one gondola car (SOU 956721) to roll free, northward, on the main track. The car stopped north of the crossover and remained standing. Its hand brake was not applied and it was not otherwise restrained against movement. The crew later coupled its locomotive to the south end of a consist of 15 cars and began a movement

southward through the crossover. Crew members soon observed the gondola car moving slowly southward. The consist was stopped before clearing the crossover and the moving gondola car struck and stopped against the southeast corner of SOU 550235, the 14th car north of the locomotive.

After an unsuccessful attempt to move the gondola car northward and free of SOU 550235, the latter car and the car to its north were uncoupled from the consist and left standing on the crossover without the hand brakes applied. They were not otherwise restrained against movement. The locomotive and the remaining 13 cars were moved to the main track, coupler knuckles at the south end of the gondola car and at the north end of the lead car of the consist were closed, and the consist was brought into contact with the standing gondola car. The conductor instructed the engineer by radio to move the consist a short distance northward and stop. This procedure successfully separated the gondola car from SOU 550235. However, the former car rolled a short distance northward, stopped, and began to roll southward. The conductor attempted to stop the gondola car with a 2"x4" wood chock, but was unsuccessful and the car again stopped against SOU 550235. It was decided to repeat the procedure which successfully separated the cars, but in the second attempt the helper was to try and stop the gondola car by chocking it from the east side.

Immediately prior to the accident, the conductor stood between the main track and the crossover, south of the point of contact between the gondola car and SOU 550235. As the second northward movement began, the conductor bent over to retrieve the chock and throw it to the helper. As the gondola car was separated from SOU SOU 550235, that car and the car to its north began to roll southward on the crossover. The conductor was apparently unaware of the cars' movements and the diminishing clearance between these cars and those on the main track. The conductor then stood up and his head was crushed between the southeast corner of SOU 550235 and the northwest corner of SOU 505791.

Applicable Rules

M. . . .

Employees must not do any work in a manner that will jeopardize their own safety, . . .

103(e) Cars or engines left standing on tracks must be properly secured, . . .

(Southern Railway System Operating Rules)

Analysis

Post-accident testing of the gondola cars' hand brakes showed that they were functioning as intended. At the time of the accident, hand brakes had not been applied on any of the cars.

Cause

The conductor moved into a dangerous position during switching operations. A contributing cause was the failure to secure hand brakes on the cars.

REPORT: 4

RAILROAD: Union Pacific Railroad Company

LOCATION: Rox, Nevada

DATE: January 16, 1979

The Accident

A 54-year-old maintenance-of-way machinist was fatally injured by an on-track tie-bed scarifying machine on January 16, 1979 at about 10:30 a.m., two miles east of Rox, Nevada. Employed by the Union Pacific Railroad Company, the machinist had 11 months of service. The weather was clear.

Background

On the day of the accident, track crews were renewing ties using an on-track scarifier. The machine scarifies the tie-bed to allow uniform load distribution and let surface water drain from the ties. The scarifying teeth were attached to a "digging drum" that is hydraulically raised and lowered by gravity. The "digging drum" was in a non-operating position with the safety lock pins in the locked position. A separate double-acting, hydraulically-operated mechanism, the "under-rail dozer" is designed to break up solidified ballast under the rail. The "under-rail dozer" is activated by a control lever with the neutral position in the center; a forward or backward movement raises or lowers the dozer assembly. The manufacturer advised that this was a 1965-model scarifier, factory equipped with a positive locking device, capable of holding the dozer assembly in a non-operating position when the control lever is moved to energize the system. The machine was also equipped with a winch and cable used for inserting ties. The scarifier weighs approximately 9,500 pounds. The maximum pressure developed in the hydraulic lines used to control the "under-rail dozer" is 2,500 psi.

Circumstances of the Accident

Prior to the accident, the machine was used to insert ties. The cable between the winch and tie failed. The scarifier operator stopped the machine, raised the "digging drum" and the "under-rail dozer" to a non-operating position and left the machine with the engine idling. He then summoned a machinist. The machinist

crawled under the scarifier and was lying on his back directly under the "under-rail dozer" to make repairs to the cable. The machinist directed the scarifier operator to assist him in making repairs to the cable from the operator's station on the scarifier. While positioning himself to assist the machinist, the operator accidentally energized the "under-rail dozer" control lever. The dozer assembly was forced downward onto the machinist's chest. The machinist sustained a traumatic laceration of the subclavian artery and vein.

Applicable Rules

2005. Before a machine is left unattended, or work performed on the machine, operator must lower or securely support working head, suspended load, bucket or blade. Hand brakes must be set, wheels securely blocked and engine stopped when practicable.

2008. The operator must have a definite understanding with employes working with his machine that machine will not be moved until employes have been warned and are in the clear.

Adjustments, oiling or servicing of machines must not be performed while machine is operating or moving.

(Union Pacific Railroad Company, Maintenance-of-Way and Signal Rules)

Analysis

The machinist was under the machine to make repairs to the cable used for inserting ties while the machine operator was preparing to assist him from the operator's control station. The engine of the scarifier was idling. When the control lever was accidentally moved, the dozer assembly crushed the machinist.

Cause

The machinist placed himself beneath the scarifying machine before the "under-rail dozer" was lowered or securely supported.

REPORT: 5

RAILROAD: Seaboard Coast Line Railroad

LOCATION: West Frostproof, Florida

DATE: January 17, 1979

The Accident

A 63-year-old engineer was fatally injured when freight train No. 196 struck a tractor-trailer truck at a rail-highway crossing near West Frostproof, Florida on January 17, 1979 at about 11:20 a.m. Employed by the Seaboard Coast Line Railroad the engineer had 36 years of service. The fireman, head brakeman, and truck driver were seriously injured. The weather was clear.

Background

The accident occurred 85.5 miles south of Wildwood, Florida where a single main track intersects U.S. Highway No. 98 at grade. Trains operate by signal indications of a traffic control system over part of the Jacksonville Division (Miami Subdivision) which extends from Miami to Wildwood, Florida, a distance of about 278 miles.

U.S. Highway No. 98 is a two-lane highway and properly marked with advance railroad crossing signs and pavement markings. In addition, the rail-highway crossing area is protected with crossing signal flashing lights on either side of the track.

Circumstances of the Accident

The train crew reported for duty at Hialeah, Florida and departed northward at approximately 5:20 a.m. with three diesel locomotive units, 59 cars and a caboose. En route they set off 13 cars and picked up 54 cars; there was a total of 104 units at the time of the collision. Near West Palm Beach, the fireman took over the operation of the locomotive. The fireman was a promoted engineer and the engineer occupied the fireman's seat. The front brakeman was also seated in the operating cab, and the rear brakeman and conductor were in the caboose. The train proceeded from West Palm Beach without incident to the accident site. As the train approached the crossing it was traveling at approximately 50 m.p.h., the headlight was lighted, the bell was ringing, and the engine whistle was sounding for the approaching crossing, the engineman observed a tractor-trailer truck approaching from the west. He realized the tractor-trailer truck was not going to stop

and immediately applied the train's brakes in emergency. The speed of the train was not materially reduced before the train entered the crossing and struck the tractor-trailer truck. As a result of the collision, the train's leading locomotive unit derailed and overturned.

The tractor-trailer traveling eastward at approximately 50 m.p.h. entered the rail-highway crossing and was struck by the train on the passenger side.

Applicable Rules

17. The headlight will be displayed on the front of every train by day and by night, . . .

30. . . . the engine bell must be rung when an engine is about to move; also, beginning at whistle post and continuing until engine passes over public crossing at grade . . .

972. Enginemen, when reaching standard whistle post, will sound Signal 14-(1), beginning at whistle post and continuing until engine car passes over crossing. Approaching street and highway crossings, enginemen will maintain a constant and vigilant lookout for vehicular and pedestrian traffic.

(Seaboard Coast Line Railroad Company Operating Rules)

316.1575. Obedience to signal indicating approach of train - in part: . . . (the driver) shall stop within 50 feet but not less than 15 feet from the nearest rail of such railroad and shall not proceed until he can do so safely.

(State of Florida Uniform Traffic Control Law)

Analysis

The driver of the tractor-trailer truck realized that he could not stop and decided to cross in front of the train. He was cited by the Florida Highway Patrol for failure to yield to the train at the crossing.

Witnesses stated that the crossing signal lights were flashing, the locomotive's headlight was lighted, and the bell and whistle were sounding. The train was being operated in accordance with the carrier's applicable rules.

Cause

Failure of the motor-vehicle operator to stop and remain stopped at the crossing as required by the Florida State Law.

REPORT: 6

RAILROAD: Consolidated Rail Corporation

LOCATION: Cleveland, Ohio

DATE: January 19, 1979

The Accident

A 25-year-old crane operator was fatally injured when caught and pinned between a steel girder and the control cab of an overhead crane on January 19, 1979 at about 9:00 a.m. in the Collinwood Diesel Locomotive Shop at Cleveland, Ohio. Employed by the Consolidated Rail Corporation (Conrail), the crane operator had two years of service.

Background

On the day of the accident the crane operator reported for duty at 7:00 a.m. to assume his normal duties as an overhead crane operator in the truck shop at the Collinwood Diesel Locomotive Shop. The foreman read the "Safety Rule of the Day" and made a few comments on safety.

The crane operator was qualified and experienced in operating the overhead crane. The employee received a copy of Conrail's Safety Rules for Maintenance of Equipment Employees when he began service. Periodic safety observations are made by supervisors.

Circumstances of the Accident

Prior to the accident, the crane operator handled several routine moves with the crane. The last movement was the setting of a truck frame onto a dolly at the east end of the shop at approximately 8:55 a.m.

At 9:15 a.m. another machinist called to the crane operator to make a move. When the crane did not move, he looked up and saw the crane operator hanging between the supporting girder and the cab of the crane. He notified his supervisor and they contacted city firemen who were responding to a fire in the welding room and were on the scene. The last known move by the crane operator was made at 8:55 a.m. The main power line was shut off and two firemen climbed the normal access ladder to examine the employee. They reported that the employee had no pulse and the emergency medical service was called at 9:19 a.m., arriving at 9:31 a.m. The employee was taken to Euclid General Hospital and pronounced dead at 10:50 a.m.

Applicable Rules

4183. Be sure that power supply control or switch is in "OFF" position, and if practicable, secure it with special lock, and place C&S 105, DO NOT OPERATE, warning tag on the control or switch before:

. . .

(d) Performing any other work or in situation when any movement will catch any part of the body. In addition, equipment, machine, elevator or part thereof that is likely to move must be secured with securing feature or blocking. (To be determined by the immediate supervisor.)

4383. In parking or leaving self-propelled equipment, machine or vehicle unattended:

. . .

(b) Be sure to stop the engine or motor, fully apply the brakes and in addition, if practicable, remove the key and operating handle and secure the steering handle in vertical position.

(Conrail Safety Rules Maintenance of Equipment Employees)

Analysis

Tests of the crane following the accident revealed no defects in the equipment. According to the statement of the crane operator who moved the crane following the accident, the main power switch was in the on position for eastward movement. Subsequent tests revealed that the crane was not defective and when the controls were properly positioned in neutral the crane could not move. Various tests were conducted and the crane remained stopped by the operator's use of the brake pedal. A test revealed that if the crane had been operated from outside the control compartment, it is possible that the employee may have had time to move from the catwalk to the access ladder before the crane reversed, provided that the bridge control switch was in No. 2 east position rather than neutral after moving westward. No one, however, observed the crane operator on the catwalk. If the operator had placed the main power switch in the "off" position before leaving the control compartment, as required by Rule 4183(d), the crane should not have moved.

Cause

The employee apparently failed to disconnect the main power switch before attempting to leave the control compartment of the crane.

REPORT: 7

RAILROAD: Illinois Central Gulf Railroad

LOCATION: Rockford, Illinois

DATE: January 19, 1979

The Accident

A 36-year-old engine foreman was killed when caught between a derailed freight car and another car on an adjacent track on January 19, 1979 at about 12:50 p.m. at the Gunite Division Plant of the Kelsey Hayes Company in Rockford, Illinois. Employed by the Illinois Central Gulf Railroad (ICG), the engine foreman had nine years of service. The weather was cold and cloudy.

Background

The accident site consists of two parallel tracks used for unloading materials in the Gunite plant. The tracks are designated from the south as the "new track" and the "old track." Inbound loads of scrap metal are unloaded from gondola cars by an overhead crane.

The engine foreman had worked in this position for several years and was thoroughly familiar with the area. He was tested on the carrier's operating rules on April 10, 1978 and received a physical examination on August 7, 1975.

Circumstances of the Accident

On the day of the accident a yard switch crew went on duty in Rockford at 8:30 a.m. and consisted of the engine foreman, an engineer, and two brakemen. Shortly before the accident, a locomotive moving four cars entered the "new track" which contained one loaded and seven empty cars. The engine foreman was between the two tracks directing the engineer by radio. The engineer was at the locomotive controls on the south side of the locomotive. The two brakemen were at a switch east of the plant. The engine foreman could not be seen by the other members of the crew. After all of the cars in the track had been coupled, the engine foreman instructed the engineer to pull 12 cars east out of the track. When the movement started the engine foreman mounted the rear ladder of the next-to-last car and remained there until he was next to an empty hopper car (MILW 91924).

The engine foreman dismounted, turned around, bent down to put his jacket hood over his head, and was struck by a derailed car. The west truck of the last car, an empty gondola car, derailed to the north toward the "old track" as the movement started. It continued moving to the northeast until it struck the empty hopper car. After striking the other car, crushing the engine foreman against it, the gondola car rerailed itself.

The operator of the overhead crane at the site witnessed the accident. The operator immediately left his position and signaled the other members of the train crew to stop the movement.

The engine foreman was found 14 feet from the west end of the hopper car (MILW 91924). He was pronounced dead at the scene.

Applicable Rules

ON OR ABOUT TRACKS

126. Employees must:
   a) Expect the movement of . . . 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.

   (Safety Rules - Illinois Central Gulf Railroad)

Analysis

The car was tested and no mechanical defects were found which could have caused or contributed to the derailment. Photographs taken shortly after the accident show that the track was covered with ice and snow, causing the car to derail.

The industrial noise and the quieting effect of the snow on the ground prevented the engine foreman from hearing any unusual noise of the derailed car. Measurements taken of marks on the ground and from the two cars involved indicate that after derailing, the car traveled 88 feet until it struck the hopper car about four feet from the hopper car's west end. The gondola car continued for another 38 feet before it rerailed.

Switching operations were being conducted in compliance with carrier rules. All members of the crew were in proper positions and performing their assigned duties.

Cause

The engine foreman was struck by an empty freight car which had derailed, due to ice and snow on the track, crushing him against a car on an adjacent track.

REPORT: 8

RAILROAD: Chicago and North Western Transportation Company

LOCATION: Dixon, Illinois

DATE: January 23, 1979

The Accident

A 28-year-old machine operator was drowned when the rubber-tired end loader on which he was riding fell into a water reservoir on January 23, 1979 at about 4:32 p.m. on East River Street in Dixon, Illinois. Employed by the Chicago and North Western Transportation Company (CNW), the operator had four and one-half years of service. The weather was cloudy and it was snowing.

Background

The accident occurred on the River Line, an industrial lead. The lead diverges from the main line and extends through the metropolitan area of Dixon, Illinois and approximately four miles beyond.

In the accident area there is a single track embedded in the pavement of East River Street. The top of the rail is flush with the pavement. The track is relatively close to the Rock River.

The carrier issues a book of "General Regulations and Safety Rules" to each maintenance-of-way employee. Supervisors conduct periodic checks for rules compliance. The machine operator passed a written rules examination on April 1, 1975. His last physical examination was held on April 23, 1976.

Circumstances of the Accident

On the day of the accident the machine operator was assigned to work with a front-end loader. Due to a heavy accumulation of snow in the area, the carrier hired contractors to assist with the snow removal. Since the operator was familiar with the area he was told by his supervisor to work as a pilot for a rubber-tired, four-wheeled articulating Caterpillar 950 front-end loader.

The machine operator was in the cab with the contractor machine operator at the controls. The snow removal operation progressed to the intersection of East River Street and Crawford Avenue where there is a dam and a reservoir fed by the Rock River.

The accident occurred where the reservoir is immediately adjacent to East River Street. Along the reservoir, city snowplows had piled snow on the tracks and on a wooden walkway that is about three feet wide and 120 feet long; the walkway was almost entirely obscured by snow. The end loader proceeded to dump a load of snow over the handrail of the walkway to the reservoir, a distance of approximately eight feet below. The walkway gave way and the machine turned over into the reservoir. With the machine upside down in the water, the contractor machine operator escaped and was subsequently rescued. Several hours later the end loader was recovered. The machine operator's body was recovered and on January 26 the Lee County Coroner attributed the cause of death to drowning.

Applicable Rules

M. Employees must exercise care to prevent injury to themselves or others.

. . .

(Chicago and North Western Transportation Company General Regulations and Safety Rules)

Analysis

There was a large accumulation of snow on the walkway. The walkway was not designed to withstand the combined weight of the snow and the loaded machine.

Both machine operators were in the cab of the end loader when it turned over into the reservoir. The cab was small and could not easily accommodate two persons. Because the cab doors were small, an emergency exit was restricted.

No track or equipment defects were found which could have contributed to the accident.

Cause

The accident occurred when the walkway collapsed and the front-end loader fell into the reservoir, trapping the machine operator. The machine operator could not see the walkway and the end loader was placed in a hazardous position.

REPORT: 9

RAILROAD: Consolidated Rail Corporation

LOCATION: Philadelphia, Pennsylvania

DATE: January 25, 1979

The Accident

A 57-year-old rear brakeman died following a fall from a freight car on January 25, 1979 at about 9:15 p.m. in Greenwich Hump "A" Yard in South Philadelphia, Pennsylvania. Employed by the Consolidated Rail Corporation (Conrail), the brakeman had 37 years of service. The temperature was 31°F. with snow and wind gusts of up to 25 m.p.h.

Background

The last rules' examination taken by the rear brakeman was on October 6, 1978 and he attended an air brake class on March 31, 1978. The carrier holds daily safety meetings with train crews to discuss safety rules.

Circumstances of the Accident

On the day of the accident REMB-4 crew went on duty at Greenwich Hump, South Philadelphia, Pennsylvania at 3:30 p.m. It consisted of an engineman, a conductor, and two brakemen.

At approximately 9:00 p.m. the conductor directed the rear brakeman to ride two cars, CR 146367 and CR 146316, off the hump into track A-11. The rear brakeman was advised by the conductor that there was only one car on the track and that he would be followed by another cut of one car. The rear brakeman ascended the car, tested the hand brake, told the conductor that it was effective, and the front brakeman cut the two cars off. The next car was shifted to track A-7, followed by the single car for track A-11.

The front brakeman was riding a draft of cars into track A-7 and noticed a hand lantern on the ground, stopped the cars, and went over to investigate. He found the rear brakeman conscious and lying on his back with his head to the east on a tie of track No. 10. He questioned the rear brakeman on the extent of his injuries and the rear brakeman replied that he "hurt all over."

Applicable Rules

Not applicable.

Analysis

During the switching operation, the rear brakeman was last seen riding the lead car (CR 146367). The cars on which the rear brakeman had been riding were coupled against a car that was already on track A-11 and another freight car had been coupled to them, making a total of four cars on A-11. The rear brakeman apparently fell from freight car CR 146367 into the walkway between tracks A-10 and A-11. The fall was not witnessed by other employees. He was conscious and complained about his injuries, but was unable to explain how the accident happened.

There was no evidence of any ground condition or excessive coupling speed which could have contributed to this accident.

The brakeman died in the hospital emergency room. The medical examiner's report stated that the cause of death was multiple trauma.

Cause

The employee fell from the freight car for reasons unknown.

REPORT: 10

RAILROAD: Burlington Northern, Incorporated

LOCATION: Cambridge, Nebraska

DATE: January 26, 1979

The Accident

A 42-year-old truck driver and a 27-year-old section laborer were killed when a maintenance-of-way truck was struck by an Amtrak passenger train on January 26, 1979 at about 12:55 p.m. at a rail-highway crossing near Cambridge, Nebraska. Employed by Burlington Northern, Incorporated (BN), the driver had nine years and five months of service and the laborer had two years and eight months of service. The temperature was 10°F. and the weather was clear.

Background

The carrier issues a safety rule book to each employee. The truck driver was promoted to his position on September 15, 1972, was re-examined on the rules on November 11, 1977, and attended a safety meeting on January 2, 1979.

Circumstances of the Accident

On the day of the accident, the truck driver, the section laborer, and two other laborers were engaged in walking the track and inspecting it for unsafe conditions. The procedure was for the truck driver to drop a section laborer off at each mile and to return and pick up the laborer when he walked the mile. The process was then repeated.

The employees had just finished lunch and were in the process of resuming the walking inspection. One section laborer had been dropped off at Mile Post 254 and another at the north side of the track on an unprotected county road crossing at Mile Post 255. The remaining section laborer was seated in the crew compartment of the truck. After crossing the track, the truck driver drove south on the county road for approximately 250 feet, turned the truck around in a vacant field, and proceeded north on the county road toward the track.

The section laborer who had been left at the crossing walked three pole lengths west inspecting track, when he heard a train whistle behind him. He turned around and saw the Amtrak train about 17 pole lengths east of the crossing. The track on which he was

standing was on a filled embankment and he ran down the embankment to the north right-of-way fence, a distance of about 100 feet. He looked back (east) and saw the train strike the truck. The train struck the slow-moving truck in the area of the crew compartment and the impact split the truck in two with the cab and crew compartment coming to rest 190 feet west of the crossing on the north side of the track. Both of the employees were ejected from the truck and found in the vicinity of the demolished crew cab.

Applicable Rules

473. Drivers of company vehicles must approach all railroad tracks with due care and before crossing any track must maintain a close lookout for train or engine movements in each direction.

(Burlington Northern, Incorporated, Rules of the Maintenance-of-Way Department)

Analysis

The post-accident investigation disclosed no pre-existing mechanical condition of the truck which would contribute to the accident.

A westbound train can be seen from the approach to the crossing for approximately one-half mile.

The train was traveling at a speed of about 75 m.p.h. when the engineer saw the truck approaching the crossing. The locomotive headlight was on and the horn and bell were sounded. When the engineer became aware that the truck was not going to stop, he initiated an emergency brake application. The train stopped about three-fourths of a mile farther west.

The windows on the truck were rolled up, which may have prevented the truck driver from hearing the locomotive warning horn and bell. The locomotive headlight, however, could be seen from one-half mile away.

Cause

The truck driver failed to approach the railroad crossing with due care and maintain a close lookout for trains, as required by carrier rules.

REPORT: 11

RAILROAD: Burlington Northern, Incorporated

LOCATION: Sherman, South Dakota

DATE: February 5, 1979

The Accident

A 27-year-old brakeman was fatally crushed when a car he was riding derailed and side-swiped a trackside grain elevator on February 5, 1979 at about 6:20 a.m. at Sherman, South Dakota. Employed by Burlington Northern, Incorporated (BN), the brakeman had seven years of service. The weather was clear and the temperature was -16°F. An accumulation of compacted snow up to 18 inches deep covered most of the accident area.

Background

The grain elevator is on a siding at Sherman on the Minnesota Division, Third Subdivision, on the BN. The siding is about 2,700 feet in length and parallels the main track for a distance of about 42 feet. At the point of the accident, the grain elevator buildings are parallel to and approximately 10 feet south of the center line of the siding.

The last rules' examination for the brakeman was January 19, 1977. The carrier conducts monthly safety meetings in Willmar, Minnesota. This was the crews home terminal. While attendance is voluntary, attendance records are kept. There is no record that the deceased attended any of these safety meetings.

Circumstances of the Accident

Extra 1555 East was a local freight train that operated between Willmar, Minnesota and Sioux Falls, South Dakota. On the day of the accident, the crew consisted of an engineer, a conductor, and two brakemen. When Extra 1555 East arrived at Sherman, the order of its consist was two diesel-electric locomotive units, 21 cars, and a caboose. The crew had an order to place an empty, covered hopper car (PTLX 33681) for loading at the Sherman grain elevator. This car was fourth from the front of the train. At about 6:15 a.m., Extra 1555 East stopped on the main track at Sherman to perform this work. The first four cars of the train, three loaded tank cars and the empty covered hopper car, were pulled eastward over the Sherman siding switch. The front and rear brakemen discussed whether or not the drifted snow from the track should be cleared using only the locomotive before attempting to push the cars into the snow-covered track. They decided that such action would not be necessary.

After lining the hand-thrown switch for the siding, the rear brakeman initiated the reverse movement through radio instructions to the engineer. As the westward movement began, the rear brakeman took a position on the leading (southwest) sill step of the empty hopper car. The front brakeman, who was also located at the switch, got on the front locomotive unit when it reached him. He entered the control compartment and sat on a seat opposite the engineer. Throughout the movement the conductor was located in the caboose until just after the derailment.

About 1,375 feet into the siding, approximately 400 feet from where the empty hopper car was to be left, the leading (west) truck of the hopper car derailed. The derailed truck caused the southwest corner of the car to strike one of the grain elevator buildings, crushing the rear brakeman and causing him to fall to the ground.

The four cars being pushed by the two locomotive units continued westward about 150 feet after derailing. The derailed hopper car struck the corner of a feed storage building stopping the locomotive and cars. It was at this point that the engineer and front brakeman became aware that a derailment had occurred.

