U.S. Department
of Transportation

**Federal Railroad
Administration**

Certain Fatalities Investigated By The Federal Railroad Administration Second Quarter 1987

Office of Safety
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ACCIDENTS REPORTS ACT - 45 USC 41

Section 41

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

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INTRODUCTION

This report represents the Federal Railroad Administration's findings in its investigation of six railroad employee fatalities suffered during the second quarter of calendar year 1987. Not included are the employee fatalities that occurred as a result of train derailments, collisions, or rail-highway crossing accidents; these are reported in the 1987 Summary of Accidents Investigated by the Federal Railroad Administration.

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

J. W. Walsh
Associate Administrator
for Safety

CAUSE DIGEST

SUMMARY OF ACCIDENTS INVESTIGATED INVOLVING ONE OR MORE FATALITIES

RAILROAD	ACCIDENTS
ATK	1
CO	1
CSX	1
GTW	1
MCPA	1
MNCR	1
NJTR	1

Accident Investigation Reports

REPORT: 11

RAILROAD: National Railroad Passenger Corporation (Amtrak)

LOCATION: New York, New York

DATE, TIME: April 10, 1987, 8:47 p.m.

PROBABLE CAUSE: Failure of employee to remain clear of moving equipment.

A possible contributing factor was the difficult footing in the accident area.

EMPLOYEE:		
	Occupation	Assistant Conductor
	Age	35 years
	Length of Service	9 years
	Last Rules Training	July 8, 1986
	Last Safety Training	No record
	Last Physical Examination. .	November 17, 1986

Circumstances Prior to the Accident

The accident occurred in the subterranean portion of Pennsylvania Station. In the accident area multiple tracks run east and west, and interlocking rules are in effect. A high level platform is located on the south side of Track No. 8. Track No. 8 is tangent, and the grade is .45 percent ascending for eastward trains. Both a third rail and catenary are provided for the electric propulsion of trains.

On the day of the accident, baggage car AMT 1171, loaded with U. S. mail, arrived on Track No. 8 as the rear car of Train No. 46 at 6:42 p.m. The car was uncoupled and remained on Track No. 8. At about 8:30 p.m., Amtrak Locomotive No. 917 was placed on the west end of Track No. 8 by a crew with no further involvement in the accident. Locomotive No. 917 is a model AEM-7 electric locomotive. It is equipped with a control cab at each end.

Amtrak switching crew YN-3 went on duty at 3:00 p.m. on the day of the accident, after all crewmembers had received the prescribed periods off duty. The crew consisted of a conductor, engineer, and assistant conductor. Prior to the accident, the crew performed switching duties in Pennsylvania Station without incident.

At about 8:35 p.m., the conductor was instructed by a yardmaster to use Locomotive No. 917 and move the baggage car to another track for unloading. The conductor informed the other crewmembers of the assignment. The crew proceeded to Track No. 8, walking west on the high level platform. According to the conductor, when the crew arrived at the east end of the baggage car, he left his lantern on the platform and descended to track level to secure the air hoses and electrical cables for movement.

The Accident

The assistant conductor told the conductor he would prepare the car for coupling at the west end. The assistant conductor descended to track level at the west end of the baggage car. The engineer continued walking toward Locomotive No. 917. Prior to boarding, the engineer observed that one of the interlocking signals between the locomotive and the car was displaying a restricting indication for Locomotive No. 917. He boarded the locomotive through the east end cab. He prepared the locomotive for movement and walked through the engine room to the west end cab.

The engineer stated that he observed a hand signal to back up being given from the north side of Track No. 8 and that he moved the locomotive east. He further stated that the back-up signal continued until immediately prior to the coupling when the signal disappeared. Before the engineer could react by stopping, the locomotive coupled to the car. The engineer stated that the coupling speed was about one or two mph and described it as a normal coupling. The conductor was located on the baggage car and stated that he did not give any hand signals nor see the assistant conductor give hand signals. He further stated that he did not see the equipment's subsequent coupling.

Shortly after the coupling, the conductor found the assistant conductor pinned between the drawbars of the car and the locomotive. Medical assistance was summoned, but the assistant conductor was pronounced dead at the scene.

Post-Accident Investigation

A post-accident site inspection conducted by FRA personnel revealed that footing in the area was difficult due to debris and the third rail, which is located on the north side of Track No. 8. In the accident area, a cab signal test loop with protection board is located in the gage of Track No. 8. No exceptions were taken during the post-accident inspection of Locomotive No. 917. The radio in Locomotive No. 917 was working properly as was the radio carried by the assistant conductor. Investigators were not able to determine whether or not the headlight was burning on the east end of Locomotive No. 917.

Results of toxicological testing of the locomotive engineer were negative. With respect to the tests on the conductor, the cocaine metabolite Benzoylecgonine was detected in the blood at 54 ng/ml and in the urine at 4,130 ng/ml. Toxicological tests performed on the remains of the assistant conductor revealed the carboxylic acid metabolite of delta-9 tetrahydrocannabinol in the blood at a concentration of 4.1 ng/ml and 66 ng/ml in the urine. No other drugs or alcohol were detected.