The crew members found the rear brakeman lying next to the elevator at the approximate point of impact. His lantern was damaged but illuminated and his radio was operating. There were no witnesses.

Applicable Rules

808(D). When cars are being shoved and conditions require, a member of the crew must take a conspicuous position on the leading car.

(The Consolidated Code of Operating Rules)

Analysis

Post-accident investigations revealed no apparent unusual track structure conditions.

Records indicate that the deceased had worked as a regular crew member for about eight of the last 12 months who was thoroughly familiar with the work and the area.

At the time of the derailment and fatal injury, the crew of Extra 1555 East were operating in compliance with current operating rules.

Witnesses stated that weather conditions at the time of the accident were blowing and drifting snow and sub-zero temperatures.

Cause

The employee was killed when an empty covered hopper car derailed due to compacted snow on and near the track and was crushed between the car and a grain elevator.

REPORT: 12

RAILROAD: Union Pacific Railroad Company

LOCATION: Menan, Idaho

DATE: February 9, 1979

The Accident

A 24-year-old brakeman was killed when the freight car on which he was riding derailed, crushing him against a warehouse adjacent to a side track on February 9, 1979 at about 7:45 p.m. at Menan, Idaho. Employed by the Union Pacific Railroad Company, the brakeman had seven months of service. The weather was clear and cold with ice and snow accumulated on the track.

Background

A three-foot clearance is provided between cars on the siding track and the adjacent building. A tangent siding track 1,815 feet in length parallels the main track to the south at Menan.

Circumstances of the Accident

On the date of the accident, the crew of a train, designated as the Waco Local, went on duty at 5:00 p.m. at Idaho Falls, Idaho. The crew operating Extra 152 West proceeded via the West Belt Branch to Menan, a distance of 18 miles, performing station switching en route.

Prior to the accident, the locomotive of Extra 152 West entered Menan siding from the east end and coupled onto cars standing on the siding. After the brakeman positioned himself on the south side of the leading car, the locomotive began pushing the cars westward on the siding through snow and ice which extended about one foot above the top of the rail.

After moving about 500 feet at an estimated speed of 3 m.p.h., the leading truck of the leading car derailed to the south, causing the car to diverge from the siding track toward an adjacent warehouse building. The brakeman was crushed between the car and the building; he died at the accident site.

Applicable Rules

Not applicable.

Analysis

The brakeman was riding on the side of the leading car in the direction of movement between the car and the building. When the car derailed, he apparently had insufficient time to react and was crushed between the moving car and the building. There were no witnesses to the accident.

The switching operation was being conducted in a normal manner and in compliance with current carrier operating rules.

Cause

The employee was killed when the car on which he was riding derailed crushing him between the car and building. The car derailed due to an accumulation of snow and ice on the track.

REPORT: 13

RAILROAD: Norfolk and Western Railway Company

LOCATION: Ashville, Ohio

DATE: February 14, 1979

The Accident

A 50-year-old regional track engineer was killed when struck by a freight train on February 14, 1979 at about 9:55 a.m. on the main line near Ashville, Ohio. Employed by the Norfolk and Western Railway Company, the engineer had 27 years of service. The temperature was 20°F. and the weather was cloudy.

Background

The accident occurred on the westbound track at Mile Post N683.3, one mile east of Ashville, Ohio. This is a double-track main line over which trains operate by timetable, train orders, and an automatic block signal system.

Circumstances of the Accident

On the day of the accident, a crew of trackmen was engaged in repairing the track after a derailment on the eastbound track. The derailment occurred on February 12, 1979 approximately one mile east of Ashville, Ohio. After the accident the eastbound track was out of service for repairs and the westbound track was being used for both eastbound and westbound train movements. Westbound movements continued to be governed by automatic block signals and the eastbound movements were governed by train orders under an absolute manual block system from Bannon Tower and Columbus to Circleville, Ohio. All trains were given instructions to ring the bell and sound the whistle when passing the maintenance-of-way force at this location.

At the time of the accident, the track engineer was positioned in the middle of the westbound track, bending over, watching a ballast regulator working on the eastbound track. He was struck by an eastbound train (2XJP) on the westbound track. He was killed instantly.

Applicable Rules

1051. Employees on or about tracks must be alert, watchful and keep out of danger, exercising care to avoid injury to themselves and others. Nothing in these rules is to be construed as relieving any employee from performing his full duty in this respect.

1054. Employees are prohibited from walking or standing between the rails of a track unless necessary in performance of their duties.

(Norfolk and Western Railway Company Safety Rules)

38. When MW forces are seen or known to be working on a track adjacent to that upon which trains or engines are operating, either on line of road or in the yard, enginemen will sound the engine whistle and ring bell while approaching and when passing these forces.

. . .

(Norfolk and Western Railway Company, Pocahontas Region, Scioto Division, Timetable No. 6)

Analysis

The carrier's safety rules prohibit employees from standing between rails except in the performance of their duties. The rules also required the employee to watch for trains in each direction and move to a place of safety if a train approaches. The employee could have performed his duties from the center ditch between the tracks or from the other side of the eastbound track. It appeared that the excessive noise produced by the ballast regulator prevented the track engineer from hearing the approach of the eastbound train.

Cause

Failure of the employee to maintain a look out for approaching trains while standing between the rails of a main track.

REPORT: 14

RAILROAD: Elgin, Joliet and Eastern Railway Company

LOCATION: Gary, Indiana

DATE: February 17, 1979

The Accident

A 46-year-old director of industrial development (director) was killed when struck and run over by a freight car on February 17, 1979 at about 10:30 p.m. in Gary Mills B Yard at Gary, Indiana. Employed by the Elgin, Joliet, and Eastern Railway Company (EJ&E), the director had 22 years of service. He was working on a special assignment as a yardman at the time of the accident. The weather was clear and cold.

Background

On the day of the accident, a crew consisting of the director, an engineer, a conductor, and a yardman went on duty at 4:00 p.m. at Gary. Due to a shortage of regular yardmen, the director was called to work as a yardman on his day off.

The director was not a transportation department employee and he worked as a yardman approximately 20 times during his career, usually during labor disputes. It did not appear that he had worked in the Gary Mills Yard prior to the day of the accident. The director had last worked as a yardman in September 1978.

The last formal safety and operating instructions the employee received were given on November 1, 1969. At that time, one-half day was spent on the proper methods of boarding and dismounting from equipment. The remaining portion of the day was used in a review of the safety and operating rules. While most carrier officers have copies of the EJ&E Safety and Operating Rules, no records are kept as to when they were issued. It is not known if the employee had copies of those books.

Circumstances of the Accident

Prior to the accident, the crew entered track No. 10B and coupled to a cut of ore cars. After the conductor made a cut behind 35 cars, the crew pulled to the entrance of the track and waited for another crew to shove 22 cars onto an adjacent track (9B). While stopped, the crew engineer stated that he was going to check the air hoses between the locomotive and first car. While between the

locomotive and first car, the engineer heard the director behind him asking if the air hose connection was all right. The engineer turned around and saw the director standing next to the near rail of track 9B with his back to the oncoming cars. The first car being shoved onto 9B struck the director and ran over him.

After witnessing the accident the engineer ran to the locomotive and radioed the other movement to stop. The director was found approximately 110 feet from the point of the accident under the seventh car of the oncoming cut of cars. He was pronounced dead at the scene of the accident.

Applicable Rules

24. Trains must be expected to run at any time, on any track, in either direction.

27. . . . Do not stand with your back toward passing cars, engines or other moving equipment. Look in the direction from which the train is approaching, being alert for movement on adjacent tracks.

(Elgin, Joliet and Eastern Railway Company Safety Rules Governing Transportation Department Operating Employes)

Analysis

The director apparently left the locomotive to assist the engineer in checking air hoses. Because of a lack of experience, the director was unaware that cars would be entering the adjacent track. While the other members of the crew were aware of this fact, they did not inform the director who had not questioned the crew as to why they had stopped on track 10B.

Cause

The director failed to watch for approaching equipment on the adjacent track. A contributing factor was that he had not received adequate and recent instructions for train and switching operations.

REPORT: 15

RAILROAD: Norfolk and Western Railway Company

LOCATION: Spriggsboro, Indiana

DATE: February 21, 1979

The Accident

A 23-year-old brakeman was killed when crushed between a partially derailed hopper car and a box car on February 21, 1979 at about 9:40 a.m. on a passing siding at Spriggsboro, Indiana. Employed by the Norfolk and Western Railway Company, the brakeman had 20 months of service. The temperature was 34°F., the weather was cloudy, and there was considerable snow and ice in the area.

Background

On the day of the accident a crew consisting of an engineer, a fireman, a conductor, and two brakemen went on duty at 3:45 a.m. to operate freight train BC-7 from Fort Wayne, Indiana to Chicago, Illinois. The operation and functions from Fort Wayne to Spriggsboro were routine. There is a passing siding at Spriggsboro that parallels the main track on the south.

The brakeman was hired by the carrier on April 23, 1973. He was on a military leave of absence from March 1, 1974 until April 4, 1978. His last physical examination was on April 3, 1978.

The carrier issues an operating rule book and a safety rule book to all train and engine employees. The brakeman had not been instructed on the book of operating rules at the time of his reemployment, as required by Federal Railroad Administration regulations 49 CFR 217. The radio rules came into effect after the brakeman left the railroad in 1974 and prior to his return in 1978.

Circumstances of the Accident

The crew was to set out 20 cars onto the siding, coupling them to 74 cars already on the track. As the train passed County Road 250 West, the brakeman got off the locomotive. He gave the engineer instructions by radio to stop the train in order to uncouple the 20 cars from the train. The 21st car stopped on the roadway and the brakeman had the engineer reverse the train about one car length. He then uncoupled the 20 cars from the remainder of the train and instructed the engineer to move further west over the switch. The

brakeman rode the north side of the rear car (NKP 34312), a loaded 70-ton open top hopper. When the movement stopped at the switch, the brakeman crossed from the north side of the track to the south side, put the dual control switch into "hand throw" position, lined it for the siding, and crossed back to the north side of the track.

The brakeman gave the engineer instructions to "come back." The engineer started the cut of cars into the passing siding. After reaching a speed of about 5 m.p.h., the engineer maintained that speed during the remainder of the movement. As the locomotive entered the siding, the engineer told the fireman that something did not seem correct. At about the same time after a total eastward movement of approximately 1,360 feet, there was a slight slack action and the movement came to a halt.

The fireman left the locomotive and walked back along the north side of the cut of cars. The fireman found the brakeman lying partially under the west car DH 26011 on the main track.

Applicable Rules

R-315. When radio communication is used in connection with . . . backing . . . cars, complete instructions must be given or continuous radio contact must be maintained. When backing or pushing a train, engine or cars, the distance of the movement must be specified, and movement must stop in half the specified distance unless additional instructions are received. If the instructions are not understood or continuous radio contact is not maintained, movement must stop immediately and not be resumed until the misunderstanding has been resolved, or communications by other means has been established.

(Norfolk and Western Railway Company Rules)

Analysis

The passing siding had not been entered for about one week. It is the contention of the carrier that the car derailed at the crossing due to ice and snow at the edge of the crossing. There were no marks on the track structure, however, to indicate that this was the case.

The marks on the track structure and damage to DH 26011 indicate that the east truck of NKP 34312 derailed to the north at a pair of engine burn marks located approximately nine feet east of County Road 250 West. About 11 feet after derailing, NKP 34312 struck DH 26011, and the brakeman was apparently crushed between the two cars. The movement stopped when the derailed car struck the west car of the standing cars on the passing siding. The east truck of NKP 34312 was derailed for 746 feet.

The employees did not violate any carrier rules that would have prevented the derailment from occurring. The crew did violate radio rule R-315 in several ways. The brakeman did not give the distance of the move to be made and the engineer did not stop the move prior to striking the standing cars in the passing siding. The total move eastward was about 1,360 feet. Had the engineer stopped the movement in one-half of the total move, he would have stopped just after the derailment.

Cause

The brakeman was crushed between the derailed car on which he was riding and a standing car on the adjacent track.

REPORT: 16

RAILROAD: Chicago and North Western Transportation Company

LOCATION: Minneapolis, Minnesota

DATE: February 22, 1979

The Accident

A 56-year-old switchman was fatally injured when crushed between two freight cars on February 22, 1979 at about 9:30 a.m. in the Kenwood Yard at Minneapolis, Minnesota. Employed by the Chicago and North Western Transportation Company, the switchman had 26 years of service. The temperature was 24°F. and a light snow was falling.

Background

The switchman passed a physical examination March 6, 1978 and a rules examination during April 1978. At Kenwood Yard, track centers between tracks No. 5 and No. 6 are 11 feet, six inches. The clearance between the two cars involved in the accident was about 10 1/2 inches.

Circumstances of the Accident

After being off duty in excess of the required time, the switch crew, consisting of an engineer, a conductor, and two switchmen reported for duty at 7:30 a.m. Eight cars were placed on the north end of track No. 6 and did not foul adjacent tracks.

Five cars were switched onto track No. 5 from the south end; the switchman was riding the lead car applying the hand brake. The cars were to be stopped at about the middle of the track. Several cars were then switched onto other tracks. When two more cars were to be switched onto track No. 5, the conductor noticed the first five cars had traveled too far. On investigation he found the switchman on the ground between tracks No. 5 and No. 6.

Applicable Rules

163. Lookout must be maintained in direction engine or car is moving to avoid coming in contact with structures alongside or over track or with cars, engines or trains on adjacent track. When vision is obscured and you are not sure of location, stay in the clear.

(Chicago and North Western Transportation Company Safety Rules)

Analysis

Marks were found on the side of the second car from the north end of track No. 6; the marks were about hand brake platform heighth. Apparently these marks were made by the switchman's boots as he was riding the leading car of the five cars being switched onto track No. 5. There were no witnesses at the scene of the accident and the exact circumstances of the accident could not be determined. Evidence indicates that the switchman was crushed within the limited space between the second car from the north end of track No. 6 and the first car being shoved onto track No. 5.

Cause

The switchman evidently climbed around the corner of the car on which he was riding. His body was crushed between that car and a car on the adjacent track due to failure of the employee to maintain a constant lookout for adjacent rolling equipment.

REPORT: 17

RAILROAD: Northwestern Pacific Railroad Company

LOCATION: Ukiah, California

DATE: February 26, 1979

The Accident

On February 26, 1979 at about 3:15 p.m. a 49-year-old laborer was killed when a four member Northwestern Pacific Railroad Company maintenance-of-way crew traveling in a one and one-half-ton crew cab truck was involved in a head-on collision with a lumber truck near Ukiah, California. All crew members were injured. The laborer was seated on the left side of the crew cab and died of injuries at 4:58 p.m. The weather conditions were clear and dry.

Background

The Northwestern Pacific Railroad Company crew was sent to repair a section of track near Ukiah, California.

Circumstances of the Accident

The railroad company truck was traveling north on U.S. Highway 101 when it crossed the center line on a curve to the left and struck a southbound lumber truck.

The driver of the railroad's truck stated that as he entered the curve, the front end of the truck seemed to rise, shimmy, drop down, and begin to drift uncontrollably across the center line.

Applicable Rules

Not applicable.

Analysis

Post-accident examination of the railroad's truck revealed that the left front tire was ruptured and its wheel was torn loose from the mount and folded underneath the vehicle. The steering box, drag link, and pitman arm were broken off the vehicle. Railroad officials and California Highway Patrol officers were unable to determine if any defect had been present prior to the collision.

Cause

The railroad company truck crossed the highway center line and collided head-on with an oncoming vehicle. There was no evidence to determine whether the collision was caused by a mechanical failure or driver's error.

REPORT: 18

RAILROAD: Consolidated Rail Corporation

LOCATION: Mount Pleasant, New York

DATE: March 2, 1979

The Accident

On March 2, 1979 at about 6:37 p.m. a 30-year-old fireman was fatally injured when he jumped from a moving locomotive at Mile Post 34.5 on the Harlem Division near Mount Pleasant, New York. Employed by the Consolidated Rail Corporation, the fireman had 12 years of service. The weather was clear.

Background

Eastbound passenger train No. 964 departed Brewster, New York on March 2, 1979 at 1:02 p.m. The final destination was Grand Central Station New York, New York. The crew consisted of an engineer, a fireman, a conductor, and an assistant conductor. When the train arrived at North White Plains, New York, a crew change point for the locomotive crew, the engineer and fireman were relieved and the rest of the crew members continued with a new engineer and fireman.

Circumstances of the Accident

At approximately 5:30 p.m., the fireman returned to duty at Brewster for passenger train No. 984. The engineer and conductor took no exception to the fireman's condition. Train No. 984 consisted of locomotive 5042 and four passenger coaches, and departed Brewster at 6:05 p.m. for a timetable run to Grand Central Station.

After train No. 984 made a station stop at Mt. Kisco, New York it proceeded eastward on track No. 2 at about 45 m.p.h. In the vicinity of Mile Post 34.5 the fireman got up from his seat in the locomotive, opened the cab door and stated to the engineer "Is this for real." The engineer answered "Of course it is." The fireman then stated "Who and what is my name." He then leaped out of the cab door of the locomotive and was fatally injured.

Analysis

Testimony from the engineer of train No. 964 disclosed that while the train was moving between Brewster and North White Plains, New York earlier that day, the fireman attempted to leap from the

moving locomotive. The engineer restrained him and ordered him to remain in the fireman's seat for the balance of the trip. Upon arrival at North White Plains and during the deadhead trip back to Brewster, the fireman seemed to be in a normal frame of mind. Both the engineer and fireman had a three-hour layover period at Brewster.

Cause

The fireman jumped from the moving locomotive.

REPORT: 19

RAILROAD: Soo Line Railroad Company

LOCATION: North Fond du Lac, Wisconsin

DATE: March 5, 1979

The Accident

A 50-year-old electrician was fatally injured when he fell from the outside walkway of a diesel-electric road switcher locomotive on March 5, 1979 at about 3:15 p.m. at the engine repair facility at North Fond du Lac, Wisconsin. Employed by the Soo Line Railroad Company, the electrician had 33 years of service. The weather was cloudy and cold.

Background

On the day of the accident the electrician reported for duty at 7:30 a.m. at the Soo Line Railroad Company diesel facility in North Fond du Lac, Wisconsin. He worked his regular assignment for the earlier part of the day without incident.

The electrician had a good safety record and was familiar with safety rules. He regularly attended the weekly rules meetings held by the carrier. The last meeting he attended was on March 2, 1979.

Circumstances of the Accident

At approximately 3:00 p.m., the electrician, having knowledge of an alleged radio failure on locomotive unit No. 807, secured a replacement radio pack from the electrical shop and departed to exchange the radio pack on unit No. 807. The unit was headed north on "H" track, which is located east of the electrical shop, which extends north and south and is used for inbound units to the diesel repair facility.

Around 3:30 p.m. a carman sighted the electrician lying face down on the ground perpendicular to the locomotive, about 11 feet south of the cab. The carman received no response from the electrician and immediately ran to the diesel house to summon help.

The electrician was taken to a local hospital and pronounced dead on arrival.

Applicable Rules

37. Care should be taken at all times when working in areas where floors, platforms or other places used for footing are in a slippery condition from oil, grease, ice, etc.

60. Determine by personal inspection the safety, suitability and proper placement of runways, trestles, ladders, scaffolds, etc., which you are required to use. If found unsafe, report it to your supervisor immediately. When it is necessary to reach a height, a proper ladder, platform or scaffold must be used. Makeshift supports, such as kegs, wheelbarrows, two wheeled trucks, insecure boxes, etc., must not be used to stand upon.

(Soo Line Railroad Mechanical Department Employes Safety Rules)

Analysis

There were no witnesses to the accident. The electrician was last seen at approximately 3:00 p.m. when he departed the electrical shop with the radio pack.

Post-accident examination of the locomotive disclosed a small amount of oil on the right outside walkway which was not disturbed. The outside walkways were wet because of a light snow-fall earlier in the day.

Cause

The electrician apparently fell from the right outside walkway of a diesel electric road switcher type locomotive, striking his head, and incurring a fatal skull fracture.

REPORT: 20

RAILROAD: Denver and Rio Grande Western Railroad Company

LOCATION: Denver, Colorado

DATE: March 23, 1979

The Accident

A 45-year-old switchman was killed when run over by a freight car on March 23, 1979 at about 9:32 a.m. in the 4th Avenue Yard at Denver, Colorado. Employed by the Denver and Rio Grande Western Railroad Company (DRGW), the switchman had 23 years of service. The weather was clear.

Background

On the day of the accident the employee was working as a switchman at the 4th Avenue Yard in Denver, Colorado. He had been on duty about 1 hour, 30 minutes prior to the accident.

The employee was last examined and passed the DRGW's rules test on February 20, 1979.

Circumstances of the Accident

At about 9:30 a.m., the switchman was riding the right rear step of locomotive No. 145 and facing the locomotive. The unit was pulling three cars on the Park Lead of the 4th Avenue Yard. The locomotive was moving northward at about 5 m.p.h. at the time of the accident. The ground was wet and muddy in the accident area.

The switchman got off of the right rear step of the locomotive to cross over to the west side of the track and throw a switch after the three cars had cleared the switch points. The switchman apparently lost his balance and fell between the locomotive and the first car when he came down from the locomotive step. He was pronounced dead at the scene.

Applicable Rules

G. The use of narcotics, intoxicants or any beverage containing intoxicants by employes while on duty, when subject to or available for duty or having in possession while on duty, is prohibited.

. . .

125. When about to board or alight from moving or standing cars or locomotives, look out for trains approaching on adjacent tracks and see that there are no obstructions or openings on the ground and no side obstructions which might cause injury.

(Denver & Rio Grande Western Railroad Company Safety Rules Operating Department)

Analysis

There were two eyewitnesses to this accident although neither could explain exactly how the accident happened. The engineer said he observed the switchman fall from the engine between the engine and the following car. A motorist at the 13th Avenue crossing said he saw the switchman fall from the train onto the tracks; he could not tell where the switchman had been standing or walking on the train. Marks in the mud indicated that the switchman slipped in the mud as he came down from the locomotive, lost his balance, and fell between the locomotive and the first car.

The autopsy request indicated a 0.098 percent blood alcohol content. A blood alcohol content of 0.10 percent is considered as being under the influence of alcohol in the State of Colorado.

Cause

The switchman lost his balance while alighting from the locomotive. The wet and muddy ground may have been a contributing factor.

REPORT: 21

RAILROAD: Illinois Central Gulf Railroad

LOCATION: Gates, Tennessee

DATE: March 25, 1979

The Accident

A 41-year-old section man was fatally injured when he was crushed by shifting rails in a gondola car at Gates, Tennessee on March 25, 1979 at about 1:00 p.m. Employed by the Illinois Central Gulf Railroad (ICG), the section man had five years of service. The weather was cold and partly cloudy.

Background

The employee was a member of a maintenance of way section crew which was picking up and loading rail into gondola cars. The crew went on duty at 7:00 a.m. on the day of the accident. A burro crane, equipped with automatic couplers at both ends, was used in loading the rail and moving the loaded cars on the Gates spur track for storage.

The accident occurred on a tangent spur track about 1,139 feet long, which parallels the southbound main track on the west at Gates, Tennessee. The controlling switch is at the south end of the track. From the switch, the grade on the spur track is practically level for about 100 feet, 2.5 percent descending northward for about 150 feet, and 0.6 percent descending northward for about 200 feet. Prior to the accident, four gondola cars loaded with rail had been stored on the spur track with the southern most car standing about 408 feet north of the switch. A hand brake was applied on at least one of the stored cars.

The carrier conducts safety rules discussions with track employees each morning. On January 19, 1979 the employee attended a day-long safety meeting at which several safety films were shown, including the film, "Handbrake." This film deals with the proper use of different types of hand brakes.

Circumstances of the Accident

South of Gates on the southbound main track, the crew had loaded about eighty 131-lb. rails which were 39 feet in length into ACL 98203, a high-side gondola with fixed ends that was 52 1/2 feet long.

After loading operations were completed at about 12:50 p.m., the car was coupled to the north end of the burro crane and moved northward to Gates for storage on the spur track. When the movement stopped at the spur switch, the employee walked ahead to the derail and removed it as the foreman reversed the switch. According to the crane operator, the burro crane was moved slowly northward and the foreman operated the uncoupling mechanism.

The employee had returned to the switch and was instructed to ride the car and operate the hand brake to control its movement. He boarded the car at its northeast corner and mounted the brake step as the car gained momentum. Other employees saw him operating the hand brake to slow the car's movement. Their attention was diverted by other duties and they did not witness his further actions until they heard a loud coupling noise on impact and obvious distress signals coming from the employee. Rushing to the scene they found him inside the north end of ACL 98203. He was crushed from the hips down between the end of the car and the ends of the rails which had shifted on impact. When asked by the foreman why he was inside the car, the employee replied, "It was just my mistake."

After removal of the rails by the burro crane, the employee was unconscious and taken by ambulance to a hospital in Ripley, Tennessee. He was then transported by helicopter to a Memphis, Tennessee hospital and was pronounced dead on arrival at about 3:25 p.m.

Applicable Rules

ON LOCOMOTIVES, CARS OR TRAINS

. . .

208. Employees must not:

A. Ride

. . .

8. Inside of cars containing material that may shift.

(Illinois Central Gulf Railroad Safety Rules)

Analysis

The foreman and the crane operator decided to cut off the car in motion and let it roll to a coupling with the cars standing on the spur track. With a gross weight of about 192,000 lbs., ACL 98203 gained speed as it rolled under its own momentum on the 2.5 percent descending grade. The employee was unable to slow the car's movement by use of the hand brake. Anticipating the force of the impending impact, he climbed into the car.

ACL 98203 was equipped with a geared, vertical wheel hand brake at the north end of the car. The hand brake had been used on two occasions by the employee during the loading operations and, according to the section foreman, had been operative. After the accident, the hand brake on ACL 98203 was inspected by mechanical employees of the Illinois Central Gulf and Rock Island Railroads and found to be operative.

Cause

The inability of the employee to slow the movement of a loaded car on a descending grade. He apparently panicked and moved inside the car, which contained heavy material that shifted inside the car.

REPORT: 22

RAILROAD: Duluth, Winnipeg and Pacific Railway

LOCATION: Ranier, Minnesota

DATE: March 27, 1979

The Accident

A 54-year-old trainman was killed when run over by a caboose on March 27, 1979 at about 12:35 p.m. in the northern terminal yard at Ranier, Minnesota. Employed by the Duluth, Winnipeg and Pacific Railway (DWP), the trainman had 28 years of service. The temperature was 38°F. and the weather was partly cloudy.

Background

Ranier is the northern terminal of the DWP and is located at the U.S.-Canadian border opposite Fort Frances, Ontario. It is the customs gateway for trains interchanged with the Canadian National Railway system. Approaching Ranier's depot on the main track from the south, there is a 4° curve to the left extending to the center line of Spruce Street crossing (2,149 feet), followed by a tangent of 964 feet to the border. The gradient is level. Main track ballast throughout the area is crushed rock, level with the top of the ties.

The trainman's last rules examination took place in March 1978 and his last physical examination was held in July 1978.

Circumstances of the Accident

At 10:15 a.m. on the day of the accident, the crew was called to report for duty at Ranier depot at 12:15 p.m. to operate southbound train No. 420.

The train crew conductor reported at the Ranier depot office and picked up train orders and instructions. He was informed that the train consisted of two locomotive units, 93 cars, a caboose for the crew, and a deadhead caboose. Unit 5905 at the south end of the yard was to be added to the motive power consist. He was also instructed to set out a load of potash, the sixth rear car of the train, ordered by U.S. Customs officials.

The conductor rejoined the crew, relayed the instructions, and returned to the depot. The rear trainman walked to the train to be in position to make a cut at the sixth car. The engineer, fireman, and front trainman were transported in a company vehicle driven by an on duty carman to the south end of train No. 420.

The engineer and front trainman boarded the locomotive of train No. 420 and the carman and fireman continued on to the other locomotive on track No. 1. The carman lined the necessary switches and Unit 5905, an EMD SD-40 with the front headed south and operated by the fireman, proceeded to the main track. After assisting the engineer to move train No. 420's locomotive units from a siding to the main track, the front trainman joined the fireman on Unit 5905, which proceeded northward on the main track to clear the north switch of the siding. The front trainman lined the switch for the siding, directed the unit to a coupling with the rear of train No. 420, and coupled the air hoses.

In response to a back-up signal from the rear trainman at the cut and repeated by the front trainman, the fireman moved Unit 5905 northward in reverse pulling a block of eight cars from the siding to the main track.

As the locomotive approached the house track switch at an estimated speed of 5 to 6 m.p.h. the fireman directed his attention southward along the west side of the cars and observed the front trainman standing either on the step at the south end of the train's caboose or on the step at the north end of the deadhead caboose. The trainman was facing north and appeared to be preparing to step off. The fireman momentarily turned his attention northward and when he turned back to the south the front trainman had disappeared from view. When he saw something fly out from under the train, he immediately set both the independent and emergency brakes and stopped the movement within 30 to 40 feet.

The front trainman was found on the west side of the main track between the rails, at the frog of the extension track, and about 23 feet north of the house track switch. His legs were lying over the west rail of the main track. His cap and glasses were found about 17 feet south along the gauge side of the east rail of the extension track. The trainman was pronounced dead at the scene.

Applicable Rules

1406. When about to board or alight from moving or standing cars or locomotive, look out for trains or equipment on adjacent tracks and see that there are no obstructions on the ground or to the side.

1408. When getting on or off moving equipment, avoid such materials as coal, boards, stones, rubbish, refuse, material, ties, rail, holes, openings, bridges, culverts, trestles and vegetation.

(Duluth, Winnipeg and Pacific Railway Safety Rules Train, Engine, Yard and Other Transportation Employees)

Analysis

Inspection of equipment disclosed evidence that the west wheels of the south truck of the deadhead caboose and the west wheels of the north truck of the box car loaded with lumber, had passed over the front trainman's body.

The track structure in the immediate area disclosed no accumulation of ice or snow or unusual track surface condition.

There were no witnesses to the accident. The fireman observed the front trainman intending to step off the moving caboose in the vicinity of the house track switch. The point where his glasses and cap were found would place the east rail of the extension track in the path of someone stepping off a caboose. It appeared that in getting off the caboose, the front trainman stumbled or fell over the east rail or ties of the extension track and under the trailing truck of the deadhead caboose.

Other members of the crew testified that prior to the accident they observed nothing abnormal in the front trainman's behavior as he performed the tasks associated with his position.

A post-mortem test disclosed that the trainman's blood alcohol level was 0.273 percent. The State of Minnesota considers a level of 0.10 percent as intoxication.

Cause

The front trainman stepped from moving equipment onto the ground, failing to observe that the area was obstructed by rail and ties of an adjacent track. The employee's high blood alcohol content may have been a contributing cause.

REPORT: 23

RAILROAD: Missouri Pacific Railroad Company

LOCATION: St. Louis, Missouri

DATE: April 6, 1979

The Accident

A 35-year-old brakeman was killed on April 6, 1979 at about 11:30 p.m. when he fell 80 feet from a bridge approach in St. Louis, Missouri. The accident occurred on the tracks of the Municipal Bridge Railway of St. Louis, also known as the MacArthur Bridge. Employed by the Missouri Pacific Railroad (MP), the employee had nine years of service. The weather was clear.

Background

The 4,857-foot southern approach to the bridge is a flush-deck, double-track structure with sharp curves and a steep grade. There is a full-width continuous walkway between the two main tracks. The only other walk area is a 263-foot maintenance walkway on the east side, that leads to and ends just beyond governing Signal 55. The wooden plank floor is 51 inches wide. On the outside edge, there is a safety railing 40 inches high and made of angle iron with an intermediate railing 17 1/2 inches high at the center line. The railing follows an offset around the signal. The north vertical railing post adjacent to the abrupt end of the walkway about 80 feet above ground level terminates the railing. The post is about 45 1/2 inches from the clearance line of a locomotive.

The employee's record of discipline was clear. His last formal attendance at an operating and safety rules class was on December 5, 1976. He had taken 15 field efficiency tests during the past three years with no exceptions noted. He was considered a good employee and there was no indication of any impairment on this tour of duty. He had worked this assignment many times and was familiar with operations over the bridge structure. There was no record of the employee having a physical examination since entering carrier service.

Circumstances of the Accident

The employee was the front brakeman on Extra 1785 North (No. 466), a through freight train en route from Ste. Geneviene, Missouri to Sporta, Illinois. The crew included a conductor, two brakemen, and an engineer. All of the crew had the required off-duty periods and went on duty at 7:30 p.m. on April 6. They departed Ste. Geneviene at 8:05 p.m. The train traveled about 55 miles north to St. Louis with one intermediate work stop. It was scheduled to use the normal route over the Mississippi River bridge by trackage agreement. Bridge movements are governed by signal indications of a traffic control system.

Entering the St. Louis area the train consisted of three locomotive units, 38 loaded cars, 5 empty cars, and a caboose. The conductor and the rear brakeman were in the caboose. The engineer and front brakeman were in the control compartment of the lead locomotive unit. The train was routed from Missouri Pacific tracks to the eastward main track of the south approach to the bridge. It received clear signal indications from the Carroll Street Tower and began ascending the approach. The engineer activated the sanders because of the steep grade and sharp curve. During the ascend, the engineer received a wheel slip indication from a lighted indicator which stayed on. The sander control remained on and the train continued moving at about three m.p.h. Suddenly the brakeman got up from the fireman's seat, went out the door, and descended to the east side from the head end (short nose) of the unit. He stepped onto the maintenance walkway and started walking northward.

The engineer saw the brakeman walking with a lantern and assumed he had gone to see if the sanders were operating properly. He expected the brakeman to get back in the front of the unit. The engineer was watching the gauges, the color-light signal, and operating controls. When he passed the signal, he knew the walkway ended. He looked back, did not see the brakeman, and thought he had boarded the rear of the unit. The locomotive was now in the sharpest part of the curve nearing the bridge junction. The engineer had not seen or heard from the brakeman and became apprehensive. He then glanced to the ground below and saw the brakeman under the north end of the signal walkway. The engineer immediately made a radio report to the conductor and yardmaster at the adjoining MP Lesperance Street Yard and stopped the train. The conductor and rear brakeman arrived and saw the brakeman on the ground. The train was backed down the approach and the crew relieved from duty.

Applicable Rules

GENERAL RULES

L. Constant presence of mind to insure safety to themselves and others is the primary duty of all employes and they must exercise care to avoid injury to themselves or others. . . .

(Missouri Pacific Railroad - Uniform Code of Safety Rules)

Analysis

The engineer stated that this train often stalled on the approach due to a combination of tonnage, grade, and curve. In such cases, a switcher unit from the adjoining yard was sent to assist. The brakeman was aware of this operation. The engineer and the brakeman had been conversing before they reached the approach and there was no indication of anything unusual. The engineer did not know in what area of the signal walkway the brakeman left the unit. He did not know why the brakeman had suddenly left the cab and descended to the east side without saying a word. It is possible the brakeman tripped over the inner circuit box near the walkway end.

Cause

The employee apparently lost his footing and fell off the end of the bridge signal platform.

REPORT: 24

RAILROAD: Union Pacific Railroad Company

LOCATION: Pocatello, Idaho

DATE: April 10, 1979

The Accident

A 32-year-old carman apprentice was fatally injured on April April 10, 1979 at about 11:15 a.m. in Pocatello, Idaho. Employed by the Union Pacific Railroad, the employee had 2 1/2 years of service. The weather was overcast and there was blowing snow.

Background

The accident occurred in the Pocatello car shop facility, where a dismantling crew was cutting away the underframe of a freight car which was laying on its side. An area approximately 12 feet wide was provided between the car being dismantled and the adjacent track. Cars were standing on the adjacent track with the end of the last car directly across from the dismantling operation.

The carman apprentice last attended a safety meeting on February 21, 1979.

Circumstances of the Accident

When the final cut was to be made a second carman asked his helper if there were any people or equipment in the area where the underframe would fall. The helper indicated that the area was clear and the underframe was allowed to fall to the ground. The dismantling crew observed a hard hat lying next to the underframe after it fell. They discovered the carman apprentice beneath the underframe.

Applicable Rules

L. Employes while on duty must be alert and attentive,

. . .

M. Employes must exercise care to prevent injury to themselves or others.

. . .

(Union Pacific Railroad Rules Governing Duties and Deportment of Employes, Safety Instructions and Use of Radio)

Analysis

The carman apprentice was not observed prior to the accident. He was assigned to another project in another part of the car shop facility and was not involved with the dismantling crew. It could not be determined why the carman apprentice was in this area.

Cause

Failure of the employee to stand clear of the falling underframe in an unprotected area.

A contributing factor was his failure to stay at his assigned duty location.

REPORT: 25

RAILROAD: Patapsco and Back Rivers Railroad

LOCATION: Sparrows Point, Maryland

DATE: April 12, 1979

The Accident

A 58-year-old trackman was killed while securing a crane boom at about 3:00 p.m. on April 12, 1979 at the Bethlehem Steel Corporation Plant in Sparrows Point, Maryland. Employed by the Patapsco and Back Rivers Railroad (PBR), the trackman had 23 years and seven months of service. The temperature was 57°F. and the weather was cloudy.

Background

The accident occurred approximately 160 feet northeast of the North Yard Office in the north parking lot. Approaching the accident area from the south there is a level parking lot.

Maintenance-of-way service employees of the PBR are given a copy of the carrier's safety rules at the time of their employment. Employees are not instructed in operating or safety rules and no record is kept of compliance with these rules. Weekly safety meetings are conducted by supervisors but no attendance records are kept. There are no requirements for periodic physical examinations.

Circumstances of the Accident

The flatbed tractor-trailer gang, consisting of a foreman, a crane operator, a tractor-trailer operator, and a trackman, went on duty at 7:00 a.m. on April 12. Immediately before the accident, the gang was loading the flatbed trailer with used rail and ties that had been removed from track A-16-1 and piled on the northeast end of the North Yard's parking lot. At approximately 3:00 p.m. the crew secured the crane to travel back to the maintenance-of-way tie yard after completing the loading of the rail and ties. While securing the crane, the trackman was holding on to the boom hook and the securing cable, while the operator was maneuvering the crane boom. The end of the crane boom came in contact with an overhead power line carrying a 13,800-volt charge. The power line current passed through the boom, the boom cable, the block and block hook, and knocked the trackman to the ground. The injured employee was taken to a hospital where he was pronounced dead on arrival. Cause of death was cited as electrocution.

Applicable Rules

26.2 Only one qualified man at a time should direct the movement of a crane. Standard signals should be used.

(Patapsco and Back Rivers Railroad Company Safety Rules)

Analysis

When post-accident investigators inspected the accident scene, they found no unusual conditions or defective equipment. It is apparent that the crane operator did not know that the end of the crane boom was close to the 13,800-volt power line.

Cause

The crane boom came into contact with a 13,800 volt power line. Failure of the carrier and crane operator to provide appropriate protection while maneuvering the crane boom in the vicinity of a power line may have been a contributing factor.

REPORT: 26

RAILROAD: Missouri Pacific Railroad Company

LOCATION: McGehee, Arkansas

DATE: April 19, 1979

The Accident

A 23-year-old conductor was killed on April 19, 1979 at about 9:15 p.m. in McGehee Yard at McGehee, Arkansas. Employed by the Missouri Pacific Railroad Company, the conductor had five years of service. The weather was warm and dry.

Background

In the accident area, a series of 19 tracks divides into two switching areas on which trains operate under yard rules.

The conductor was assigned to the 3:59 p.m. traveling switching crew on engine No. 784. The crew consisted of a conductor, two brakemen, and an engineer. They went on duty at 3:59 p.m. on April 19, 1979.

Circumstances of the Accident

At about 9:00 p.m. train XKB 115 arrived and the switch crew was instructed to take over the operation of train XKB 115 using its power to pull onto track No. 2, make a cut behind 73 cars, and place the cars on track No. 16.

Using a radio, the conductor instructed the engineer to proceed, then stop to make the necessary cut to clear on track No. 2. He instructed the engineer to go ahead, then stop after they were over the lead switch. After the switch was thrown, the conductor told the engineer by radio that all the switches were properly lined and that the track was clear. The conductor said that he was going to ride the rear car to the north end of track No. 16. The engineer then proceeded to back up at about 4 m.p.h.

A carman working on an adjoining track found the conductor's light and cap between the rails of track No. 16. The carman instructed the engineer to stop the movement and found the conductor between the rails of track No. 16.

Applicable Rules

33. EMPLOYES MUST:

. . .

(g) Watch and be prepared for sudden starting, stopping lurch or jerk when on equipment.

. . .

132. Do not ride on ends of moving cars except when operating hand brakes or where side clearances are close.

136. When on engines, cars, cabooses or other equipment, be prepared and protect against sudden stops or starts and slack action. . . .

(Uniform Code of Safety Rules)

Analysis

The conductor was last seen by two brakemen riding on the north end of TTAX 979105 - FLAT, holding onto the handhold. The flat car was loaded with one container on the north "A" end. Evidence on the car indicated that the conductor was standing up and riding in the center of the car on the north end, and leaning against the container. Slack action may have caused him to fall forward and under the cut of cars.

Cause

The accident was apparently caused by the conductor's failure to maintain a firm footing and a secure handhold.

REPORT: 27

RAILROAD: Chesapeake and Ohio Railway Company

LOCATION: Livonia, Michigan

DATE: April 23, 1979

The Accident

A 21-year-old brakeman was killed on April 23, 1979 at about 11:25 p.m. in Middlebelt Yard at Livonia, Michigan. Employed by the Chesapeake and Ohio Railway Company (C&O), the brakeman had two years and nine months of service. The temperature was 40°F. and the weather was clear.

Background

In the accident area from south to north the track layout consists of a running track, identified as the third rail, the eastbound main (track No. 2), the westbound main (track No. 1), and the yard lead track. Various yard tracks emerge from the north side of the yard lead to form Middlebelt Yard. A small yard office structure is located a few feet north of the yard lead. Except for a small light mounted on the east end of the yard office, Middlebelt Yard is not illuminated.

The front brakeman had been issued a copy of the carrier's operating rules and last attended a C&O rules class on October 13, 1977. On October 19, 1978 he attended a class on foreign lines rules, timetable, and safety rules.

Circumstances of the Accident

A road crew consisting of an engineer, a front brakeman, a conductor, and a flagman went on duty at 4:30 p.m. on April 23 at Grand Rapids, Michigan to operate freight train No. DT-10 to Rougemere Yard in the Detroit area. Fourteen cars were to be set off at Middlebelt Yard.

At 10:00 p.m. a crew consisting of an engineer, a conductor, and two brakemen went on duty at Middlebelt Yard to operate the 10:00 p.m. Middlebelt Local with locomotive No. 6602 and caboose No. 3660. About 11:15 p.m. the engineer and front brakeman moved the locomotive, headed east, and the caboose from the yard via the yard lead across the two main tracks to the third rail. The locomotive stopped so that the caboose was located opposite the yard office. The conductor and the flagman remained in the yard office. When train No. DT-10 approached Middlebelt Yard, the

local conductor and flagman left the yard office, walked across the main tracks, and boarded the west end of the caboose. The flagman entered the caboose and turned on the rear-end marking device, while the conductor stood on the platform and instructed the engineer by radio to back up. After issuing the instructions, the conductor entered the caboose.

The No. DT-10 engineer and front brakeman saw the locomotive and caboose standing on the third rail, and observed the two men cross the tracks in front of train No. DT-10. As the No. DT-10 front brakeman prepared to leave the locomotive compartment, the engineer cautioned him about the presence of the third rail and the possible movement of the locomotive in either direction on the third rail. According to the engineer, the front brakeman acknowledged the warning.

The front brakeman left the locomotive cab from a door on the fireman's side, walked across the front of the locomotive, descended the right front ladder, and prepared to make the cut on the Middlebelt set-off. The front brakeman carried a lantern in the crook of his arm and a portable radio in his back pocket as he descended the ladder. The engineer observed that the front brakeman safely reached the ground and that the locomotive was about 50 feet west of the local's caboose. The engineer looked over his right shoulder and noted that the front brakeman was standing on the ground with his lantern shining downward.

The engineer of the Middlebelt local later indicated that, in accordance with normal practice, he did not sound the locomotive whistle or bell before starting the backup movement. He also stated that neither of the locomotive's headlights were illuminated.

After the DT-10 engineer reached the point where he thought he should be stopping, he tried to contact the front brakeman on the radio but received no response. After hearing no response from the engineer's radio transmission, the No. DT-10 flagman attempted to contact the front brakeman by radio. When the front brakeman did not answer, the flagman instructed the engineer to stop the train. The flagman got off the caboose and walked toward the front end of the train to look for the front brakeman. He saw the light from a lantern on the ground and found the severed body of the front brakeman on the third rail opposite the Yard Office.

Applicable Rules

G. The use of intoxicants or narcotics, or dangerous drugs by employes subject to duty, while on duty, or on Company property is prohibited.

M.-1. Employes must exercise care to avoid injury to themselves or others. . . . They must expect movement of trains, engines or cars at any time, on any track, in either direction.

30. The engine bell must be rung when an engine is about to move, except after momentary stops in continuous switching movements. . . .

(Chessie System Operating Rules)

34-A. . . . It is the conductor's responsibility to have each employe located on the rear of the train or on the lead end of a train being shoved to maintain a vigilant lookout for signals and conditions along the track which affect the movement of the train. If the train is not being operated or controlled in accordance with the signal indication or other conditions requiring speed to be reduced or movement stopped, crew members on the rear of the train or lead end of train being pushed will, if possible, communicate with the Engineer at once and if he fails to properly control the speed of the train, they must take necessary action including operation of the emergency valve. . . .

(The Chesapeake and Ohio Railway Company Michigan Division Timetable No. 1, 1977)

Analysis

After getting off the locomotive, the front brakeman either slipped, fell, or stepped into the path of the moving caboose on the third rail. The county medical examiner's report of the body's condition revealed an alcohol content of 0.07 percent. The Michigan State Vehicle Code, Section 257.625a, (1)(c), states that a 0.10 percent blood alcohol level is considered as being intoxicated.

The carrier rules require the locomotive bell to be rung when the locomotive is going to move.

After instructing the engineer to back up, the conductor left his position on the rear platform of the caboose and entered the caboose, permitting the train to be pushed without an employee on the rear end.

Cause

The front brakeman failed to exercise due care and fell or stepped into the path of the moving caboose.

Contributing factors were:

1) Failure of the local train engineer to ring the locomotive bell when the locomotive was about to move.

2) Failure of the local train conductor to maintain a lookout for conditions along the track which affected the backward movement of the train and to take necessary action to stop the train.

REPORT: 28

RAILROAD: Alabama Great Southern Railroad Company

LOCATION: Boligee, Alabama

DATE: April 29, 1979

The Accident

A 31-year-old brakeman was fatally injured during a side collision which occurred during a switching operation at Boligee, Alabama on April 29, 1979 at about 10:35 p.m. Employed by the Alabama Great Southern Railroad Company, the employee had 23 months of service. It was dark and cloudy at the time of the accident.

Background

At Boligee, a St. Louis-San Francisco Railway Company interchange track parallels the main track of the Alabama Great Southern Railroad Company on the west. A north and south crossover, equipped with a time lock and hand operated switches, connects the two tracks. The hand operated switches are located approximately 16 feet apart.

The brakeman last attended an operating rules examination class on July 8, 1977.

Circumstances of the Accident

At about 10:30 p.m., train No. 55, a second class southbound freight train consisting of two locomotive units and 60 cars, arrived at the interchange track. The fifth car was standing on the north switch of the north crossover. The flagman uncoupled the four head cars from the train and instructed the engineer by radio to move south of the south crossover. The brakeman rode the cars to the south crossover switch, activated the time lock, and aligned the main track switch at the interchange track. The brakeman mounted the north end of the lead car and began applying the hand brake as the cars moved northward through the south crossover toward the interchange track at a speed of about 4 m.p.h.

The flagman used a fusee instead of a switchman's lantern for lighting and proceeded to the north and south crossover switches on the interchange track to align the north switch of the south crossover. The flagman inadvertently aligned the south switch of the north crossover.

When the movement reached the south switch of the north crossover, it was directed back toward the main track by the north crossover. The lead car struck the side of the cars standing on the main track, resulting in a raking side collision and a derailment. The brakeman was found on the ground between the first and second cars of the movement.

Applicable Rules

7. Employees whose duties may require them to give signals must provide themselves with the proper appliances, including portable radio when available, keep them in good order and ready for immediate use.

104. The position of a switch or derail being used is the responsibility of the employee handling it. This, however, does not relieve other crew members of responsibility where and when they are in position to observe the position of switches and derails.

. . .

104(b). Employees lining switches must see that points fit properly and that switches having latches are securely latched.

(Southern Railway System Operating Rules)

Analysis

The flagman stated that he attempted to obtain a switchman's lantern before going on duty. He also stated that he was told to wait until Monday for the chief clerk since a switchman's lantern could not be given out on Sunday.

There were no witnesses to the accident. During the collision, the brakeman apparently fell to the gound and was run over by the derailed car.

Cause

The flagman aligned the wrong switch diverting the movement causing a collision with the cars on the main track.

The absence of the required switchman's lantern, the carrier's failure to enforce its rules, and the unavailability of proper appliances may have contributed to the accident.

REPORT: 29

RAILROAD: Missouri Pacific Railroad Company

LOCATION: Paragould, Arkansas

DATE: May 1, 1979

The Accident

A 36-year-old brakeman was fatally injured at Paragould, Arkansas on May 1, 1979 at about 5:10 p.m. Employed by the Missouri Pacific Railroad Company (MP) the brakeman had seven years of service. The weather was clear.

Background

The accident occurred on the spur track to the Darling Company's plant, 105 feet south of the main track switch which is located at Mile Post 217.95. The Paragould station site is at Mile Post 219.9.

The train crew consisted of the conductor, an engineer, and two brakemen. After an off-duty period of 15 hours and 40 minutes the crew went on duty at 2:00 p.m. at Wynne, Arkansas. The crew was assigned to Local No. 786, operating from Wynne to Paragould (59 miles) and returning to Wynne.

Circumstances of the Accident

Operating as North No. 786 the train arrived at Paragould at 4:35 p.m. on the day of the accident. After switching operations were performed, the train was reassembled on the main track. The first unit on the north end of the train was a loaded, covered gondola car which was to be spotted at the Darling Company unloading facility. The caboose was placed as the second unit from the north end for the southward return trip to Wynne. The locomotive was then coupled to the north end and the train, consisting of seven cars and a caboose, was hauled northward about 800 feet. It stopped 200 feet south of the Darling Company spur switch. The locomotive, the first car, and the caboose were uncoupled from the train; entered the Darling Company spur track; and coupled to an empty car at the unloading facility. The locomotive pulling the two cars and the caboose returned to the main track. The conductor lined the switch for the main track, and the caboose and empty car were cut off in motion by the brakeman. The cars rolled southward and coupled to the standing train, south of the switch.

The brakeman boarded the remaining car, a covered gondola equipped with continuous running boards around the sides and ends, and positioned himself on the southwest corner of the running board. The conductor lined the switch for movement onto the Darling Company track. As the car was being pushed by the locomotive, the conductor boarded the southwest corner. The conductor climbed onto the running board, walked past the brakeman toward the center of the side of the car, and positioned himself about four feet away from the brakeman. The engineer was seated at the controls in the southwest corner of the locomotive and saw this activity. The train speed was increased to about 5 m.p.h.

After traveling about 105 feet, the brakeman fell from the end of the moving car and into its path. Although the locomotive brakes were placed in emergency, the movement continued for 130 feet. The car and the locomotive passed over and dragged the brakeman between the rails. When the movement stopped, the brakeman was found between the rails, lodged against the rear pilot of the locomotive.

The brakeman was taken by ambulance to a nearby hospital. He died at 8:00 p.m.

Applicable Rules

General Rule L. Constant presence of mind to insure safety to themselves and others is the primary duty of all employees and they must exercise care to avoid injury to themselves and others . . .

Basic Rule 132 Do not ride on ends of moving cars except when operating hand brakes or where side clearances are close.

(Missouri Pacific Railroad Company Uniform Code of Safety Rules)

Analysis

The conductor briefly saw the brakeman when he landed between the rails in the path of the car. When the conductor arrived at the rear of the locomotive, he asked the other brakeman what happened and he replied that he did not know. The conductor and engineer stated that there was no sudden buff or slack action. The crew members said that the brakeman appeared to be alert and his reactions were normal prior to the accident.

Cause

The brakeman failed to maintain a secure handhold and secure footing on the car on which he was riding.

REPORT: 30

RAILROAD: National Railroad Passenger Corporation

LOCATION: Charleston, West Virginia

DATE: May 4, 1979

The Accident

On May 4, 1979 a 29-year-old National Railway Passenger Corporation (Amtrak) ticket agent, with five years and six months of service, was shot to death in the ticket office at Charleston, West Virginia.

Background

Not applicable.

Circumstances of the Accident

The ticket agent reported for duty at 6:00 a.m. on the day of the accident and performed his regular duties throughout the morning. At about 1:30 p.m., two assailants entered the Amtrak ticket office. They apparently climbed through the ticket sales window to enter the agent's private office. The assailants shot the ticket agent in the head with a .22 caliber weapon.

Analysis

The incident was investigated by the Charleston Police Department.

Cause

A person or persons unknown shot the ticket agent.

REPORT: 31

RAILROAD: Long Island Rail Road

LOCATION: Jamaica, New York

DATE: May 14, 1979

The Accident

A 33-year-old car repairman was fatally injured on May 14, 1979 at about 9:30 a.m. in the Dunton Car Shop at Jamaica, New York. Employed by the Long Island Rail Road (LI), the repairman had 15 years of service. The weather was clear.

Background

The LI's Dunton Car Shop is located at Johnson Avenue in Jamaica, New York. There are eight tracks in the shop that are used for the inspection and repair of the electric car fleet. The tracks have inspection pits, used when examining the underside of the cars. The pits vary in depth from 42" to 55", measured from the floor of the pit to the top of the rail, and are illuminated by 350-volt florescent lights.

The car repairman last attended a safety rule instruction course in January 1979. He and fellow workers were regularly reminded during their work periods of various safety rules. A safety rule calendar was also issued to Equipment Department employees.

Circumstances of the Accident

The accident occurred in the inspection pit of track No. 7. The carman was found lying in water accumulated on the pit floor. The employee who discovered the carman notified the supervisor and began to administer mouth-to-mouth resuscitation. After applying this procedure for a period of time, the employee became tired, stood up, struck a broken florescent light fixture, and was rendered unconscious.

The New York City Fire Department emergency team arrived at the accident scene and quickly revived the unconscious employee who had been administering mouth-to-mouth resuscitation. They could not, however, revive the carman who was lying in the pit. The carman was pronounced dead at the scene at 10:23 a.m.

Applicable Rules

Not applicable.

Analysis

There were no witnesses to the accident. It can be assumed that when the car repairman was entering or leaving the inspection pit his body may have been exposed to the live wires of the broken florescent light fixture.

Medical report from Durosier Queen County Morgue states that the carman's body had burn marks on the left forearm.

Cause

The carman came in contact with a live electrical circuit and was electrocuted.

REPORT: 32

RAILROAD: Consolidated Rail Corporation

LOCATION: South Plainfield, New Jersey

DATE: May 17, 1979

The Accident

A 23-year-old "portable equipment" operator was fatally injured on May 17, 1979 at about 9:00 a.m., near the Inman Road grade crossing at South Plainfield, New Jersey. Employed by the Consolidated Rail Corporation, the operator had four years and seven months of service. The temperature was around 70°F. and the weather was clear.

Background

A track maintenance crew, consisting of eight men and a foreman, went on duty at 7:00 a.m. on the day of the accident. They were engaged in a track-raising project on the main line near the Inman Avenue rail-highway crossing at South Plainfield, New Jersey.

A diesel powered tractor with a back hoe and front-end bucket loader (Model G207D), weighing 10,600 pounds, was being used at the work site. Operation was controlled from an enclosed cab, equipped with a metal roof and steel roll bars, and an adjustable seat with safety seat belts.

The carrier issues a copy of the "Safety Rules" to each employee. The foreman conducts a safety meeting at the beginning of each tour of duty.

The employee was promoted to the position of "portable equipment" operator on April 16, 1979.

Circumstances of the Accident

The tractor, astraddling the south rail, carried ballast material from a storage area to the work site, a distance of about 70 feet, and had completed six trips prior to the accident. On the final trip, the operator filled the front bucket with stone, raised the bucket approximately 5 feet above the rail, and moved west to the work site. The right wheels of the tractor were between the rails with the left wheels moving on the south-side ends of the ties.

At the point of the accident, the operator allowed the left wheels of the tractor to slip off the end of the ties and into a ditch, causing the machine to tip to the left. The operator tried to escape by jumping through the open, left-side cab window. He was crushed between the top edge of the cab roof and the south side embankment.

Applicable Rules

3341. While in vehicle or other self-propelled equipment that is equipped with approved seat belt:

(a) Promptly on entering vehicle or equipment adjust belt around self with necessary slack for comfort, but not enough to be thrown forward in the event of collision, lurch or sudden stop.

(b) Keep belt secured around self until preparing to leave the vehicle or equipment after it has stopped.

(c) Driver must not move vehicle until the occupants have all available belts properly applied.

(Conrail Safety Rules Maintenance-of-Way and Structures Employees)

Analysis

Although nine other employees were present, the only witness to the accident was the foreman. He stated, "All I saw was the machine go over."

Post-accident investigation disclosed no mechanical defects to the machine. The seat was equipped with a seat belt which was not used by the employee at the time of the accident.

Cause

Failure of the employee to maintain control of the vehicle which he was operating. A contributing cause may have been the employees failure to use seat belts.

REPORT: 33

RAILROAD: St. Louis Southwestern Railway Company

LOCATION: Dallas, Texas

DATE: May 17, 1979

The Accident

A 31-year-old yard foreman was fatally injured on May 17, 1979 at about 11:50 p.m. in Miller Yard, Dallas, Texas. Employed by the St. Louis Southwestern Railway Company (SSW), the yard foreman had seven years of service. The weather was clear and the temperature was 71°F.

Background

The crew of Industry Job No. 305 (Locomotive SP 2718) consisted of a yard foreman, an engineer, and two yard helpers. The crew went on duty at 10:30 p.m. on May 17, 1979 at Miller Yard. The tracks in the vicinity of the accident are south to north, and designated: main track, track Nos. 161 to 163, and track Nos. 171 to 175.

According to carrier records, the employee's last rules examination was on September 15, 1976. The carrier holds rules classes each year and safety meetings every month but attendance is not compulsory.

The SSW operates Miller Yard but Southern Pacific Rules and Regulations were in effect.

Circumstances of the Accident

Just prior to 11:50 p.m., the yard helpers and the engineer headed north with 11 cars on the main track from the yard office to the north end of the yard, where they were to perform switching service. The locomotive was backing up. The foreman drove his personal auto to a location between track Nos. 163 and 171. When the locomotive and cars arrived at the main track switch to the yard tracks, one helper got off the locomotive from the engineer's side and the other from the fireman's side to line a derail. After the yard foreman parked his car, he lined the switch for track No. 172 in preparation for a switching move. He told the yard foreman that the last car had the hand brake on and that he would release it. As the cars were moving south to track No. 161, a helper boarded the trailing end of the south car from the east side, released the brake, and got off the car on the engineer's side.

When the yard foreman boarded the car, he was standing on the fireman's side of the cars. After the helper got off the car, he heard something dragging in the gravel and sensed that something was wrong. He gave the engineer a stop signal. After stopping, the helper went to investigate and found the yard foreman between the rails of track No. 161. The engineer tried to render first aid to the yard foreman.

Applicable Rules

General Rule N. When necessary to climb through standing cars, employes may, when practicable, cross only through those cars equipped with end platforms or over the body of an empty flat car. They must not place any part of their body between coupler horn and end sill regardless of whether car is equipped with standard draft gear arrangement, sliding sill arrangement or end-of-car cushioning device. CROSSING THROUGH MOVING EQUIPMENT IS PROHIBITED.

(Southern Pacific Transportation Company Rules and Regulations of the Transportation Department)

Analysis

Post-accident investigation disclosed that no unusual conditions existed in the area which could have contributed to the accident.

The employee was last seen by the yard helper on the east side of the cut of cars. Apparently, he boarded the trailing end of the 11th car (ATSF 626067) or the leading end of the 10th car (ATSF 14942) to cross over to the west side of the cars. He either tripped or slipped and fell between the cars. There was evidence that he was struck by the lead wheel on the east side of the 10th car and dragged for approximately 23 feet.

Cause

The employee attempted to cross between two moving cars and slipped or tripped and fell between the cars.

REPORT: 34

RAILROAD: Consolidated Rail Corporation

LOCATION: Fulton, New York

DATE: June 2, 1979

The Accident

A 53-year-old brakeman was fatally injured on June 2, 1979 at about 3:40 p.m. in the Miller Brewing Company Yard at Fulton, New York. Employed by the Consolidated Rail Corporation, the brakeman had nine years of service. The weather was clear and dry.

Background

Job FS-1 was assigned to flat switching operations at a yard located at the Miller Brewing Company. The yard consists of four tracks running north and south and are numbered one through four from west to east. These tracks are parallel to and west of Conrail's main track which is south of Fulton, New York.

Off a lead from track No. 1 there are eight other tracks leading into the plant from the west. These tracks are labeled from south to north C, D, H, J, K, L, M, and "Can House Lead."

Attendance at yearly rules classes is required by the carrier. The brakeman last attended a rules class on July 25, 1978. The brakeman had a physical examination on February 16, 1979 and received a safety performance check on May 5, 1979.

Circumstances of the Accident

On the day of the accident, the crew's first job was to switch "K" track and then make a yard check. The crew then went to lunch and returned at about 1:15 p.m. The next move was to switch tank car (AESX 10880) from track No. 1 to the west end of track "D" inside the "Brew House." The tank car was moved from track No. 1 and placed on track "C," where it was to remain until track "D" was cleared. In that area track "C" is on the west, tangent to the building and curving east and south about 12° for about 70 feet. There is little to no grade.

The conductor and brakeman were standing on the north side of track "C," opposite the coupling between the tank car and the locomotive. Another brakeman was stationed at the switch about 60 feet in front of the locomotive. The engineman was operating the locomotive from the compartment on the southeast side. The conductor instructed the first brakeman to separate the locomotive from the tank car and send the locomotive into track "D."

At about 3:40 p.m. the conductor walked toward the "Brew House" which is beside and north of track "D." The second brakeman shouted for help. When the conductor returned, he could see that the first brakeman had been injured. An ambulance was called. The injured brakeman died in the hospital emergency room at approximately 5:00 p.m. There were no witnesses to the accident.

Applicable Rules

1304. Expect equipment to move on any track, in any direction at any time, therefore, employees must look in both directions before:

(a) Fouling or crossing a track.
(b) Going between or around the end of equipment.
(c) Moving out from or under equipment.
(d) Getting on or off moving equipment.
(e) Operating a switch.
(f) Performing any other applicable operation.

1711. Before fouling, going between or under STANDING equipment for inspection, adjustment, repairs or any other purpose.

. . .

(f) Equipment must be separated by a distance of at least 30 feet before any draw bar, knuckle, hose or other between equipment adjustment is made.

Analysis

The engineman was receiving signals from the south side. The accident area was free of debris and the ballast was a fine stone. The top of the ties provided good walking conditions.

Cause

The yard brakeman failed to take the necessary precautions and placed himself between the locomotive and the tank car.

REPORT: 35

RAILROAD: Louisville and Nashville Railroad

LOCATION: Corbin, Kentucky

DATE: June 5, 1979

The Accident

A 26-year-old switchman was fatally injured on June 5, 1979 at about 4:05 a.m. in Corbin, Kentucky. Employed by the Louisville and Nashville Railroad, the switchman had five years of service. The temperature was about 50°F. and the weather was clear.

Background

The "West Yard" has 17 tracks connected at each end to a lead track. In the accident area, all of the tracks have a slight ascending grade from north to south. The accident area was well illuminated with flood lights.

The employee was last examined and passed the carrier's operating rules test on May 29, 1979. The date of his last physical examination was not available. He was given books and material for a training course on February 1, 1975. He was examined on these rules and was promoted to the conductor's position on October 20, 1975. No other training records were available.

Circumstances of the Accident

The accident occurred on the lead track. The switchman was a member of a yard switching crew that consisted of a yard foreman, two switchmen, and an engineer. The crew had been on duty for five hours and five minutes before the accident occurred. Switching was being performed from the north and cars were uncoupled and switched into several yard tracks. Radio communication was being used for the switching movements instead of hand signals.

The switchman was last seen in the vicinity of the lead switch after four cars had been switched to track No. 3. He applied a hand brake on the north end of the south (28th) car which was to be switched onto track No. 15. The other switchman was near track No. 15 when he last heard the switchman radio instructions to the engineer to back up and "kick" the cars.

At this time, the yard foreman entered the switchman's shanty to contact the yardmaster. As the movement proceeded southward, the other switchman realized that the car had not been uncoupled

and he stopped the movement as the cars entered track No. 15. He uncoupled the car and proceeded northward to track No. 13, where he found the switchman between the rails of the lead track, a short distance north of track No. 13.

Applicable Rules

M. Employes must exercise care to avoid injury to themselves and others . . . Employes must not rely upon others to give notice of an approaching train, but must expect the movement of trains at any time, on any track, in either direction. . . .

(Louisville and Nashville Railroad Company Rules of The Operating Department)

RIDING ON OR GETTING ON OR OFF LOCOMOTIVES AND CARS

38. Employees are prohibited from stepping from the front of a locomotive or car within fouling distance of the track in the direction in which it is moving.

(Louisville and Nashville Railroad Company Transportation Department Safety Rules)

Analysis

The switchman's lantern and radio were found on the lead track a short distance north of track No. 9. Evidence indicated that he was dragged under the car from track No. 9 to track No. 13, a distance of about 335 feet. There were no witnesses at the scene of the accident and the exact circumstances of the accident could not be determined.

Cause

The switchman did not stand clear of the equipment being switched and was run over by a freight car.

REPORT: 36

RAILROAD: St. Louis-San Francisco Railway Company

LOCATION: Hollowell, Kansas

DATE: June 8, 1979

The Accident

A 38-year-old trackman was killed on June 8, 1979 at about 9:30 a.m. near Hollowell, Kansas. Employed by the St. Louis-San Francisco Railway Company (SLSF), the trackman had 10 years of service. It was raining heavily at the time of the accident.

Background

At the accident site, the single main track is crossed at grade by Faulkner County Road. The crossing is protected by a conventional reflectorized crossbuck, located about 11 feet south of the south rail and 7 feet east of the county road. In addition, a railroad warning sign is located 448 feet south of the south rail and three feet east of the county road.

Approaching the accident area from the west, the track is tangent to the point of the accident. For a considerable distance beyond there is an 0.12 percent descending grade. The visibility for observing vehicular traffic traveling north is limited to approximately 17 feet west of the 18-foot blacktop road crossing because of heavy vegetation and a line pole located on the southwest corner of the crossing.

The carrier's records indicate that the foreman and trackman were issued a book of safety rules and last attended a carrier safety meeting on May 30, 1979. The foreman was six months past due on a re-examination of the carrier's "Maintenance-of-Way Rules" for operating track motorcars.

Circumstances of the Accident

On the day of the accident, the section foreman and a trackman, who were headquartered at Oswego, Kansas, were assigned to patrol the track eastward from Oswego to Columbus, Kansas. They used a Fairmont MT-14 track motorcar, weighing 1,055 pounds. The motorcar was equipped with a canopy, a glass windshield, a lighted electric headlight, and operable windshield wipers.

Shortly after 8:30 a.m., the track motorcar left Oswego, which is seven miles west of the accident site. The foreman was at the controls, positioned to the rear on the north side, and the trackman was seated to the front on the south side. The speed of the motorcar was reduced to 5 m.p.h. before entering the crossing and observations were made in both directions. No opposing vehicular traffic was observed at that time. When the track motorcar was approximately five feet into the rail-highway crossing, a northbound fuel tank truck moved onto the crossing area in front of the motorcar causing the collision. The impact of the collision derailed the track motorcar and threw the trackman onto the crossing surface. He died at the scene. The foreman was not seriously injured.

Applicable Rules

217. Employees operating cars must be qualified by passing such examinations as may be prescribed, examinations to be made a matter of record and a certificate furnished. . . . Employees must be re-examined as frequently as practicable. Each re-examination period must not exceed three years.

222. . . . Cars must be under control approaching crossings at grade and, unless view is unobstructed, stopped and flagman sent to crossing to protect movement. . . .

229. . . . In wet weather more distance should be allowed in which to stop the car.

(St. Louis-San Francisco Railway Company Rules for the Maintenance-of-Way and Structures)

Article 26 Railroad Grade Crossing: stopping required.

(b) . . . The driver of a motor vehicle specified in subparagraphs (1) through (6) of this paragraph shall not cross a railroad track or tracks at grade unless he first: stops the vehicle within 50 feet of, and not closer than 15 feet to the tracks; thereafter listens and looks in each direction along the tracks for an approaching train; and ascertains that no train is approaching.

When it is safe to do so, the driver may drive the vehicle across the tracks . . . (3) Every motor vehicle which, in accordance with the regulations of the U. S. Department of Transportation is required to be marked or placarded with one of the following markings: . . . (iv) Flammable.

(Kansas Department of Transportation Regulations)

Analysis

A 1973 GMC 2-ton tank truck, owned by Hale Petroleum Company of Columbus, Kansas, was being driven in a northern direction on Faulkner County Road. The tank truck had a capacity of 1,600 gallons of fuel and was loaded with 1,350 gallons of diesel fuel and 50 gallons of gasoline. The truck driver's visibility was limited to approximately 22 feet, looking westward toward the approaching track motorcar. The tank truck driver was not injured in the accident.

The highway speed limit in the accident area is 55 m.p.h. and the Kansas State regulations require tank trucks to stop at rail-highway crossings. The tank truck was not stopped as required and was moving at about 20 m.p.h. when the accident occurred.

Cause

The accident was caused by the failure of the truck driver to stop at the rail-highway crossing, as required by Kansas State regulations, and the failure of the track foreman and trackman to stop the track motorcar and protect the movement over the crossing as required by carrier rules.

REPORT: 37

RAILROAD: Baltimore and Ohio Railroad Company

LOCATION: Lockland, Ohio

DATE: June 19, 1979

The Accident

A 56-year-old yard brakeman was fatally injured on June 19, 1979 at about 5:30 p.m. at Lockland, Ohio. Employed by the Baltimore and Ohio Railroad Company, the yard brakeman had 12 years of service. The weather was clear.

Background

The accident occurred on a private industrial track (No. 44) at the Celotex Corporation plant in Lockland, Ohio. The track is a westward, left-hand, 25° curve track with a concentric concrete loading dock about 4 feet high and extending approximately 480 feet along the entire south side of the curve. The accident location is 0.8 miles from the B&O's Maplewood Yard, and is therefore within yard limits and governed by yard rules.

On the day of the accident the Maplewood Yard assignment (No. 288225) was comprised of an engineer, a conductor, and two brakemen. They arrived at the plant about 5:00 p.m. with three cars and a locomotive. The conductor and the yard brakeman uncoupled two cars on track No. 44. Switching movements were made on an adjacent track (No. 30) followed by the locomotive and four cars returning to track No. 44.

The yard brakeman was last examined on the carrier's operating rules in April 1977, attended safety instructions on December 18, 1978, and received on-the-job safety instructions on May 31, 1979.

Circumstances of the Accident

The conductor was on the north side (engineer's side) of the coupling movement. The yard brakeman was on the south side of the coupling with his back turned toward the loading dock, facing north, and looking at the conductor.

After the coupling was made, the conductor stepped between the coupled cars, coupled the airhoses, and stepped back from the coupling.

The yard brakeman stepped into the coupling from the south side and opened the angle cock on the west car (VS 2112). He stepped away from the angle cock, faced the conductor with his back toward the loading dock, and gave the conductor a "proceed" hand signal. The conductor relayed the "proceed" hand signal to the engineer. The west box car at the coupling (VS 2112) was pushed about 53 feet west into track No. 44 and uncoupled by the conductor.

At about 5:30 p.m., after conducting switching operations on adjacent track No. 30, the conductor discovered the brakeman pinned between the loading dock and the box car (VS 2112) near the mid-point of the side of the car. The brakeman died at the scene of the accident at 6:15 p.m.

Applicable Rules

M-1. Employees . . . must inform themselves as to the location of structures or obstructions where clearances are close.

105-C Before coupling to cars on, or when moving over a . . . industrial track, loading track, private track or similar track, it must be known that the track is free of any obstructions, attachments or conditions that would interfere with safe movement . . .

(Chessie System Operating Rules)

44. Employees on or about tracks must always be alert to keep out of danger, exercising care to avoid injury to themselves or others . . .

46. Employees on or about any tracks . . . must move to a place of safety upon the approach of rolling equipment on the track where they are working . . . Employees must always position themselves at a safe distance from moving equipment . . .

(Chessie System Safety Rules)

Analysis

Post-accident investigation revealed that at the point where the brakeman opened the angle cock the pinning box car had a maximum clearance to the loading dock of about 25 inches. As the car was pushed on the curved track, the clearance decreased to about 5 inches at the point where the brakeman was found pinned between the loading dock and the side of the box car.

The conductor stated that the brakeman had worked on the same job with him for about 3 years and had been informed of the switching movements planned for track Nos. 30 and 44. He also stated that it was common practice for crew members to be positioned on both sides of a coupling to expedite air hose couplings. It was not established whether the brakeman remained at his original location or if he attempted to move to a place of safety.

Cause

The accident was caused by the failure of the brakeman to remove himself from a place of close clearance and to move to a place of safety.

REPORT: 38

RAILROAD: Chicago and North Western Transportation Company

LOCATION: Des Moines, Iowa

DATE: June 19, 1979

The Accident

A 19-year-old brakeman was fatally injured on June 19, 1979 at about 10:05 p.m. in Des Moines, Iowa. Employed by the Chicago and North Western Transportation Company (CNW), the brakeman had 14 days of service. The weather was dark and it was raining.

Background

The railroad bridge across Northeast 54th Street is a single track, five span, ballast decked structure that is 70 feet long and 14 feet wide. The bridge is located 8.2 miles north of Des Moines at Mile Post 227. There are no walkways or safety railings on either side of the bridge. The distance from the track's center to the west edge of the bridge is 7 feet. The distance from the track's center to the east edge of the bridge is 7 feet 4 inches. The distance from the top of the rail to the gravel roadway below is 16 feet. The bridge deck is covered with granite ballast which slopes downward from the rail to the edge of the bridge.

The brakeman received four days of classroom instruction on "General Safety Rules," operating rules, and railroad operating practices; four days of yard switching and on the job training on three student road trains. Training was completed on June 7, 1979.

Circumstances of the Accident

The train crew reported for duty at 7:45 p.m. on June 19, 1979 at CNW's Bell Avenue Yard in Des Moines, and took a taxi to Bondurant, Iowa to operate CNW Train Extra 883 South to Des Moines. The train departed Bondurant at 8:30 p.m. and proceed southward until it stalled on an ascending grade, moving in a 2^{o} curve to the left, for south-bound train movements. When the train stalled, the 19th and 20th car of the consist were on the railroad bridge at Northeast 54th Street. The engineer received instructions from the dispatcher to move 27 cars in the front of the consist south to Reddy Pass, a distance of six miles. The front brakeman started toward the rear of the train to uncouple the 27 cars, walked along the outside of the curve, and crossed over to the inside of the curve to keep his lantern signal visible to the engineer. The brakeman was last seen by the engineer walking on the inside of the curve.

At about 10:05 p.m. a passing motorist found the brakeman on the north edge of the roadway under the railroad bridge.

Applicable Rules

M. Employes must exercise care to prevent injury to themselves or others.

. . .

(The Consolidated Code of Operating Rules)

Analysis

Post-accident investigation disclosed there was no unusual condition of the bridge, track, or ballast in the accident area that would cause a person to slip, trip, or fall.

Local police authorities determined that no foul play was involved in the accident. The Polk County Medical Examiner ruled that the brakeman's death was caused by cardiac arrhythmia due to shock.

Cause

The fall from the railroad bridge to the roadway below caused the brakeman's death. The immediate cause of the fall could not be determined.

REPORT: 39

RAILROAD: Illinois Central Gulf Railroad

LOCATION: Clinton, Illinois

DATE: June 29, 1979

The Accident

A 27-year-old section laborer was killed on June 29, 1979 at about 12:30 p.m. near Clinton, Illinois. Employed by the Illinois Central Gulf Railroad, the laborer had two years of service. The weather was dry and cloudy.

Background

The accident occurred 3 1/2 miles west of Clinton, Illinois, located at the north end of the Springfield District that extends from East St. Louis to Clinton, Illinois, a distance of 142 miles.

In the accident area there is a single main line track running geographically east and west; timetable directions are north and south.

The carrier issues a book of "Maintenance-of-Way and Safety Rules" to each maintenance-of-way employee. During the investigations following the accident, machine operators and track laborers stated that they had never been examined on the rules book.

Circumstances of the Accident

On the day of the accident, the laborer was engaged in pulling rail spikes from the ties. He started walking eastward to get a drink of water. The hydro-spiker moving eastward, stopped, and he boarded it for a ride to where the water cooler was located.

The laborer stationed himself on the east end of the machine in a standing position. After traveling about 60 feet he lost his footing, jumped, fell in front of the machine, and was pinned under the machine's turntable, located in the center of the machine.

Applicable Rules

737. POSITION OF MEN ON TRACK CARS
Employes must not get on or off moving cars except in emergency. All occupants must be seated while track cars are in motion and must keep constant look-out. When track car has two or more occupants, one must be positioned to watch for following movements. Employes must not ride on push cars or trailers unless motor car is fully occupied. In this case, employes must be seated with feet on deck of trailer car.

(Illinois Central Gulf Railroad Company Rules for the Maintenance-of-Way and Structures)

Analysis

Paramedics arrived at the scene at approximately 12:40 p.m. No vital signs were found and the employe was removed to a hospital where he was pronounced dead on arrival.

The machine was checked following the accident and no defects were found. The machine operator had experienced no difficulties with the machine's operation.

Cause

The track laborer failed to keep a firm footing and fell under the machine on which he was riding.

REPORT: 40

RAILROAD: Southern Pacific Transportation Company

LOCATION: Santa Clara, California

DATE: July 2, 1979

The Accident

A 63-year-old engineer died on July 2, 1979 at about 6:30 p.m. at Santa Clara, California. Employed by the Southern Pacific Transportation Company, the engineer had 38 years of service.

Background

Not applicable.

Circumstances of the Accident

The switch crew was preparing to enter the Container Corporation at Santa Clara to perform switching when crew members noticed the engineer slumped over the controls of the locomotive. The locomotive was standing still at the time. A fire department crew responded to a call for emergency assistance. The engineer was pronounced dead and a deputy coroner directed removal of the body.

Applicable Rules

Not applicable.

Analysis

Because of the condition of the engineer's health, the carrier had restricted his seniority to yard service only and restricted his duty assignments to one shift per day, five days per week.

Cause

The employee's existing medical condition resulted in a heart attack.

REPORT: 41

RAILROAD: Illinois Central Gulf Railroad

LOCATION: Vicksburg, Mississippi

DATE: July 18, 1979

The Accident

A 27-year-old switchman was killed on July 18, 1979 at about 1:25 a.m. in Vicksburg, Mississippi. Employed by the Illinois Central Gulf Railroad, the employee had five years of service. The accident occurred in the Vicksburg Yard. The weather was clear.

Background

A yard switching crew, consisting of a foreman, an engineer, and two switchmen, were on duty in Vicksburg Yard on the day of the accident. The crew went on duty at 11:50 p.m. on July 17, 1979 and primarily worked at the south end of the yard. Another switch crew went on duty at 11:30 p.m. to perform switching work at the north end of the yard.

Voice communications via a two-way radio is used in switching operations in Vicksburg Yard instead of hand signals. The two switch crews use separate yard radio channels to prevent communications conflicts. In the part of the yard where the accident occurred, the tracks are designated Nos. 1 through 7 from east to west.

Both switch crews were notified by the yardmaster that track No. 6 would be used as the pass-down track and switching would be performed from both ends of the track. Switching at the south end of the yard is performed from the left side since the switches are located to the left of the lead track.

The switchman was examined on "Operating and Safety Rules" on August 2, 1978. Supervisors hold oral safety talks with switch crews on an irregular basis but no attendance records are kept.

Circumstances of the Accident

During the course of the switching operations, the 11:50 p.m. crew working at the south end of the yard was instructed by the yardmaster to pull a caboose (IC 9531) from track No. 6 to be placed on an outbound train. At about 1:25 a.m., the crew proceeded northward to track No. 6 with the locomotive to couple it to the caboose. The rear switchman did not travel with the crew.

As the locomotive approached the caboose, the engineer was operating the controls from the right side of the locomotive cab, the foreman was occupying the front seat on the left side of the locomotive cab, and the switchman was standing on the left front steps of the locomotive using a hand set radio to direct the locomotive's movement. The first coupling attempt failed and the caboose rolled slowly northward about one car length before stopping. The switchman walked on the left side between track Nos. 6 and 7 and opened the knuckle on the south end of the caboose. He again gave the engineer instructions by radio to couple to the caboose. As the locomotive was nearing the caboose, 11 free-rolling cars that were switched into track No. 6 from the north, coupled to the north end of the caboose causing it to move southward and striking the locomotive. The couplers on the north end of the locomotive and the south end of the caboose bypassed and derailed the south truck of the caboose to the west. After derailing, the caboose moved about 17 feet southward, crushing the switchman between the caboose and a car standing on track No. 7.

Applicable Rules

103(e). When coupling or switching cars, or cars are cut off in motion, coupling speed must be within safety limits and proper precaution taken to prevent damage. When engines are working at both ends of a track, movements must be made carefully to avoid injury or damage.

(Illinois Central Gulf Railroad Operating Rules)

126. Employes must: (a) Expect the movement of trains, locomotives, or cars at any time, on any track in either direction.

230. Care must be used in coupling and uncoupling locomotive or cars. See that coupling appliances are in place, in good order, and that couplers will not override or pass each other when they meet.

(Illinois Central Gulf Railroad Safety Rules)

Analysis

Post-accident inspection of the equipment disclosed no defects which could have contributed to the accident. It could not be determined why the first attempt to couple the locomotive to the caboose failed.

Although the switch crew knew that cars would be switched into track No. 6 from the north end, they were not aware that 11 cars had been switched into that track when they proceeded to couple to the caboose. The engineer's and foreman's views of the track were restricted by the caboose which was to be coupled. The noise of the locomotive engine could have prevented the switchman from hearing the approaching cars. There were no witnesses to the accident.

Cause

By-passed couplers caused the derailment of the caboose and apparently the employee had no time to move out of the way. He was crushed between the caboose and a car on an adjacent track.

REPORT: 42

RAILROAD: Chicago, Milwaukee, St. Paul and Pacific Railroad Company

LOCATION: Watertown, Wisconsin

DATE: July 23, 1979

The Accident

A 44-year-old track crew employee was fatally injured on July 23, 1979 at about 8:55 a.m. near Third Street in Watertown, Wisconsin. Employed by the Chicago, Milwaukee, St. Paul and Pacific Railroad, the track gang member had 11 years of service. The temperature was 72°F. and clear.

Background

In the vicinity of the accident site, the track is tangent and the grade is 0.2 percent, descending westward. "Extra crew" No. 5557 was working westward installing crossties. Included in the mechanized equipment was a Jackson tamper trailing two push cars, followed by an RMC spiker or "Zapper." The push cars were carrying track material including a 55-gallon oil drum on the first push car and a Nordberg power jack on the second.

No records were available on the employee's safety training. The carrier places responsibility on the extra crew foreman to instruct and supervise employees on applicable safety rules. Extra gang employees are not issued safety rule books and are not examined on the safety rules. There are no records maintained of their attendance at safety meetings.

Circumstances of the Accident

Shortly before the accident, the RMC spiker caught up behind the ballast tamper and stopped. The spiker's mechanisms were shut down and the brakes applied. The tamper continued to operate and the RMC operator moved backward, closing the space left between the spiker and the trailing push cars. At the same time, the tamper began to move in reverse. The employee stepped between the machines and was facing the spiker with his back to the tamper. The second trailing push car pinned his right leg against the spiker, causing a puncture wound and damage to a tendon and an artery.

Applicable Rules

GENERAL RULES

8. . . .

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

. . .

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

27. Walking, standing, or sitting on tracks, or between rails of track, except in the performance of duty is prohibited.

. . .

(The Milwaukee Road, Safety Rules Maintenance-of-Way and Structures and Signal and Communications Departments)

Analysis

The crew was working with equipment that was unusually close together on the day of the accident. This placed an increased burden on the equipment operators to safely accomplish their responsibilities. The fatally injured employee placed himself between two track machines. He faced the machine that was shut down, and his back was exposed to the operating machine.

Cause

Death resulted from pulmonary embolus caused by injuries sustain in the accident.

Contributing factor was the failure of the employee to place himself in a position of safety on the track, which interfered with his observation of the tamper movement.

REPORT: 43

RAILROAD: Illinois Central Gulf Railroad

LOCATION: Hazelcrest, Illinois

DATE: July 25, 1979

The Accident

A 35-year-old yard foreman was fatally injured on July 25, 1979 at about 9:30 p.m. at Hazelcrest, Illinois. Employed by the Illinois Central Gulf Railroad, the yard foreman had five years of service. The weather was clear.

Background

Markham Yard consists of multiple classification and storage tracks, extending north to south. The tracks are numbered west to east and are of various lengths. "E Yard" is north of "A Yard" and connected by a crossover and a rehump lead track which runs north to south.

On the day of the accident, a yard crew consisting of an engineer, a yard foreman, and two yard brakemen went on duty at Markham "E Yard" at 4:00 p.m.

The yard foreman received a copy of the carrier's safety and operating rules at the time of his employment. His last rules examination was on August 11, 1978. The carrier conducts safety meetings but keeps no attendance records. Safety meetings are also conducted on their rail safety car. That car was scheduled for Markham Yard in August 1979.

Circumstances of the Accident

At about 8:45 p.m. the crew was instructed by the yardmaster to couple the cars on track Nos. 39, 40, and 41 in "E Yard," double the cuts of cars together, and pull the cars into track No. 4 in "A Yard." The crew proceeded toward track No. 39 and the brakeman coupled the cars on that track, while the yard foreman stayed on the east side of track No. 39 switch at the south end of the track.

The crew pulled the cars off track No. 39 and the yard foreman stopped the movement, via radio, when the cars cleared the track No. 39 switch. He then lined track No. 40 switch and instructed the engineer to move northward and the brakeman would couple the cars on track No. 40. The yard foreman stayed on the east side near track No. 40 switch.

After the cars were coupled on track No. 40 the brakeman, via radio, told the engineer to pull the cars southward.

When the cars cleared track No. 40 switch, the yard foreman stopped the movement; lined track No. 41 switch; told the engineer, via radio, to proceed northward and that the brakeman would couple the cars on that track. After the cars were coupled, the yard foreman was standing on the east side of track No. 41. The brakeman told the engineer that the cars were all together, to pull the cars southward to the mark at 171st Street, and to stop and see if the cars would fit on track No. 4 in "A Yard." When the engineer stopped the movement at 171st Street, the yardmaster, the brakeman, and the yard foreman agreed via radio that the cars would fit on track No. 4. The yard foreman told the yardmaster and the brakeman that there were 39 cars.

The engineer was then instructed to pull the cars to "A Yard," but he did not recall if the brakeman or the yard foreman gave him a "high-ball" by radio.

When the cars were moving southward off of track No. 41 toward "A Yard" at a speed of about 3 to 5 m.p.h., the engineer used the locomotive throttle between No. 1 and No. 2 positions until the locomotive was approaching the lead switch to "A Yard." The engineer then placed the throttle in idle position and applied the independent brake valve for a 10 to 15-pound application.

At this time, the second brakeman lined the switch as the movement continued toward track No. 4 switch. He lined that switch and the cars were then pulled into the clear at the south end of track No. 4. The second brakeman applied hand brakes on four cars at the south end of track No. 4.

At this time, the brakeman did not see the yard foreman. The brakeman had walked past the rehump lead switch when he heard a voice saying "Help me over here." He turned around, walked northward, and found the yard foreman lying between the rails of the lead rehump switch. The brakeman asked the foreman what happened and the yard foreman said, "The cars jerked and I fell off".

The yard foreman was taken to a hospital where he died at 10:26 p.m.

Applicable Rules

226. Employes must:

a) When practicable, get on or off at the rear end of the movement.

(Illinois Central Gulf Railroad Safety Rules)

Analysis

It could not be determined on which car the yard foreman was riding. Shortly after the accident, investigators found scuff marks on the end sill of the A-end bulkhead on flat car No. CN 606015; this was the 38th car. Blood stains and tissue were found on the R1, R2, R3, and R4 wheels of car No. IC 745369, a covered hopper. This was the 39th north car. The yard foreman was knocked from a car in the train and the last car rolled over him possibly due to slack action and his not having a firm grip.

Cause

Failure of the employee to maintain a firm grip on the car on which he was riding. He fell off the car and was run over by a following car.

REPORT: 44

RAILROAD: Chicago and North Western Transportation Company

LOCATION: Green Bay, Wisconsin

DATE: July 27, 1979

The Accident

A 46-year-old yard switchman was killed on July 27, 1979 at about 11:15 p.m. in the switching terminal yard at Green Bay, Wisconsin. Employed by the Chicago and North Western Transportation Company, the switchman had 24 years of service. The temperature was 68°F., and it was dark and partly cloudy.

Background

A yard crew consisting of an engineer, a fireman who was also a qualified engineer, a yard conductor, and two switchmen went on duty at 11:00 p.m. in the switching terminal at North Green Bay, Wisconsin on the day of the accident. The yard extends north and south and consists of 14 tracks, designated from the west as track Nos. 1 through 14 with a switching lead on each end of the yard. A single main line track is located west of and adjacent to track No. 1. Yard crews operate in this area under the direction of the yardmaster at North Green Bay.

The switchman was last examined on the consolidated code of operating rules on March 25, 1968. There was no record of the last safety meeting the employee attended or the date of his last physical examination.

Circumstances of the Accident

Prior to the accident, the conductor, the engineer, and one of the switchmen were in the yard office planning movements. About the same time, the fireman was operating the locomotive and the second switchman using radio communications coupled cars on track No. 6 and headed south. The last message received from the switchman was to move the cars ahead. The fireman moved the cars toward the south lead. After traveling about 15 car lengths and receiving no communication from the switchman, the fireman stopped the locomotive. After repeated attempts to contact the switchman by radio, the fireman contacted the yard conductor in the yard office. The yard conductor tried unsuccessfully to contact the

switchman by radio and then proceeded northward with the engineer between tracks No. 5 and No. 6 noticing that the last (north) car of the cut of cars attached to the locomotive was derailed. They continued northward a short distance and found the switchman crushed between two cars.

Applicable Rules

Not applicable.

Analysis

Subsequent investigation revealed evidence of mismatched couplers between an empty 50-foot box car (PCA 166013) which was not equipped with a cushion underframe and an empty 50-foot box car (CNW 154239) equipped with a cushion underframe. PCA 166013 was the last car of the cut of cars attached to the locomotive. CNW 154239 was the south car of 17 cars remaining to be coupled on track No. 6. Inspection of the north coupler of PCA 166013 revealed that it was off-center with fresh gouge marks on the side of the coupler and the center sill. Evidence of human remains were found on the northwest corner of the car near the side ladder. An inspection of the south coupler of CNW 154239 revealed that it was also in an off-center position with a smear of light green paint, matching the color of the PCA car, on the face of the coupler pocket. The third car involved in the accident was ICG 154436, a 50-foot double door box car loaded with paper, coupled to other cars and standing on track No. 5 adjacent to the accident area. Markings on the side of ICG 154436 began 14 feet from the north end and immediately north of the car door. At this point, there are scrape marks and evidence of blood and human tissue smeared on the side with the beginning of a light green paint smear on the top door rail.

There were no witnesses to the accident. From the testimony of the crew and the evidence, it appears that the switchman was either walking northward or standing between tracks No. 5 and No. 6 at the point of impact with the ICG car. When the instruction to move ahead was given, there was an immediate derailment on the north end of PCA 166013, and swung into the side of ICG 154436. The switchman was crushed at the point of impact and he was dragged for 29 feet until the derailed end of PCA 166013 began to move back toward track No. 6.

The cars involved in the accident were inspected and no defects were found. The track in the accident area was in good condition. It was reballasted with screenings, lined, and surfaced about two weeks before the accident. Footing conditions were good since the area was level and free from obstructions.

Cause

Bypassed couplers caused a car to derail crushing the switchman between the derailed car and a car standing on an adjacent track.

REPORT: 45

RAILROAD: Chicago and North Western Transportation Company

LOCATION: St. Joseph, Missouri

DATE: July 30, 1979

The Accident

A 46-year-old machine operator was fatally injured on July 30, 1979 at about 2:30 pm in St. Joseph, Missouri. Employed by the Chicago and North Western Transportation Company, the employee had 10 years of service.

Background

On the day of the accident, the machine operator was assisting a crane operator in unloading ties. The ties were being unloaded with a hi-rail crane from a gondola car coupled to the crane. The crane was equipped with a 35-foot boom and a tie bucket.

The accident occurred on the west side of the passing track, 900 feet north of the St. Joseph Yard office.

The crane operator had been operating the machine for about two months prior to the accident and received two weeks of training by an experienced crane operator.

The operators had been issued "Rules of the Engineering Department" by the carrier. The machine operator was examined on the rules. The carrier requires that safety meetings be held periodically for all employees in the maintenance-of-way department.

Circumstances of the Accident

The machine operator was directing placement of ties on the right-of-way, walking beside the slow moving crane and signaling the crane operator where to place the next bucket of ties.

As the crane and gondola were moving northward on the main track, the raised boom of the crane came into contact with a 7,200-volt electrical line which crossed the tracks 28 feet and 6 inches above the rail. The machine operator was electrocuted by the falling 7,200-volt electrical line.

Applicable Rules

1011. Employee in charge of work equipment will be personally responsible for the safe operation of the equipment.

1048. A careful lookout must be maintained to avoid contact with overhead wires or other overhead obstructions.

(Chicago and North Western Transportation Company - Rules of the Engineering Department)

Analysis

Post-accident examination and tests indicated that the high-voltage line should have been visible to both employees.

Cause

The accident was caused by the failure of both machine operators to maintain a careful lookout and avoid contact with the overheard wires.

REPORT: 46

RAILROAD: Norfolk and Western Railway Company

LOCATION: Lick Creek, Kentucky

DATE: August 8, 1979

The Accident

A 19-year-old machine operator died on August 8, 1979 at Lick Creek, Kentucky. Employed by the Norfolk and Western Railway Company, the employee had one year of service.

Background

The pond where the machine operator drowned was approximately 126 feet from the company's right-of-way.

Circumstances of the Accident

The machine operator left company property, went swimming, and drowned.

Applicable Rules

Not applicable.

Analysis

The accident did not occur in the normal railroad environment.

Cause

The employee's death was attributed to drowning.

REPORT: 47

RAILROAD: Atchison, Topeka and Santa Fe Railway Company

LOCATION: La Junta, Colorado

DATE: August 11, 1979

The Accident

A 37-year-old switchman was fatally injured on August 11, 1979 at about 10:15 a.m. in La Junta, Colorado. Employed by the Atchison, Topeka and Santa Fe Railway Company, the switchman had 2-1/2 years of service. The weather was clear.

Background

On the day of the accident, the switchman was working as an engine foreman on the 7:00 a.m. relief assignment crew in the La Junta train yard. He had been on duty for 3 hours and 15 minutes before the accident.

The switchman took a written test on operating and safety rules on July 31, 1978.

Circumstances of the Accident

At about 10:15 a.m., the switchman attempted to board the west end of a caboose being moved westward by the switching locomotive. He grasped both handholds, but missed the boarding step with his left foot. He then lost his grip on the handholds, was dragged approximately 20 feet, and fell to the ground.

Marks on the body indicated that he was struck by the battery box on the caboose and by the "cow catcher" on the front of the locomotive. The consist was moving at about 7 m.p.h. at the time of the accident.

Ambulance and emergency personnel from the local fire department arrived at the accident scene a few minutes after the accident. The switchman was transported to a local hospital where he died at 12:30 p.m.

Applicable Rules

Rule 47 When alighting from moving equipment, face direction of movement and get off with trailing foot first. Use care to insure good footing and avoid stepping on uneven surfaces.

Do not get on or off equipment moving at an excessive rate of speed.

When boarding or alighting from a moving caboose, do so at the rear step.

Do not board moving car or flat car if practicable to board other equipment.

(The Atchison, Topeka and Santa Fe Railway Company Safety Rules)

GENERAL RULES

. . .

G. The use of alcoholic beverages, intoxicants, or narcotics by employes subject to duty, or their possession or use while on duty or on Company property, is prohibited.

Employes must not report for duty under the influence of any drug, intoxicant, medication or other substance (including those prescribed by a doctor or dentist) that will in any way adversely affect their alertness, coordination, reaction, response or safety. No such drug, intoxicant, medication or other substance may be used by employes on duty or while on Company property.

(The Atchison, Topeka and Santa Fe Railway Company Rules Operating Department)

Analysis

The switchman riding the right front step of the locomotive and the engineer were eyewitnesses to the accident. Both said they observed the switchman reach with both hands and grab the two caboose handholds at the west end of the caboose. When he tried to put his left foot on the caboose step, he missed the step and hung from the handholds until he lost his grip and fell to the ground. He was struck by the battery box of the caboose as the caboose passed.

An investigation of the area disclosed no unusual track, equipment, or surrounding terrain conditions which could have caused or contributed to the accident.

An autopsy was performed on the switchman by the county coroner. The toxicology report revealed a blood alcohol content of 0.133 percent. The State of Colorado considers a blood alcohol content of 0.10 percent as being under the influence of alcohol.

Cause

The accident was caused by the switchman's failure to maintain a secure footing and handhold when he tried to board the caboose. A contributing factor was the possible violation of Rule G.

REPORT: 48

RAILROAD: Chicago and North Western Transportation Company

LOCATION: Chicago, Illinois

DATE: August 12, 1979

The Accident

A 40-year-old brakeman was killed on August 12, 1979 at about 3:42 a.m. on the northbound main track of the Belt Railway Company of Chicago (BRC), located at Augusta Boulevard in Chicago, Illinois. Employed by the Chicago and North Western Transportation Company (CNW), the brakeman had 19 years of service. The weather was clear and dark.

Background

The BRC has two main tracks in the vicinity of Augusta Boulevard designated from the east as No. 1 and No. 2. Track No. 1 (northbound) is immediately south of Augusta Boulevard and there is a holding signal for northbound trains. North from the signal there is a succession of a 2^{o} 15" curve to the west, a 50-foot tangent, and a 2^{o} 15" curve to the east. The total length of the reverse curve is approximately 564 feet. The track is tangent north of the curve for about 600 feet to the accident site and beyond. The track is practically level. Paralleling BRC track No. 1 for about 40 feet east is a portion of the CNW's 40th Street Yard. Both railroads are elevated over Augusta Boulevard.

The brakeman was last tested on the carrier's operating rules on November 4, 1976. His last physical examination was by a company doctor in 1977 following an injury.

Circumstances of the Accident

CNW crew No. 66 consisted of an engineer, a conductor, and two brakemen. They went on duty at 40th Street Yard at 2:00 a.m. on August 12, 1979. The crew was to assemble a transfer train and deliver it to another yard. Shortly before the accident, the CNW crew shoved a cut of cars onto one of the yard tracks paralleling the BRC main tracks and uncoupled the cars at Augusta Boulevard. They then entered another track and coupled to a second cut of cars which they were to double to the first. The brakeman was told to stop the movement when it was clear of the switches, line the switches for the first cut of cars, and then make the coupling between the two cuts. All communications were by radio.

When the engineer moved south to a point where he felt that the train cleared the switches, he stopped the movement. The engineer repeatedly attempted to contact the brakeman by radio but did not receive an answer. The engineer then asked the yardmaster if he could hear the brakeman. When the yardmaster received no answer, he walked to Augusta Boulevard and searched the area for the brakeman. The yardmaster observed a Norfolk and Western (NW) transfer movement train on the BRC's northward main track at the holding signal. When the yardmaster could not find the brakeman, he directed the engineer by radio in the coupling of the train. While the coupling was being made, the yardmaster saw the NW train moving north at a speed of about 5 m.p.h. and then heard the train's air brakes go into emergency.

Shortly before the accident, the NW train had stopped at Augusta Boulevard by a signal indication. After receiving instructions from the dispatcher, the train began to move northward. As the NW train left the reverse curve, the engineer and head brakeman observed an object on the track about 600 feet ahead of the locomotive. This was approximately 1,100 feet north of Augusta Boulevard. At a distance of 150 feet, they realized that it was a man sitting on the east rail of the northward track. The man had his elbows on his knees and his head was lowered between his arms.

The NW train was moving at about 7 m.p.h. The engineer placed the air brakes in emergency and applied the independent air brake. He did not have time to sound the locomotive horn. The head brakeman leaned out the locomotive door to shout a warning but the brakeman did not move or change his position on the track. The brakeman was struck by the lead locomotive on the engineer's side. He was found with his jacket caught on a brake head pin on the east side of the lead locomotive. He was pronounced dead on arrival at a local hospital.

Applicable Rules

G. The use of alcoholic beverages or narcotics by employees subject to duty is prohibited. Being under the influence of alcoholic beverages or narcotics while on duty or on company property is prohibited. The use or possession of alcoholic beverages or narcotics while on duty or on company property is prohibited.

(The Consolidated Code of Operating Rules, General Rules)

224. Walking, standing, or sitting on track, except when necessary for the proper performance of duty, is prohibited.

(Chicago and North Western Transportation Company General Regulation and Safety Rules)

Analysis

After the engineer began to pull the cut of cars from the track, the brakeman started to walk northwest along the BRC tracks. For reasons unknown the brakeman sat down on the east rail of the BRC northbound main track at a point more than 1,000 feet from where the coupling was to be made. The northbound NW train struck him.

No reason could be given for the brakeman's absence from the area where the coupling operations were to be made.

A coroner's examination of the brakeman's body revealed a blood alcohol content of 0.14 percent. According to the Illinois Governor's Traffic Safety Coordinating Committee, a level of 0.10 percent seriously affects judgment and a level of 0.15 percent seriously affects all faculties.

Cause

No reason could be determined for the brakeman's behavior and the accident was caused by the employee's failure to observe the carrier's operating rules. A contributing factor may have been the employee's blood alcohol level.

REPORT: 49

RAILROAD: Louisville and Nashville Railroad

LOCATION: Mobile, Alabama

DATE: August 16, 1979

The Accident

A 58-year-old bridge and building carpenter was drowned on August 16, 1979 at about 1:15 p.m. in Mobile, Alabama. Employed by the Louisville and Nashville Railroad, the carpenter had 32 years of service. The weather was clear.

Background

On the day of the accident, a three-man utility crew was making repairs to the fender system of a turnspan bridge at Chickasaboque Creek. The repairs were being made on the southeast side of the bridge, and included driving pilings and attaching boards to the piling to construct the fender. A pile-driver crane was located on a floating barge anchored at the southeast end of the turnspan.

The carpenter removed his life preserver vest while a train moved over the bridge, but was wearing a safety hard hat at the time of the accident.

Railroad industry recommendations give shippers the proper procedures for the loading of pulpwood to insure safe transportation.

Circumstances of the Accident

As a southbound train was crossing the bridge at approximately 10 m.p.h., the employee and another crewman waited on the east side of the concrete pier at the south end of the turnspan. The top of the pier is approximately 8 feet below the top of the rail. The third member of the crew was on the barge with the pile-driver crane. All crewmen were waiting for the train to pass before they could swing the crane boom around with another piling. As the rear cars of the train passed through the turnspan, a piece of pulpwood apparently struck the east portal chord, fell from the car, and struck the carpenter causing him to fall off the pier and into the water.

The crewman standing on the barge did not witness the accident, but when he realized what had happened, tried to rescue the employee. He was unable to locate the carpenter whose body was later recovered by divers.

Applicable Rules

PERSONAL PROTECTIVE EQUIPMENT

. . .

6. Life preservers must be worn while working in precarious position over water, except when other approved protection, such as nets, guarded scaffolds, etc., are provided.

(Louisville and Nashville Railroad Company Maintenance-of-Way Department Safety Rules)

Analysis

The accident investigation could not determine from which car the pulpwood fell. It may have fallen from the sixth, seventh, or eighth car from the rear of the train. These three cars were loaded at the same facility, located 130 miles north of the accident site. Inspection of the three cars revealed that they had been poorly loaded, that the wood was improperly stacked and could easily have shifted, and the wood overhung the car sides.

Cause

The accident was caused by a piece of pulpwood falling from a passing train and the employee's failure to wear required safety equipment. A contributing factor was the shipper's failure to follow recommended procedures for loading the cars, and the rail carrier's failure to make the proper inspection to ensure a safe movement.

REPORT: 50

RAILROAD: Missouri-Kansas-Texas Railroad Company

LOCATION: Denison, Texas

DATE: August 16, 1979

The Accident

A 63-year-old carman was fatally injured on August 16, 1979 at about 8:00 a.m. in Denison, Texas. Employed by the Missouri-Kansas-Texas Railroad (MKT), the carman had 27 years of service. The weather was partly cloudy.

Background

On the day of the accident, two carmen were assigned to inspect the cars on the repair tracks and repair the inside of box cars. The carmen inspected one car before moving to the east end of repair track No. 1 in Ray Yard. The repair tracks run east to west.

Each MKT employee receives a "Book of Safety Rules." The foreman and carmen have daily safety meetings to discuss the assigned "Safety Rule of the Day."

Circumstances of the Accident

A 60-foot DF box car (MKT 8813) was the first car on repair track No. 1. The carman in charge uncranked the fastening device on the left door of the car and pulled both handles out, releasing the door. The two carmen pulled outward on the door handles and both saw the door fall away from the car at the top. The carman in charge jumped west and assumed that the other carman had jumped east to clear the path of the falling door. After clearing the path of the falling door, the carman in charge turned around and did not see the other carman. He immediately summoned other carmen to help lift the 2,500-pound door and removed the injured employee. An ambulance was called and the injured carman arrived at the Texoma Medical Center at 8:20 a.m.

At the medical center, the carman's injuries were described as ". . . crushing injury probable skull fracture, multiple fractured ribs, pneumothorax, ruptured spleen, renal shut down, fractured pelvis, fractured lumbar spine, comminuted fracture both bones left leg." The employee died at 4:05 p.m. on August 27, 1979.

Applicable Rules

BASIC RULES

13. Before operating side door of car, be certain door is properly tracked. If door is off track, take precaution to safeguard its use.

(Uniform Code of Safety Rules)

Analysis

The carman was last observed pulling on the handle of the left plug door on box car MKT 8813. He apparently jumped, but was unable to clear the falling door and was crushed by the plug door.

The left door on MKT 8813 had both of the top arms missing, was closed, and locked in position. The car had no bad order tag or stenciling to indicate repairs were needed. The car was assigned to Johnson Wax Company and was on the repair track for program maintenance.

Cause

The accident was caused by the failure of the carmen to ensure that the plug door was secure on its supports before opening it.

REPORT: 51

RAILROAD: Union Pacific Railroad Company

LOCATION: Walcott, Wyoming

DATE: August 30, 1979

The Accident

A 56-year-old bridge and building foreman was fatally injured on August 30, 1979 at about 1:10 p.m. on a bridge located 1.8 miles west of Walcott, Wyoming. Employed by the Union Pacific Railroad Company (UP), the foreman had 33 years of service. The weather was overcast and warm.

Background

Near the accident site, the railroad consists of two main tracks where trains are operated in both directions by signal indications from a traffic control system. The tracks are designated from north to south as main track No. 1 and main track No. 2.

On the day of the accident, a bridge and building crew was raising a bridge in conjunction with the raising and lining of main track No. 1. The crew was working underneath the bridge using a portable arc welder. A section crew was using on-track equipment and working on the track close to the bridge. Main track No. 1 was out of service and a "Form Y" train order was in effect on main track No. 2. A "Form Y" train order restricts train speeds to 30 m.p.h.

A copy of the UP's "Maintenance-of-Way and Signal Rules" was issued to the employee at the time of employment. He was last examined on these rules on February 27, 1979.

Circumstances of the Accident

Before the accident, freight train Extra 8043 East was given a clearance through the work area on a "Form Y" train order by the section foreman.

The bridge and building foreman was conferring with his supervisor near the bridge. When he finished his conversation, he walked onto the bridge and stood on main track No. 2 where he was struck by Extra 8043 East.

Applicable Rules

M. . . .

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

757. Employes must not assume that a train will not arrive before any certain time, nor act under the assurance of any person to that effect. It must be borne in mind that trains may be run at any time.

Employes must not rely on others to warn them and must be on the lookout at all times for approaching trains, cars or vehicles.

(Union Pacific Railroad Company Maintenance-of-Way and Signal Rules)

Analysis

The bridge and building foreman apparently did not see or hear the approaching train. The train engineer stated that he first saw the man standing on the track from a distance of 600 to 800 feet away. When he realized that the man was not moving away from the track, the engineer made an emergency brake application but was unable to stop the train before striking the foreman.

Cause

The accident was caused by the employee's failure to keep a lookout for approaching trains.

A contributing factor may have been the noise made by the portable arc welder and nearby track maintenance-of-way equipment. This could have prevented the employee from hearing the approaching train.

REPORT: 52

RAILROAD: Burlington Northern, Incorporated

LOCATION: Parkwater, Washington

DATE: September 12, 1979

The Accident

A 60-year-old Track Department truck driver died on September 12, 1979 at approximately 1:50 p.m. in Parkwater, Washington. Employed by the Burlington Northern's Track Department, the truck driver had 38 years of service.

Background

Not applicable.

Circumstances of the Accident

The truck driver was found by another employee lying on the ground beside a company truck. An ambulance was called to the scene, but ambulance personnel could not revive the employee and contacted the local coroner. The coroner pronounced the driver dead at the site.

Analysis

Not applicable.

Cause

The employee's death was caused by a heart attack.

REPORT: 53

RAILROAD: St. Louis-San Francisco Railway Company

LOCATION: Springfield, Missouri

DATE: September 20, 1979

The Accident

A 46-year-old machinist was fatally injured on September 20, 1979 at about 12:40 p.m. in Springfield, Missouri. Employed by the St. Louis-San Francisco Railway Company (SLSF), the machinist had nine years of service. The weather was cloudy and it was 72°F.

Background

A rail dismantling facility was under construction at the SLSF's Springfield Yard at the time of the accident. Quarter-mile sections of conventional rail would be processed through the plant and transported by conveyor to a nearby rail-weld plant. The steel roller conveyor is protected by side rails that are one-inch thick and extend six inches above the rollers.

The building in which the accident occurred was where rail dismantling would take place. The dismantling mechanism and conveyor were designed to operate electrically. The electrical cabinet involved in the accident was seven feet long, seven feet high, 19 1/2 inches deep, and weighed about 1,500 pounds. The crew on duty at the time of the accident consisted of a supervisor, two machinists, three hoist engineers, and three laborers.

The machinist had been issued a copy of the "Rules for the Maintenance-of-Way and Structures" and regularly attended a 30-minute safety meeting on Monday mornings. Periodically, the machinist served as a relief foreman and on those occasions he conducted the safety meetings.

Circumstances of the Accident

The electrical cabinet sat flush on a concrete floor against the north wall near the center of the building. There was an approximate distance of six feet between the front of the cabinet and the edge of the conveyor side rail. Four pieces of wrought steel tubing were to be placed under the cabinet to prevent moisture from collecting in the cabinet.

At 12:30 p.m. the machinist returned from lunch to the work area ahead of his co-workers. He attempted to raise the cabinet alone. Around 12:45 p.m. he was found by two other crew members. His neck was pinned against the side rail of the conveyor, the cabinet was against his head about 12 inches from one end of the cabinet. The machinist was pronounced dead at Cox Hospital by the county coroner.

Applicable Rules

GENERAL SAFETY RULES

. . .

651. Constant presence of mind to insure safety to themselves and others is the primary duty of all employees. The company does not expect its employees to incur any risk whatever from which, by exercise of their own judgment and personal care, they can protect themselves and others.

. . .

714. Employees must not lift beyond their normal physical capabilities, avoid jerking or twisted positions, and obtain help to lift or handle heavy cumbersome objects . . .

(St. Louis-San Francisco Railway Company Rules for the Maintenance-of-Way and Structures)

Analysis

The accident examination revealed pry bar marks on the concrete floor, indicating that the machinist had raised one end of the cabinet, and placed two of the wrought steel tubings underneath and parallel to the cabinet. He then went to the opposite end of the cabinet to lift the other side. While attempting to raise this end, the cabinet fell forward toward the conveyor. The machinist apparently stepped between the cabinet and the conveyor trying to prevent its fall.

It was determined that the job of lifting the cabinet required more than one person. It is not known why the employee attempted to do it alone since he was not instructed to do so.

Cause

The accident was caused by the failure of the machinist to follow safety procedures required by the carrier's safety rules.

REPORT: 54

RAILROAD: Seaboard Coast Line Railroad

LOCATION: Davenport, Florida

DATE: October 2, 1979

The Accident

A 59-year-old conductor died on October 2, 1979 at approximately 5:30 p.m. in Davenport, Florida. Employed by the Seaboard Coast Line Railroad (SCL), the conductor had 35 years of service. The weather was clear.

Background

The conductor had a past history of a heart condition and had been hospitalized for treatment in July 1978. Witnesses at the scene of the accident stated that the conductor appeared to be calm and composed before he collapsed.

On September 25, 1979 the conductor had an annual physical examination, as required by the carrier, and was approved for duty without restriction.

Circumstances of the Accident

A citrus grove tractor was traveling north on State Road 600, made a left turn onto State Road 547, failed to stop short of the SCL rail-highway crossing, and ran into the side of a moving passenger train. The impact was slight and both the tractor and train sustained minor damages. There were no injuries.

The train came to an emergency stop about 0.75 miles south of the crossing. The conductor and flagman got off the train and walked back to the crossing to obtain information about the collision. During their conversations with the witnesses, the conductor collapsed.

The Polk County Ambulance Service rushed the conductor to a hospital in Haines City where he was pronounced dead on arrival.

Cause

The conductor died from a heart attack due to an existing condition of cardiac arrhythmia.

REPORT: 55

RAILROAD: Elgin, Joliet and Eastern Railway Company

LOCATION: Gary, Indiana

DATE: October 3, 1979

The Accident

A 34-year-old roadway machine operator was fatally injured on October 3, 1979 at 11:05 a.m. in Gary, Indiana. Employed by the Elgin, Joliet and Eastern Railway Company, the employee had 12 years of service. The weather was clear at the time of the accident.

Background

The accident occurred on the main line, 3.32 miles west of Kirk Yard in Gary. There is a double track line over which trains operate by timetable, train orders, and an automatic block signal system. The tracks are designated eastbound and westbound, tangent to a point 751 feet west of the accident scene, and a 5° 03' curve to the right to the accident scene and beyond. The grade is 0.35 percent ascending eastward, and the maximum authorized speed is 45 m.p.h.

The machine operator last attended a safety meeting on May 15, 1979 in Joliet, Illinois.

Circumstances of the Accident

A track crew consisting of a supervisor, a foreman, four machine operators, and a track laborer reported for duty at 6:00 a.m. on the day of the accident at Ivanhoe, Indiana. The supervisor received a copy of the train line-up and the crew moved to the east leg of the "Cavanaugh Wye" on the westward track. At about 11:05 a.m., the track machines were surfacing the East Cavanaugh Wye switch on a right-hand curve from the west. The machine operator was shoveling ballast between the east and west main track and was facing east, which prevented him from seeing an approaching train.

Train No. 666, operating on the eastward main track, approached the East Cavanaugh Wye switch at a speed of 15-20 m.p.h. The fireman was acting as the engineer and was operating the locomotive. He had the headlight on "bright" and was ringing the bell. The fireman saw something on the track ahead and sounded the

the whistle. He saw the track equipment on the east leg of the "wye" and sounded the whistle again. Because the locomotive was on a curve the fireman could not see the machine operator on the other side of the track. The fireman did not know that the machine operator had been struck until the engineer who was riding on the other side of the cab shouted a warning. The train made an emergency stop about 700 feet beyond the accident site.

The employee was thrown about 32 feet from the point of impact. The machine operator was pronounced dead at the scene by a representative of the coroner's office.

Applicable Rules

83. Track car operators must obtain a train line up of train movements on prescribed form. Train line up will be in writing whether received from station operator or taken by motor car operator over phone immediately before placing or operating track car on main track or moving track car from one main track to another.

84. Train line up will be checked by motor car operator and read back to station operator whether received in person or by phone.

85. Train line up will be read by all other occupants of motor car before placing motor car on main track.

87. Employe in charge of motor cars will be required at all times to keep himself informed as to train movements in the vicinity of their operation so as to avoid unnecessary hazards from running in the face of traffic. They must protect themselves whenever and wherever necessary.

101. When necessary in the proper performance of duty to walk on tracks, travel against the current of traffic where there are two or more main tracks, and in all cases keep a sharp look out in both directions for approaching trains, locomotives or cars. In case the view is obscured by fog, storms or other weather conditions, move to a place of safety, preferably clear of all tracks when a train is approaching.

(Elgin, Joliet and Eastern Railway Company Safety Rules, Governing Maintenance-of-Way Employes)

Analysis

The supervisor in charge of the extra track crew received a train line-up at 5:45 a.m. that expired at 9:30 a.m. He received a new line-up at 9:50 a.m. from the Westgate tower by a message received on a portable telephone. Due to the movement of track equipment from one work site to another, the supervisor failed to repeat and check the new line-up with the tower operator. He did not read the new line-up to the track crew members as required.

On the new line-up, train No. 666 East was reported at Chicago Heights at 9:45 a.m., approximately 18 miles west of the accident site. The supervisor did not assign a watchman to provide adequate protection for the crew. Due to the noise from the tamping machine, the machine operator did not hear the approaching train or the warnings shouted by other workers.

After the accident, the supervisor was unable to provide railroad officials with a copy of the 9:50 a.m. train line-up. He stated that it ". . . could have been lost in the excitement" following the accident.

Cause

The accident was caused by the supervisor's failure to post a look-out for approaching trains, and failure to read the new train line-up to the track crew members. A contributing factor was the failure of the machine operator to hear the approaching train on the adjacent track due to the noise created by the tamping machine.

REPORT: 56

RAILROAD: Illinois Central Gulf Railroad Company

LOCATION: Mobile, Alabama

DATE: October 3, 1979

The Accident

A 43-year-old switchman was fatally injured and a 55-year-old foreman seriously injured on October 3, 1979 at about 9:20 a.m. in Mobile, Alabama. Employed by the Illinois Central Gulf Railroad, the switchman had 24 years of service and the foreman had 33 years of service. Weather conditions were clear and it was 67°F.

Background

On the day of the accident, the switch crew consisted of an engineer, a foreman, and two switchmen. The crew went on duty at 6:45 a.m. and each crewman was equipped with a portable two-way radio. The locomotive in use was No. 7725, an EMD GP-9 locomotive, with the short hood forward. At about 8:30 a.m. the crew departed with 16 cars for Mobile. The accident occurred in the General Aniline and Film Corporation (GAF) roofing plant, near the Evanston District main track No. 112 on track No. 116-A, commonly referred to as track No. 4 in switching operations. This is a dead-end track which ends at a storage warehouse. There are three tracks in the immediate vicinity of the accident site: track No. 127 (referred to as track No. 2), track No. 116 (referred to as track No. 3) which leads into the warehouse, and track No. 116-A. The accident occurred 325 feet from the end of track 116-A. From the point of the accident to the front of the engine, the track is tangent and the view is unobstructed. The grade of spur track 116-A is slightly descending. There are no special instructions for switching procedures at the GAF Plant.

All members of the switch crew attended safety rules classes in August 1979. The foreman and the two switchmen were examined on the carrier's operating rules in August 1978.

Circumstances of the Accident

After arrival at Mobile, the switch crew started switching operations at the GAF roofing plant. After removing empty tank cars from tracks No. 116 and No. 127, the crew attempted to couple one box car and three empty tank cars to three loaded tank cars on track No. 116-A. After two unsuccessful attempts to couple an

empty tank car (ACFX 78591) to a loaded tank car (NATX 25300), the rear switchman instructed the engineer by radio to move ahead so that the coupler could be adjusted. The engineer moved the four cars forward and stopped.

While the foreman and the switchman were adjusting the couplers, the front switchman was standing near the right side of the locomotive talking to two men who were working in a ditch near the siding. During this conversation, the engineer observed the switchman gesture with his hand. The engineer responded to this gesture and backed up the locomotive until he felt the cars hit the others, shut off the throttle, but did not apply the brakes. The locomotive and four cars rolled forward and the engineer again responded to a second hand gesture from the front switchman. The engineer backed up the consist a second time and struck the loaded tank cars. The engineer then saw a GAF employee running toward the engine, waving his arms, and shouting ". . . don't move, there's a bunch of people hurt."

The switchman was pinned between the drawbars of two cars and his right leg was cut off at the hip and his right arm severed at two points. He was taken to the University of South Alabama Medical Center where he died at 11:57 a.m. that day.

The foreman's left arm was severely crushed between the elbow and the wrist. Shortly after the accident, he underwent emergency surgery at Providence Hospital.

Applicable Rules

COUPLING AND UNCOUPLING CARS AND LOCOMOTIVES

. . .

232. Do not signal to move locomotive or car while someone is between cars on between locomotive and car.

. . .

234. Do not accept signal to move unless you are certain that no one is between cars or between locomotive and car.

. . .

(Safety Rules Illinois Central Gulf Railroad)

12(i). Hand, flag and lantern signals prescribed in Rules 12(a) through 12(g) must be used for the purposes described.

Other hand, flag or lantern signals may be used for other purposes providing such signals are understood by all members of the crew. Employes in train, engine and yard service and others concerned must keep a constant look out for them. Employes giving signals must locate themselves so as to be plainly seen and give them so as to be clearly understood. The utmost care must be exercised to avoid taking signals that may be intended for other trains or engines.

. . .

(Operating Rules Illinois Central Gulf Railroad)

Analysis

Accident witnesses indicated that a problem existed in the attempt to couple the fourth and fifth cars. The injured crewmen were attempting to raise the coupler height of NATX 25300 by placing a cinder block between the coupler shank and the coupler carrier iron.

An inspection of tracks No. 116, No. 116-A, and No. 127 was made immediately after the accident, and the track and switches were found to be in good condition with no defects. The tracks were free of debris. The locomotive's radio was inspected, tested, and found to be in good working order. The ground crew's two-way radios were also found to be in working order.

While the engineer and ground crew had 4-channel two-way radios, yardcrews in the area use a combination of radio and hand signals to relay signals to the engineer during switching operation. There were no unusual noise conditions in the area that would affect operations.

Cause

A hand gesture made by the brakeman during a conversation with some laborers was misinterpreted by the engineer as a hand signal to move the cars forward. Contributing factors were a low coupler on a tank car; the lack of an operating rule covering the transfer of signals from radio sound communication to visible hand signals.

REPORT: 57

RAILROAD: Southern Railway Company

LOCATION: Russellville, Alabama

DATE: October 4, 1979

The Accident

A 60-year-old engineer was fatally injured on October 4, 1979 at about 2:55 p.m. in Russellville, Alabama. Employed by the Southern Railway System, the employee had 39 years and four months of service. The weather was clear and mild.

Background

The accident occurred at a rail-highway crossing over three tracks in the city of Russellville, Alabama. From the east, the tracks are designated "house Track," "Middle Track," and "Main Track." From the north, the tracks are tangent for about 800 feet with a 1.0 percent descending grade to the crossing.

East Madison Avenue is tangent for a considerable distance east of the crossing, where it crosses at a right angle. There is a slight rise in the pavement over the tracks. Motorists approach the crossing from the east and are alerted by pavement markings that are 165 feet to 115 feet from the eastern rail. Advance warning signs and crossbucks are located on each side of the crossing.

The tractor-trailer operator's sight distance was unrestricted for a distance of about 880 feet to the north. To the south of the crossing, there were three cars on the "House Track," the nearest being 67 feet from the crossing. Two Russellville Mine Run locomotives were standing idle on the "Middle Track," about 112 feet from the crossing.

The engineer passed a rules examination on February 12, 1979. He received and passed his last physical and ocular examinations on February 16 and 19, 1979.

Circumstances of the Accident

Train No. 198 was moving south on the main line under a restricted proceed signal aspect at about 12 m.p.h. approaching the rail-highway crossing. The engineer was on the right side of the locomotive and the short end of the unit was forward. The headlight was on, the bell was ringing, and the horn was sounding.

A tank tractor-trailer, loaded with 9,000 gallons of gasoline, was moving westward across the rail-highway crossing at approximately 5 m.p.h. The tractor-trailer cab cleared the tracks as the truck pulled in front of train No. 198. The tank did not clear the crossing, was struck just ahead of the rear tandem wheels, and was separated from the tractor.

Gasoline poured out of the tank-truck after the collision, ignited, and burned while the tank truck was dragged approximately 160 feet from the point of collision. The train stopped between the locomotives on the middle track and the depot.

The engineer received third degree burns over 90 percent of his body and was taken to two hospitals. He died at about 9:30 p.m. on the day of the accident.

Applicable Rules

392.10 Railroad grade crossings; stopping required.

(a) . . . the driver of a motor vehicle specified in paragraphs (a)(1) through (6) of this section shall not cross a railroad track or tracks at grade unless he first: Stops the vehicle within 50 feet of, and not closer than 15 feet to, the tracks; thereafter listens and looks in each direction along the tracks for an approaching train; and ascertains that no train is approaching. When it is safe to do so, the driver may drive the vehicle across the tracks in a gear that permits the vehicle to complete the crossing without a change of gears. The driver must not shift gears while crossing the tracks.

. . .

(4) Every cargo tank motor vehicle, whether loaded or empty, used for the transportation of any hazardous material as defined in the Hazardous Materials Regulations of the Department of Transportation, Parts 170-189 of this title.

(Title 49 - Transportation Chapter III - Federal Highway Administration Subpart B - Driving of Vehicles)

STATE LAW

6. Warning signals at grade crossings must be obeyed -

(a) The highway department is hereby authorized to designate particularly dangerous grade crossings of steam, or interurban railways by highways, and shall erect signs thereat notifying drivers of vehicles upon any such highway to come to a complete stop before crossing such railway tracks, and whenever such crossing is so designated and sign posted, it shall be unlawful for the driver of any vehicle to fail to stop before traversing such crossing, and the violation hereof shall constitute a misdemeanor. Nothing contained in this chapter is intended to abrogate or modify the present Alabama doctrine of "Stop, Look and Listen," obtaining in the courts of Alabama.

(Code of Alabama, Motor Vehicles, Title 36)

Analysis

Train No. 198 was operating in accordance with applicable rules and regulations at the time of the accident. The train was moving at an estimated speed of 10-12 m.p.h. in accordance with the restricted signal indicator. The truck driver failed to stop his vehicle prior to entering the rail-highway crossing.

Cause

The accident was caused by the failure of the truck driver to stop before moving onto the rail-highway crossing, as required by Federal regulations and state law.

REPORT: 58

RAILROAD: Illinois Central Gulf Railroad

LOCATION: Waverly, Kentucky

DATE: October 10, 1979

The Accident

A 50-year-old signal maintainer died on October 10, 1979 at approximately 11:00 a.m. in Waverly, Kentucky. Employed by the Illinois Central Gulf Railroad's Signal and Communication Department, the signal maintainer had 27 years of service.

Background

Not applicable.

Circumstances of the Accident

The signal maintainer was found dead on the railroad right-of-way, approximately 100 yards north of a rail-highway crossing at State Highway 60. His truck was parked at the crossing and material near the body indicated that he was reviewing standby batteries at a signal cut section.

Applicable Rules

Not applicable.

Analysis

Not applicable.

Cause

The employee's death was caused by a heart attack.

REPORT: 59

RAILROAD: Richmond, Fredericksburg and Potomac Railroad Company

LOCATION: Ashland, Virginia

DATE: October 14, 1979

The Accident

A 53-year-old car inspector died on October 14, 1979 at 8:35 p.m. in Ashland, Virginia. Employed by the Richmond, Fredericksburg, and Potomac Railroad Company (RFP), the employee had 36 years of service. The weather was clear.

Background

The car inspector began his regular tour of duty (4:00 p.m. to 12:00 p.m.) at the Acca Yard in Richmond, Virginia. At around 5:15 p.m., he was sent in an RFP highway vehicle to Langford Crossing siding, a distance of about 17 miles, to replace a broken knuckle on a loaded box car (LN 96720).

Circumstances of the Accident

When the car inspector did not return to Acca Yard by 8:00 p.m., the supervisor went to look for him. The supervisor arrived at Langford Crossing siding at 8:35 p.m. and found the car inspector lying face down on the ground near the northeast corner of the box car. The supervisor immediately contacted the yard office and requested a rescue squard. The inspector was dead when the supervisor arrived. The coroner later examined the body.

Analysis

Inspection of the L&N box car revealed that the coupler knuckle had been replaced. The tools used to replace the knuckle were found on the ground near the car.

Cause

Based on the RFP's findings, the police department, and the Chief Medical Examiner's investigations, no accident or foul play was involved.

The car inspector died of a heart attack.

REPORT: 60

RAILROAD: Burlington Northern, Incorporated

LOCATION: Lester, Washington

DATE: October 23, 1979

The Accident

A 22-year-old bridge and building helper was fatally injured on October 23, 1979 at about 8:15 a.m. near Lester, Washington. Employed by the Burlington Northern, the employee had 35 days of service. The weather was partly cloudy and it was 50°F.

Background

The bridge No. 56 is located on the fourth subdivision of the Pacific Division and was originally built as two identical steel deck-plate girder bridges. The distance between the two sets of girders is above five feet. The parallel bridges were originally built with 14-foot track centers and are identical in height. When the two main tracks were reduced to a single main track, the south bridge was stripped of its track and decking, leaving just the bare bridge girders. The north bridge is 1,119 feet long, tangent, and with a maximum height of 164 feet. Repair work started on the west end of the bridge on September 17 and had progressed 247 feet. The bare girders of the adjacent bridge were being used to store materials and equipment. Prior to the accident, a safety cable in the middle of the track had been removed from the area to a point further east on the bridge.

The employee was interviewed and issued a copy of the Burlington Northern's "Safety Rules" on September 15, 1979. He passed a physical examination on September 18, 1979 and September 19, 1979 was his first day of service. Carrier records show that he attended his first safety meeting on September 24, 1979.

Circumstances of the Accident

On the day of the accident, a bridge and building crew consisting of a foreman, a truck driver, two carpenters, and three helpers, began at 7:00 a.m. replacing ties on the north bridge, working with a track-mounted crane. Prior to the accident, two ties were removed and placed on the girders of the adjacent bridge. Three more ties were removed, slung together, and held over the adjacent bridge where they were to be placed beside the first two ties. The foreman was standing beside the crane to guide and

release the ties. The helper moved across the opening created by removal of the five ties, walking outside the rail on the deck plate girder. He was standing on a tie behind the crane and he reached out, apparently to assist in guiding the ties held by the crane, when he then lost his balance. He fell backward through the opening between the adjacent bridge girders and fell about 135 feet to the ground.

Military Air Transport Service personnel evacuated the helper by helicopter. He died en route to a hospital.

Applicable Rules

45. Whenever employees are working 25 feet or more above ground, water, machinery or other surface and are not protected by safety belts and lines; scaffolds; working surfaces properly guarded, safety nets must be installed to protect workers and passers-by.

309. Safety belt or rope must be used except where scaffold or other protection is provided, when working in the following locations:

. . .

d. In dangerous positions on bridges or other structures.

(Burlington Northern, Inc. Safety Rules)

381. Extreme care must be exercised by employes workings in high position, especially when exposed to strong wind, or when working on wet or ice-covered surfaces. All safety devices provided to prevent falling must be inspected and used as prescribed. Employes working over water must wear life jackets.

382. Use a safety belt or rope, except where scaffold or other protection is provided when working in the following locations:

. . .

(d) In dangerous positions on bridges or other structures.

(Burlington Northern, Inc. Rules of the Maintenance-of-Way Department, Operating Department)

Analysis

None of the crew members working on the bridge were wearing safety belts at the time of the accident although six sets were available. There was no safety net installed.

Although weekly safety meeting are scheduled to discuss and review safety rules, carrier records show that the helper did not attended any of the October meetings. The foreman who conducted and reported the meetings insisted that the helper did attend three of the October meetings, missing only one which was held on the day before his death.

Cause

The accident was caused by inadequate supervision and failure of the carrier to enforce safety rules and regulations.

REPORT: 61

RAILROAD: Port Terminal Railroad Association

LOCATION: Houston, Texas

DATA: October 24, 1979

The Accident

A 50-year-old engine foreman was fatally injured on October 24, 1979 at about 9:10 a.m. in Houston, Texas. Employed by the Port Terminal Railroad Association, the employee had 22 years of service. The weather was warm and clear.

Background

A regularly assigned yard job crew; consisting of an engine foreman, two yardmen, and a locomotive engineer. They went on duty at 7:59 a.m. on October 24. The crew was taken to the storage yard where a locomotive unit and nine empty cars and five loaded tri-level flat cars were located. The crew was instructed to switch out and place the five loaded cars inside the Port of Houston Terminal for unloading.

The storage yard is a flat yard consisting of 20 tracks, numbered 1 through 20, and a lead track running east and west, adjacent to the Port of Houston Terminal.

Circumstances of the Accident

The crew found their assigned locomotive and the 14 cars standing on the storage yard lead track over the west switch of track No. 1, east of the Port of Houston Terminal's gate No. 2. After the crew's initial preparations, the engine foreman instructed the engineer to pull westward, allowing the rear yardman and himself to board the east end of the 14th car. The engine foreman and rear yardman returned to the ground and started walking eastward down the south side of the storage yard's lead track. The engineer and front yardman remained inside the locomotive control compartment.

The engineer moved the cut of cars westward to allow the foreman and yardman to board the lead car. The engine foreman boarded the lead car and assumed a crouching position at the east end near the center of the tri-level car's first level. The rear yardman also mounted the east end of the car on the B-end side ladder, placing him on the south side of the storage yard track

lead. The engineer was instructed to move eastward. Moving at approximately 10 m.p.h., the engineer received instructions to slow down. The engineer made a partial air brake application with the independent brake valve reducing his movement to about 5 m.p.h. In making the application, slack between the cars ran eastward toward the 14th car, and the engine foreman was thrown between the rails six to eight feet ahead of the car. As the east end of the car passed over the engine foreman, he attempted to move from underneath the car by moving toward the south rail. Wheel 1 and 2 on the right passed over the upper part of his body crushing his chest, abdomen, and pelvis. He was pronounced dead at the accident site.

Applicable Rules

33(g). Employees must watch and be prepared for sudden starting, stopping lurch or jerk when on equipment.

136. When on engines, cars, caboose or other equipment, be prepared and protect against sudden stops or starts and slack action . . .

(Uniform Code of Safety Rules)

Analysis

The accident investigation's inspection of equipment disclosed no defects which could have contributed to the accident.

Cause

The accident was caused by the failure of the engine foreman to protect himself from sudden slack action while riding on a car during a switching operations.

REPORT: 62

RAILROAD: Chesapeake and Ohio Railway Company

LOCATION: Peru, Indiana

DATE: October 31, 1979

The Accident

A 52-year-old laborer was fatally injured on October 31, 1979 at about 10:30 a.m. in Peru, Indiana. Employed by the Chesapeake and Ohio Railway Company, the laborer had 32 years of service. The weather was clear and the temperature was 65°F.

Background

On the day of the accident, four laborers were assigned to clean the diesel shop's drop table pit. They were loading debris scraped from the pit floor into a 55-gallon drum, lifting it through a hole in the drop table with the shop's overhead crane, and dumping it into a truck. The labor foreman and another employee were working in the pit and the other two laborers were working at the shop's track level. One man was operating the crane and the lead laborer was guiding the drum through the hole in the drop table and dumping the debris into the truck.

The laborer attended a safety meeting on October 30, 1979. A "Safe Job Procedure Bulletin" is read to employees once a week and a "Safety Rule of the Week" is read each morning.

Circumstances of the Accident

At approximately 10:30 a.m., the lead laborer climbed into the pit through a manhole in the shop floor using the metal ladder which is permanently attached to the north wall of the pit. He was delivering a message to the laborer foreman that he was to make a phone call about monthly time records. He also told the foreman he was going to take a shovel back to the upper level. The foreman climbed out of the pit without looking back but did recall that as he started up the ladder he saw the man pick up a shovel. The other laborer in the pit assumed that the lead laborer had left with the foreman.

After filling the drum, the man looked around and saw the lead laborer lying on his back at the foot of the ladder. He tried talking to him, received no response, climbed out of the pit, and contacted the diesel shop foreman. The shop foreman called for an ambulance and went to the accident location where he found the injured man conscious but unable to speak.

When the rescue unit arrived, the employee was taken to the hospital in Peru, Indiana, and given emergency treatment. It was decided that he should be sent to Methodist Hospital in Indianapolis for further treatment and he was transferred to Indianapolis by helicopter. He died there at 3:10 p.m. on the day of the accident.

Applicable Rules

406. Employees must face ladders and hold on with both hands when ascending or descending. If tools or material must be handled, use a hand line. Do not climb higher than the third rung from the top of straight ladders or the second step from the top of step ladders.

(Chessie System Safety Rules)

Analysis

There were no witnesses to the accident and the specifics of the accident could not be determined. A long-handle shovel was found on the floor of the pit on the west side of the ladder. The ladder treads were greasy due to debris from the pit floor being deposited there as the employees climbed in and out of the pit. The laborer may have ascended the ladder carrying the shovel, lost his grip, and fell to the floor causing severe head injuries.

Cause

The exact cause of the accident could not be determined.

REPORT: 63

RAILROAD: Union Pacific Railroad Company

LOCATION: Spokane, Washington

DATE: November 1, 1979

The Accident

A 28-year-old engine foreman, a 23-year-old helper, and a 30-year-old helper were fatally injured on November 2, 1979 at about 6:00 a.m. in Spokane, Washington. Employed by the Union Pacific Railroad Company, two of the employees had six years of service and the other employee had six months of service. The weather was 30°F. and there was a light fog.

Background

The accident occurred on the main track of the Spokane International Railroad, a subsidiary of the Union Pacific Railroad Company. The rail-highway crossing is on Stone Street in an industrial area in Spokane Yard. The crossing is 20 feet wide, surfaced with dirt and gravel, and protected by standard crossbuck signs. The street is crossed by the mainline track and a spur track located north of the main track. The distance between the two tracks is 17 feet measured from center line to center line.

The railroad switching crew consisted of an engineer, an engine foreman, and two helpers. They had served several industries and warehouses east of the scene of the accident, and were returning to the Union Pacific's classification yard. The locomotive unit was moving westward in reverse with the long end forward, pulling five loaded cars and seven empty cars as it approached the Stone Street crossing. There was no speed-recording tape on the locomotive, but carrier officials estimated the train's speed to have been between 5 and 10 m.p.h. The headlight on the lead end of the locomotive was on bright. Apparently all of the crew members were riding in the control compartment of the locomotive unit.

A gasoline tank truck had been filled the previous evening and was parked in the storage yard near the rail yard at Stone Street. The truck driver reported for work shortly before 6:00 a.m. on November 2, 1979.

All members of the railroad crew had been examined on the railroad's safety rules. The truck driver had a valid Washington State driver's license.

Circumstances of the Accident

Shortly before the accident, the tank truck/trailer was moved out of the storage yard and headed south on Stone Street toward the rail-highway crossing. The truck driver told police officials that he did not see the approaching headlight of the train until the truck was on the main track. He said his view to the east was obstructed by a building located on the northeast quadrant of the crossing and by a box car standing on the spur track opposite the building. He accelerated and moved the truck and part of the trailer off the track. The locomotive struck the rear portion of the trailer, causing the gasoline in the trailer to explode. Flames engulfed the locomotive and the nearby area. The locomotive stopped about 150 feet from the point of collision.

The crew members ran from the locomotive. Two were found close to the steel fence which surrounds the storage yard, about 25 feet north of the track. They were pronounced dead at the scene. Another employee was found a short distance further and died of his injuries the next morning.

The engineer ran from the scene, apparently in shock. He was taken to a hospital by a passing taxi. His injuries consisted of burns over 60 percent of his body.

There was no derailment of railroad equipment. Four rails were buckled by the intense heat and had to be replaced. The truck was not damaged, but the tank trailer was completely destroyed.

Applicable Rules

". . . no railroad engine, car or train may be operated over any grade crossing within the city limits at a speed greater than 12 m.p.h. Another section of the ordinance states that it shall be unlawful for any person operating any locomotive within the city limits to sound, or permit to be sounded, the whistle thereof, except to prevent an accident otherwise unavoidable, or to signal an interlocking plant, or to communicate with a flagman."

(City of Spokane Ordinance No. C-14530)

". . . the driver of any motor vehicle carrying explosive substances or flammable liquids as a cargo, or part of a cargo, before crossing at grade any track or tracks of a railroad, shall stop such vehicle within 50 feet but not less than 15 feet from

the nearest rail of such railroad, and while stopped, shall listen and look in both directions along such track for any approaching train, and for signals indicating the approach of a train, and shall not proceed until he can do so safely."

(Revised Code of Washington State, Part 46.61.350)

Analysis

The truck driver told police officers that he stopped before starting across the railroad tracks. It could not be determined exactly where the stop was made. If the stop was made before the truck reached the first rail of the spur track, the driver's view of the main track would have been blocked by a building and a box car that was standing on the spur track. If the truck had moved forward to a position where the driver could see the main track clearly, the front end of the truck which extended over seven feet ahead of the driver's position, would have been foul of or very close to the first rail of the main track.

Cause

The accident was caused by failure of the truck driver to remain stopped at a rail-highway crossing until it was safe to cross the railroad track.

A contributing factor was the restricted view of the track from the north side of the Stone Street Crossing.

REPORT: 64

RAILROAD: Atchison, Topeka and Santa Fe Railway Company

LOCATION: Clovis, New Mexico

DATE: November 7, 1979

The Accident

A 22-year-old yardman was fatally injured on November 7, 1979 at about 11:00 p.m. in Westend Yard in Clovis, New Mexico. Employed by the Atchison, Topeka and Santa Fe Railway Company (ATSF), the yardman had two years and six months of service. The weather was clear.

Background

Clovis Yard is a flat switching and classification yard. The accident occurred on the south switching lead track. In the accident area, the yard is well illuminated with mercury vapor lamps and area footing is good.

The yardman was a member of a yard switching crew which consisted of an engineer, an engine foreman, and two yardmen. The crew had been on duty for seven hours after completing the required off-duty period. The crew had completed their lunch break just before the accident occurred.

The yardman last passed the ATSF's "Operating Rules and Safety Rule Book" examination on May 3, 1979. His last physical examination was completed on August 7, 1979. There were no other training records.

Circumstances of the Accident

The engine foreman marked the switch list and instructed the crew on the switching of 40 cars at the west end of the yard. The yardman was instructed to remain at the switch of track No. 430 since cars were to roll to track Nos. 430 and 447. The remainder of the crew used the south switching lead to conduct the switching operation. In the process, cars were uncoupled and switched into several yard tracks. The other yardman stated that he saw the yardman's lantern several times during the switching operation.

The other yardman found the first yardman across the south rail of the lead track, 134 feet east of switch No. 431. The employee was pronounced dead at the scene of the accident.

Applicable Rules

38. Employees must expect movement of trains, engines, cars or other equipment at any time, on any track, in either direction. Do not rely on others to give warning of moving equipment, except where designated lookouts are provided.

46. Do not walk between the rails nor foul track except as necessary in the performance of duty. Extreme caution must be used during periods of impaired visibility or inclement weather.

(Atchison, Topeka and Santa Fe Railway Company Safety Rules)

Analysis

The lead wheels of a car switched on the lead track to track No. 447 showed evidence of having run over the employee. There were no witnesses at the scene of the accident and the exact circumstances of the accident could not be determined.

Cause

The employee failed to stand clear of rolling equipment being switched on the lead track and was run over by a hopper car.

REPORT: 65

RAILROAD: Louisville and Nashville Railroad Company

LOCATION: Gattiff, Kentucky

DATE: November 11, 1979

The Accident

A 31-year-old brakeperson was killed when she was crushed between two cars on a lead track on November 11, 1979 at 9:15 p.m. at Gattiff, Kentucky. It was dark with overcast skies at the time of the accident. Employed by the Louisville and Nashville Railroad Company, the brakeperson had eight months of experience.

Background

There are two tracks at Gattiff, designated as track No. 30 and track No. 53, and each has a capacity of about 34 hopper cars. The grade of the two tracks varies from 2.5 percent descending on the south end to near level on the north. These tracks are used for assembling trains which are loaded at a mine about 3/4 of a mile south of the Gattiff switch.

Because of heavy grades in the area and limited storage tracks, it is necessary to load a unit train in two parts. The employee was familiar with both operating and safety rules. She had passed her most recent rules examination on August 25, 1979. At that time the subject of insufficient clearance on adjacent tracks was discussed.

Circumstances of the Accident

A four-member train and engine crew reported on duty at Etowah, Tennessee at 11:00 a.m. on the date of the accident, and deadheaded from that point to Gattiff. There they took charge of an 85-car empty-hopper train, destined for loading at the Cal Glo Coal Company, located on the Pine Mountain Branch West at Gattiff. After 39 cars were loaded, crew members discussed the work to be performed and moved northward toward track No. 30, stopping at one point where the conductor and rear brakeman coupled a caboose to the rear of the train and restored hand thrown switches for their following movement. The movement was stopped a second time by a radio transmission from the conductor to the locomotive when the caboose cleared track No. 53. The front brakeperson made a cut on the head-end of the block of cars and signaled by use of a hand lantern for the engineer to proceed. She again used a hand

signal to stop the movement before lining a switch and gave a signal for a reverse movement toward the remaining cars at the mine unloading area as previously planned. After moving a short distance, the engineer realized that the switch was not properly aligned and that the movement was moving on a stub track on the east, instead of through track No. 53 toward the mine unloading area.

The engineer got off of the locomotive, walked southward, met the employee, and discussed the error with her. He gave her instructions to: recouple the cut of cars, hold onto a sufficient number of cars to clear track No. 53, and shove through to the mine unloading area. The brakeperson indicated that she understood his instructions, and the engineer returned to the controlling locomotive and operated it in accordance with the hand signals he received from the brakeperson.

As the locomotive passed the standing cars on track No. 30, the engineer observed that the clearance was extremely close. He looked to the rear of the movement and observed the brakeperson lying motionless between the two tracks. She was pronounced dead from internal injuries at the accident scene.

Applicable Rules

103(b) When cars are left, they must be clear of other tracks; 106(c) brakeman on engine must promptly obey instructtions of the engineer relating to the safety and protection of the train.

(Louisville and Nashville Railroad Company Operating Rules)

Q. When working at night, exercise utmost care to avoid the hazards caused by shadows resulting from the use of lights.

41. When riding on equipment, face the direction of movement, keeping a close lookout for any close clearance.

Analysis

No one saw the employee when she was caught between the car on which she was riding (LN 521772) and a car (LN 521645) standing on the adjacent track. A post-accident examination of the equipment revealed that there was about eight inches of clearance between the corners of the two cars. Marks on the left side of LN 521772 indicated that the employee was rolled between the two cars for 14 feet, at which time sufficient clearance between the cars permitted her body to drop to the ground.

Cause

The employee failed to make a cut which provided sufficient clearance on the adjacent track, and rode the lead end of a movement into an area with insufficient clearance.

REPORT: 66

RAILROAD: Soo Line Railroad Company

LOCATION: North Fond du Lac, Wisconsin

DATE: November 11, 1979

The Accident

A 56-year-old machinist died of a heart attack on November 11, 1979 at about 8:15 a.m. at the engine facility in North Fond du Lac, Wisconsin. Employed by the Soo Line Railroad Company, the machinist had 32 years of service.

Background

Not applicable.

Circumstances of the Accident

The machinist reported for duty at the engine facility in North Fond du Lac at 7:30 a.m. After receiving his duty assignments, the machinist lined up the proper tools for his assignment, obtained an empty wheelbarrow, and brought it to the area where he was to work with another machinist. A brief conversation took place with the other machinist, who momentarily turned away from the machinist to talk to another employee. At that time, the machinist fell against the back of the other machinist and collapsed to the floor. An ambulance was called immediately and first aid was administered by an employee who is a qualified paramedic. The machinist was pronounced dead on arrival at St. Agnes Hospital in North Fond du Lac.

Analysis

Not applicable.

Cause

The official coroner's report stated that the machinist died of a heart attack due to an existing heart disease.

REPORT: 67

RAILROAD: Union Pacific Railroad Company

LOCATION: Wilmington, California

DATE: November 23, 1979

The Accident

A 28-year-old brakeman was fatally injured on November 23, 1979 about 3:15 a.m. in Manuel Yard in Wilmington, California. Employed by the Union Pacific Railroad Company, the brakeman had nine years of service. The temperature was 45°F., and it was dark and overcast.

Background

The yard has three tracks, connected at both ends, and other auxiliary and spur tracks connected at the last end to a lead track. The yard is to the north of the main track. In the accident area, all tracks have a descending grade from east to west. The yard tracks are about 2,000 feet in length and curve to the right about midway, when moving from east to west.

The employee was last examined on and passed the carrier's operating rules test on October 2, 1972. His last physical examination was administered and passed on November 16, 1977. He completed an Atchison, Topeka and Santa Fe Railway operating rules questionnaire on February 1, 1979 to work as a brakeman on joint trackage.

Circumstances of the Accident

The accident occurred at the west end of the yard at the clearance point between track No. 2 and track No. 3. The brakeman was a member of a local train crew which consisted of a conductor, two brakemen, and an engineer. The crew had been on duty for 9 hours and 15 minutes after completing the required off-duty period. The crew went on duty at East Yard in Los Angeles, California and operated a train to Mead Transfer in Wilmington.

On arrival at Mead Transfer, the conductor awakened the rear brakeman who had fallen asleep. After switching for several hours, a train was assembled for the return trip to Los Angeles.

At Manuel Yard the train stopped at the west switch, and the locomotive consist was detached and headed into the yard. A covered hopper car, loaded with feed, was standing on the west lead east of the switch to track No. 2. The hopper car was kicked into

track No. 2 and then boarded the locomotive as it proceeded eastward on track No. 3.

The locomotives were attached to seven empty automobile rack cars on a spur track that is north of track No. 3. The air hoses were coupled and the conductor proceeded to the cab of the lead locomotive. He awakened the rear brakeman who had again fallen asleep. The automobile rack cars were pushed westward on track No. 3. The rear brakeman was on the southwest corner of the west car, and the conductor and front brakeman were located between the rear car and the locomotive consist. The west car approached the west end of the yard moving at about 15 m.p.h. The southwest corner of the automobile rack car struck the north side of the covered hopper car which had rolled off of track No. 2 fouling the lead. The conductor gave a stop signal when he heard the collision noise. When he reached the scene he found the covered hopper car turned on its side, south of the lead. The rear brakeman was crushed underneath the west end of the car.

Applicable Rules

G. The use of alcoholic beverages or narcotics by employees subject to duty is prohibited.

Being under the influence of alcoholic beverages or narcotics while on duty or on company property is prohibited.

804(J). When switching or placing cars, employees must know that cars are left standing so that they will clear cars on adjacent tracks and will not cause injury to employees riding on side of cars.

Car must not be left on or foul of lead tracks in yards when it can be avoided. When it is necessary to do so, the yardmaster, agent or operator must be advised immediately and he must notify trains entering or leaving the yard.

806(A). A sufficient number of hand brakes must be set to hold cars standing on any track; if brakes are inoperative wheels must be blocked.

When track is on a grade, hand brakes must be set, and when necessary, wheels must be blocked and cars coupled together, when practicable.

In setting brakes on cars on a grade, brakes must be set on low end of the cut of cars and slack must be bunched to know cars stand when engine is cut off.

(Union Pacific Railroad Company Operating Rules)

4047. When necessary to extend any part of the body beyond side line of engine car, a careful lookout must be maintained in both directions for trains, engines or cars on adjacent track, and for other close clearances.

(Union Pacific Railroad Company Safety Instructions)

Analysis

Examination of the hand brake on the covered hopper car showed no signs of damage as a result of the side collision. The brake chain was in full release position, which would require tripping the brake pawl if the hand brake had been set after the car was kicked into track No. 2. A severed piece of wood was found on each side of the south rail of track No. 2, about 80 feet east of the covered hopper car. The covered hopper car may have been held by blocking a wheel rather than by setting the hand brake.

The conductor had been required to awaken the rear brakeman on two occasions before the accident. After the accident several empty beer cans were found behind the left seat in the locomotive cab and the rear brakeman was found to be in possession of marijuana.

The autopsy report indicated that the blood alcohol level of the rear brakeman measured 0.11 percent at the time of death. The State of California cites a blood alcohol level of 0.10 percent or greater as being intoxicated. Because the brakeman had been on duty for 9 hours and 15 minutes before the accident, a violation of Rule G was indicated.

Cause

The rear brakeman failed to properly secure a car after it was set out on a yard track, allowing the car to roll free and foul a lead track in front of a cut of cars being pushed toward the lead.

A contributing factor may have been a violation of Rule G by the employee while on duty.

REPORT: 68

RAILROAD: Atchison, Topeka and Santa Fe Railway Company

LOCATION: Temple, Texas

DATE: November 28, 1979

The Accident

A 20-year-old yardman was fatally injured on November 28, 1979 at about 3:25 a.m. in the train yard in Temple, Texas. Employed by the Atchison, Topeka and Santa Fe Railway Company, the yardman had three months of service. The weather was clear, cool, and windy.

Background

The yard tracks extend geographically north and south and parallel the main track. There are 26 receiving and classification tracks numbered 101 through 126. Tracks 101 through 112 are switched from one lead and tracks 113 through 126 are switched from another lead. The accident occurred near the south end of track No. 119, one of three tracks on which the crew was performing switching operations.

When he was first hired, the yardman was given six days of full-contact training and 10 days of training under an engine foreman. He was issued a safety rule book at the time of his employment. He last attended a safety meeting on October 9, 1979.

Circumstances of the Accident

On the day of the accident, yard crew No. 301 consisted of an engine foreman, an engineer, and two yardmen. Their working hours were 11:00 p.m. to 7:00 a.m.

Shortly before the accident the crew started to make up train No. 2524 BG-1, and placed a caboose about 300 feet from the south end of track No. 119. Six cars were pulled from the south end of track No. 117. Two of these cars were pushed into track No. 119 against the standing caboose but failed to couple. They rolled back and were stopped and "chocked" by the yardman. This left several feet between the cars and the caboose. A single car was moved onto track No. 118 and it was stopped by the yardman. Another car was pushed onto track No. 117 and coupled to the cars standing on that track.

During that movement, the yardman was seen standing near track No. 117. The switch was then aligned for track No. 119 on which the two remaining cars were placed. Crew members later stated that before the two cars coupled with the cars on track No. 119, the yardman was seen moving rapidly from track No. 117 toward track No. 119. This movement was easily seen by the light from a lantern he was carrying. After he reached track No. 119 the light from his lantern disappeared. At that time the yard locomotive was standing clear of track No. 119. After no further movement of the yardman's light was seen another crew member crossed track No. 119 to look for him.

Two crew members then rushed down beside track No. 119 to look for the yardman. His lantern was found between track Nos. 118 and 119 and he was found pinned between the couplers of the car and caboose on track No. 119; he was still conscious when found. He was asked why he was on track No. 119 and he replied, "Well, they weren't coupled up."

Before the equipment was separated the yardman was given medical assistance by emergency service paramedics and a physician. The equipment was then moved and he was rushed by ambulance to a hospital where he was pronounced dead on arrival.

Applicable Rules

38. Do not cross tracks closely in front of moving equipment. . . . When crossing tracks do not go within ten feet of end of standing equipment. . . . Be alert for unexpected movement of cars or engines.

(Atchison, Topeka and Santa Fe Railway Company Safety Rules)

Analysis

The yardman attempted to cross track No. 119 to operate the uncoupling lever of the caboose.

Post-accident inspection of the ground and equipment at the accident site disclosed no defects or conditions which could have contributed to the accident.

Cause

The accident was caused by the yardman crossing in front of moving equipment.

REPORT: 69

RAILROAD: Chicago and North Western Transportation Company

LOCATION: Chicago, Illinois

DATE: December 9, 1979

The Accident

A 46-year-old special agent was killed on December 9, 1979 at about 3:15 p.m. in Chicago, Illinois. Employed by the Chicago and North Western Transportation Company, the agent had four years of service. Weather conditions were clear and dry.

Background

The special agent was driving a motor vehicle southward on Milwaukee Avenue, inspecting commuter stations for signs of vandalism.

The agent's last physical examination was held on May 14, 1975.

Circumstances of the Accident

The special agent's vehicle was approaching the intersection of Milwaukee Avenue and Belmont Avenue when an automobile pulled out of a gasoline station on the northwest corner of the intersection, traveling at a high rate of speed. The speeding automobile struck the special agent's vehicle broadside, pushing it into vehciles parked on the east side of Milwaukee Avenue.

The special agent was taken to a local hospital where he was pronounced dead on arrival.

Applicable Rules

Not applicable.

Analysis

Prior to striking the special agent's vehicle the other automobile hit a concrete post and a truck. After the collision, the driver of the speeding automobile fled the area on foot. He was later arrested by local police authorities and charged with reckless homicide and leaving the scene of an accident.

Cause

The hit-and-run driver lost control of the motor vehicle and at a high rate of speed struck the vehicle being driven by the railroad special agent.

REPORT: 70

RAILROAD: Consolidated Rail Corporation

LOCATION: Avon, Indiana

DATE: December 10, 1979

The Accident

A 26-year-old trackman was killed on December 10, 1979 at about 2:28 p.m. in Avon Yard near Indianapolis, Indiana. Employed by the Consolidated Rail Corporation (Conrail), the trackman had four years of service. In the same accident, a 25-year-old machine operator and a 23-year-old trackman were injured. The temperature was 40°F. and the weather was clear.

Background

Avon Yard is a hump yard. The accident area consists of 13 departure tracks and 55 classification tracks, numbered from north to south. These tracks are connected on the east end to a departure lead and two stub-end puller leads which are used to move cars from the classification tracks to the departure tracks. There are a series of crossovers which connect the puller and departure leads and permit several equipment movements to take place at the same time. The leads are tangent and practically level.

Tower No. 1 is located 327 feet southeast of the accident site and is occupied by a yardmaster and a utility conductor. The utility conductor controls an electric warning siren located on the northwest corner of the tower. The siren is frequently sounded to warn employees of equipment movements.

Supervisors conduct safety meetings about once each month and a safety rule of the day is discussed before starting work. There is no record of the trackman having attended any of these classes or meetings. He received his last physical examination on April 17, 1979.

Circumstances of the Accident

On the day of the accident, three maintenance-of-way employees were performing routine work on the east switch of a hand operated crossover which connects a north departure lead track with the north puller lead.

The crew had been working at that site from about 11:00 a.m. and several times were required to clear the track for switching movements. The utility conductor's view was unobstructed and he had sounded the siren to warn the maintenance-of-way crew each time.

Prior to the accidnet, puller assignment No. 2 pulled 33 cars from classification track No. 10, adjacent to the track on which the maintenance employees were working. A remotely-controlled crossover switch to the north departure lead is located 432 feet east of the accident site. The utility conductor instructed the engineer by radio to stop the movement when all cars cleared the crossover. The switches were restored to normal position for a return to departure track No. 3. One brakeman, working with the locomotive end of the movement, dismounted from a car about 700 feet west of the accident site. He walked over to a caboose located on departure track No. 3 and prepared for the coupling operation. The brakeman instructed the engineer by radio to push the cars west.

Puller assignment No. 3 was instructed to pull east out of track No. 9 along the north puller lead. That movement obscured the maintenance employees from the utility conductor's view. At that time, all three maintenance employees were working on the north departure track. The fatally injured employee was located in the track gage and the two injured employees were on the north side of the north rail. The employee facing east did not see the cars moving toward them until the cars were about two feet away. He then sounded a warning but it was too late to clear the track and all three employees were struck by the lead car.

The fatally injured employee's body was severed and he was pronounced dead at the accident scene.

Applicable Rules

3202. Employees working on track, who are not protected by foreman or watchman looking out for trains, must look out for trains themselves. They will assume a position and perform work in such a manner that will permit making frequent observations in both directions . . .

(Conrail Safety Rules - Maintenance-of-Way and Structures Employes)

Analysis

The utility conductor in Tower No. 1 is not required to provide protection for employees by sounding the warning siren. At the time of the accident, his view was apparently obscured and the siren was not sounded.

One of the three maintenance employees was qualified to act as a foreman but had not been instructed to do so. The employees, therefore, were working without on-site supervision.

Cause

The accident was caused by the employees' failure to look out for moving equipment.

A contributing factor was the failure of the utility conductor to continuously sound the siren during all train movements.

REPORT: 71

RAILROAD: Chicago and North Western Transportation Company

LOCATION: Fort Dodge, Iowa

DATE: December 11, 1979

The Accident

A 36-year-old signalman was fatally injured on December 11, 1979 at about 10:15 a.m. in Fort Dodge, Iowa. Employed by the Chicago and North Western Transportation Company, the signalman had three years and six months of service. Weather conditions were cloudy and there was a strong wind.

Background

There are cantilever rail-highway crossing protection signals on State Highway 20 near Fifth Avenue in Fort Dodge, Iowa. This is a four-lane highway. The upper lights on the cantilever arm had slipped and the signalman was sent to adjust the signal lights. He was assisted by another signalman from Gowrie, Iowa.

The signalmen parked a company truck on the inside lane, used for eastbound traffic, about 15 feet west of the cantilever signal. The truck had a yellow revolving light on top of the cab. The light was operating at the time of the accident. No additional protection from vehicle traffic was provided for the signalmen.

The signalman had been issued copies of the "General Regulations and Safety Rules" and the "Rules of the Engineering Department" by the carrier.

Records indicate that the signalman last attended a safety meeting on November 14, 1979. The signalman's last physical examination was held on April 6, 1979.

Circumstances of the Accident

After arriving at the signal repair site, the signalmen placed a 17-foot ladder in front of the truck on the inside lane for eastbound traffic. The top of the ladder was hooked to the cantilever ladder bracket.

The signalman climbed the ladder and made several unsuccessful attempts to adjust the lights. He decided to use a rope to secure the lights while tightening the light bracket clamp. He began working on the lights while the signalman on the ground held the

free-hanging rope and ladder. The signalman on the ground went to get an additional part from the truck needed by the signalman on the ladder, he released his hold on the ladder and rope. At that time, an eastbound pick-up truck on the outside lane moved past the ladder. As the truck passed the ladder, a gust of wind blew the rope into the adjacent eastbound traffic lane. The rope became tangled around the truck's rear view mirror. The truck driver did not realize what happened and the truck continue eastward. The rope tightened and caused the ladder and the signalman to fall 17 feet to the pavement. The truck driver heard the noise of the falling ladder and stopped his vehicle.

The injured signalman was taken by ambulance to a hospital in Fort Dodge and later moved to a hospital in Des Moines. He died six hours later from massive head and abdominal injuries.

Applicable Rules

GENERAL RULES

. . .

M. Employes must exercise care to prevent injury to themselves or others.

BUILDINGS, PLATFORMS, SCAFFOLDS AND LADDERS

274. When a ladder is placed at a location where it is likely to be struck by persons or vehicles, assign an employe to guard it or obtain other protection. . . .

(Chicago and North Western Transportation Company General Regulations and Safety Rules)

Analysis

The post-accident examination of the ladder did not indicate any defect that could have caused the ladder to slip from the ladder bracket.

The signalmen were aware of the wind condition but did not secure the free hanging rope.

Cause

The accident was caused by failure of the signalmen to secure the rope while making repairs.

REPORT: 72

RAILROAD: Norfolk and Western Railway Company

LOCATION: Hickory, Pennsylvania

DATE: December 12, 1979

The Accident

A 52-year-old maintenance-of-way welder-helper was fatally injured and a welder was seriously injured on December 12, 1979 at about 11:26 a.m. near Hickory, Pennsylvania. Both men were employed by the Norfolk and Western Railway Company. The welder-helper had 36 years of service. The weather was cloudy.

Background

The accident occurred on the main line near Mile Post 69.8 east of Hickory, Pennsylvania. The track run through rolling hills where there are numerous curves. Near the accident site there is a three degree curve to the left proceeding west, with an ascending 0.41 percent grade, which extends almost to Hickory. There are trees and brush on the hillside in the area but they do not pose a visibility problem. An individual standing in the center of the track has a clear view for 730 feet.

The welder-helper had experience in maintenance of bridges and buildings in addition to his service in the maintenance-of-way department. He had previous experience in rail welding operations before his assignment to the job several months before the accident.

The carrier provides each employee with a copy of its safety rules and post a "Rule of the Day" at the various work locations.

Circumstances of the Accident

The welder and welder-helper were instructed to move from their headquarters in Greentree, Pennsylvania and weld rail joints near Mile Post 69.8. They were using a welding machine (No. 21474) to perform the assigned work.

Shortly after 11:00 a.m., the track supervisor was authorized by the "East End" dispatcher at Brewster, Ohio to set a hi-rail pick-up truck on the rails at Gladden, Pennsylvania about six miles east of the welding operation site. The track supervisor proceeded

west. He was notified of the welding operation and advised to lookout for the men working on the track near Mile Post 69.8. The track supervisor repeated the instruction. This is recorded on the tape conversation with the "East End" dispatcher.

At about 11:26 a.m. the welder-helper observed the truck approaching and apparently was aware that it would not stop short of the welder who was sitting on his welding seat with his back toward the truck.

The welder-helper attempted to push the welder out of the way but the truck struck the welder in the back. The welder-helper was also struck by the truck; he incurred head injuries.

The truck derailed when it struck the welder's seat and continued along the rail for about 18 feet.

The welder-helper died fom his injuries at 1:55 a.m. on December 13, 1979.

Applicable Rules

1051. Employees on or about track must be alert, watchful and keep out of danger, exercising care to avoid injury to themselves and others. Nothing in these rules is to be construed as relieving any employee from performing his full duty in this respect.

1052. . . . Crossing track immediately in front of moving trains, locomotives, cars, roadway equipment or motor cars is prohibited.

1059. Employees are prohibited from sitting on rails, ties or any other part of track structure, except when necessary in performance of duty, and then only when sufficiently protected to insure their safety.

(Norfolk and Western Railway Company Safety Rules)

693. Unnecessary conversation must be avoided while the motor car is in motion and all occupants must keep a vigilant lookout in both directions. The maximum speed must not exceed 20 m.p.h. at any time and motor cars must proceed at all times prepared to stop within one-half the range of vision.

694. Speed of motor cars must be reduced to six miles per hour over switches and frogs, through station grounds, or when approaching workmen or others on or near the track.
. . .

(Norfolk and Western Railway Company Operating Rules)

Analysis

The track supervisor was the immediate supervisor of the employees and knew of their work in the area. He should have operated the hi-rail truck in compliance with the Norfolk and Western Railway Company's operating rules and in accordance with instructions from the dispatcher in Brewster.

The welder-helper was responsible for keeping a close watch at all times during welding operations to insure the safety of the welder. His reaction was too late when he realized the truck would not stop.

Cause

The accident was caused by the failure of the track supervisor to operate a rail-highway truck in compliance with the carrier's regulations and instructions he received from the dispatcher.

Possible contributing factors were the slow response of the welder-helper to warn the welder of the approaching rail-highway truck, and the heavy load carried by the truck. Also, the rubber tires of the vehicle traveling on smooth rails did not provide an optimum stopping surface for the heavily loaded truck.

REPORT: 73

RAILROAD: Atchison, Topeka and Santa Fe Railway Company

LOCATION: Barstow, California

DATE: December 14, 1979

The Accident

A 28-year-old switchman was fatally injured on December 14, 1979 at 4:46 p.m. in Old Barstow Yard in Barstow, California. Employed by the Atchison, Topeka and Santa Fe Railway Company (ATSF), the switchman had two years of service.

Background

The Old Barstow Yard has 17 tracks, connected at both ends, and other auxiliary tracks. The yard's improvement program calls for removing every other track. In the accident area the tracks lead into the "rip track," located on the south side of the yard. The switches are hand thrown with low level switch stands and the grade is level. The diesel locomotive repair shops are also located on the south side of the yard.

The car involved in the accident was a former EMD FP-9 booster locomotive unit which had been converted into a remote control equipment car. It did not have a diesel engine. There was no electrical equipment in the unit or traction motors mounted on its trucks. It was identified as ATSF car No. RCE-10. At the time of the accident the unit was retired, stripped of radio and air brake equipment, and was being moved to the "rip track" to be cut up for scrap.

The switchman last attended an operating rules class on September 5, 1978. His last physical examination was on October 22, 1979. He was found to be in good health.

Circumstances of the Accident

The accident occurred at the switch to track No. 56. The switchman was a member of a yard switching crew consisting of an engine foreman, two switchmen, and an engineer. Each crew member had a portable radio set so that they could communicate with each other. The crew had been on duty for 1 hour and 46 minutes after completing the required off-duty period. Switching was being performed from the west.

The switchman involved in the accident was last seen standing in the east-end doorway of car RCE-10, while it was being pushed eastward. As the car was slowly passing over the switch to track No. 56, the engine foreman and switchman, standing east of the switch, turned toward the approaching car and saw the switchman being dragged under the front truck. The engineer stopped the locomotive with an emergency brake application. The car stopped with the front axle of the rear truck over the switchman. The employee sustained severe injuries and was pronounced dead on arrival at the hospital.

Applicable Rules

Rule 112 (A). Employes performing switching must do so efficiently and in a manner which will avoid personal injury . . .

(The Atchison, Topeka and Santa Fe Railway Company Rules Operating Department)

Analysis

The ground, mid-point between the rails, and 10 feet east of track No. 56 switch points, indicated a deep foot print. Two feet eastward, there were signs that the body was dragged. These marks extended eastward for 40 feet. The witnesses at the scene did not see the switchman until he was under the truck of the moving car and the exact circumstances of the accident could not be determined.

Cause

The apparent cause of the accident was the employee's failure to perform his duties in a safe manner.

REPORT: 74

RAILROAD: Norfolk and Western Railway Company

LOCATION: Norfolk, Virginia

DATE: December 18, 1979

The Accident

A 54-year-old electrician was fatally injured at about 8:30 p.m. on December 18, 1979 at Pier 6 of Lamberts Point in Norfolk, Virginia. Employed by the Norfolk and Western Railway Company, the employee had 32 years of service. The weather was dark and clear, and the temperature was 37°F.

Background

In the accident area, there is a thaw shed 420 feet long covering four tracks. The shed contains many resistance-type heating elements which provide heat to thaw frozen coal in hopper cars in preparation for dumping at a rotary car dumper. Electrical power is supplied through six separate 3-phase 480-volt circuits designated as zones 1, 2, 3 north and 1, 2, 3 south. Each zone has a circuit breaker and a relay cabinet containing 44 relays and 132 power fuses mounted on panels; there are 24 to 30 fuses per panel. The circuit breakers are located in metal cabinets five feet apart.

The electrician served as a member of the carrier's shop safety committee for two 6-month periods, the last of which was from July to December 1969. He last attended safety car instructions in January 1977 and attended a shop safety meeting on November 28, 1979.

Circumstances of the Accident

The electrician went on duty at 3:00 p.m. on the day of the accident. He and a "dumper operator" were assigned to test the heaters in zone 1 north to prepare for the cold weather season. The dumper operator actuated the heater controls from the dumper cab after receiving instructions from the electrician by radio. Several heaters were not operative and this was reported to the supervisor at the 7:30 p.m. meal period. The dumper operator was instructed to test the fuses and replace any which are burned out. The normal procedure was to test the fuses with a volt meter with the power on, mark any fuses which needed replacement, trip the circuit breaker by using a trip button, replace the fuses as required, and then close the circuit breaker with an actuating lever.

The electrician was last seen working in the relay cabinet by another employee about five minutes before an explosion and subsequent fire occurred. This employee spoke to the electrician briefly and saw the electrician replace one or two fuses with channel lock pliers and a screw driver. The dumper operator saw a flash of fire at the zone 1 north relay cabinet, heard an explosion, and saw the electrician aflame, run about 30 feet to a dirt road where he callapsed. The electrician was taken by a local rescue squad to Norfolk General Hospital where he died on December 19, 1979.

Applicable Rules

1254. Any act which will raise or destroy the protective action of fuses or circuit breakers is prohibited except when done in emergencies by qualified personnel. When practicable, de-energize circuits before replacing fuses.

1263. Employees shall not work on or around any energized electrical wires or apparatus carrying more than 120 volts potential unless it is absolutely impracticable to de-energize it. Care must be taken to avoid coming in contact with water, steel structures, ground wires, guy wires, and all other circuits when working on or around any power circuit regardless of voltage.

(Norfolk and Western Railway Company Safety Rules)

Analysis

The electrical equipment in the immediate area of the explosion was either severely damaged or destroyed in the fire. There were no witnesses at the scene of the accident. Immediately after the accident, the circuit breaker was found closed and the electrical circuit energized. The exact circumstances could not be determined.

Cause

The exact cause of the accident could not be determined.

REPORT: 75

RAILROAD: Denver and Rio Grande Western Railroad Company

LOCATION: Parkdale, Colorado

DATE: December 26, 1979

The Accident

A 45-year-old carman was fatally injured on December 26, 1979 at about 4:45 p.m. in Parkdale, Colorado. Employed by the Denver and Rio Grande Western Railroad Company, the employee had 10 years of service. The weather was cloudy and the highway was snow-packed and icy.

Background

There were two carmen involved in the accident and both were headquarted at Pueblo, Colorado. Their regular duty hours were from 7:00 a.m. to 3:30 p.m. The highway vehicle involved in the accident was a Peterbilt 3515 truck equipped with a crane and primarily used for repairing freight cars at locations away from the normal repair points. The gross weight of the repair truck was 50,000 pounds.

The carman's last physical examination was held on April 18, 1969.

Circumstances of the Accident

On the day of the accident, two carmen went on duty at Pueblo, Colorado at 7:00 a.m. A short time later, they departed for Wellsville, Colorado, a distance of 88.3 miles. They completed their assignment at Wellsville and were returning to Pueblo when the driver lost control of the vehicle. It skidded off the right side of the icy road, came back across the road, and went into the river on the left side of the road. The accident site is 32.9 miles east of Wellsville and 55.4 miles west of Pueblo.

The county coroner placed the time of death at 4:45 p.m. and cited the cause of death as drowning.

Applicable Rules

Not applicable.

Analysis

The highway was snow-packed and icy. The driver lost control of the vehicle trying to negotiate a curve to the right on a downgrade. The vehicle skidded off of the highway, down a 25-foot embankment, and came to rest upside down in the river.

Cause

The accident was caused by the driver losing control of the truck on an icy descending grade.

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