Applicable Rules

Amtrak Operating Rules

> G. Employees reporting for duty are prohibited from having in their possession, using or being under the influence of alcoholic beverages or intoxicants.
>
> Employees shall not report for duty or perform service under the influence of, or use while on duty, any drug, medication or other controlled substance...
>
> 12. Hand Signals must be given from a point where they may be plainly seen, in a manner that can be understood and sufficiently in advance to permit compliance. . . . if the signal disappears from view the movement must be stopped.

Amtrak Safety Rules for Train, Locomotive and other Transportation Employees.

> 5031. Expect equipment to move at anytime; therefore look in both directions before
> (a) Fouling track
> (b) Crossing track, walk straight across when possible
> (c) Going between or around end of equipment
> (d) Moving out from between or under equipment

(e) Getting on or off standing or moving equipment
(f) Operating Switch
(g) Performing any other applicable operation

REPORT: 12

RAILROAD: Manatee County Port Authority Railroad (MCPA)

LOCATION: Palmetto, Florida

DATE, TIME: April 13, 1987, 8:45 a.m.

PROBABLE CAUSE: Failure of the employee to observe a close clearance between the locomotive on an adjacent track and the car on which he was riding.

A contributing factor was that the locomotives were left fouling the track.

EMPLOYEE:

Occupation	Switchman Trainee
Age	35 years
Length of Service	9 months
Last Rules Training . . .	In training
Last Physical Examination.	No record

Circumstances Prior to the Accident

Inside the Manatee County Port Authority Complex, at Palmetto, Florida, a switching lead crosses through the intersection of North Dock Street and Belcher Street and extends to the North Dump Shute Track and South Dump Track leading to a phosphate rock dumper. The tracks run east to west. The area is level and clear of debris.

On Thursday, April 9, 1987, four days prior to the accident, a switching crew consisting of an engineer, switchman, and switchman trainee placed Locomotives No. 7972, 1004 and 230 on the North Dump Shute Track for storage. On that day, several moves were made past the stored locomotives without incident.

On Monday, April 13, 1987, the day of the accident, after completing the required off-duty period, the same engineer and switchman trainee, with a different switchman, were assigned to the 8 a.m., switching crew. They were instructed to move 15 loaded covered hopper cars from a storage yard to the phosphate dumper for unloading.

The Accident

The switchman noticed the three locomotives stored on the North Dump Shute Track and asked the engineer and switchman trainee if there was enough clearance to pass the locomotives. They both said "yes" because they had passed the locomotives several times on the previous Thursday, April 9.

After picking up the 15 covered hopper cars, the switch movement proceeded west toward the dumper at 8:45 a.m. The locomotive was on the east end of the movement shoving the 15 cars west. The switchman was riding the southwest side of the west car, CO 603415, and the switchman trainee was riding the northwest side.

As the movement continued, the switchman trainee notified the engineer by radio that the switch was lined for the North Dump Shute Track. The engineer, realizing this was wrong, asked, "Do you mean the South Dump Shute Track?" The switchman trainee corrected himself and said, "Yes, we are lined for the South Dump Track." As the movement proceeded into the South Dump Shute Track, the switchman heard the switchman trainee cry out and saw him disappear from the side of the car. Realizing that the switchman trainee had been caught between Car No. CO 603415 and Locomotive No. 7972 stored on the North Dump Shute Track, the switchman radioed the engineer to stop. The switchman trainee was found lying between the North and South Dump Shute Tracks seriously injured. The victim was taken by ambulance to the Manatee Memorial Hospital, where he died at 10:12 a.m.

Post-accident Investigation

The victim had been employed by the Manatee County Port Authority for approximately nine months. His actual time spent as a switchman trainee was approximately 43 days.

Examination of the records indicated that there were no track movements for the three-day period prior to the accident. On Monday, the engineer and switchman trainee assumed that the three stored locomotives were in the same position as they were on Thursday, April 9.

The investigation revealed that an outside maintenance contractor had performed maintenance on Sunday, April 12, which required movement of the three stored locomotives. The contractor stated that he returned the locomotives to the same spot and secured and set the handbrake. It could not be determined who actually placed the locomotive without proper clearance to the adjacent track or why the switchman trainee misjudged the distance and failed to act to protect himself.

Results of toxicological testing of the deceased and of the

surviving crewmembers were negative.

Applicable Rules

Manatee Port Authority Railroad Rules, Regulations and Procedures.

Rule X Movement of Trains and Engines:

E. In switching, employees must observe the position of engines or cars on other tracks and must know that such engines or cars are in the clear before permitting engine or cars to move past them.

F. Cars and engines left on tracks must be properly secured, clear of insulated joints; and clear of other tracks where conditions permit; ...

REPORT: 13

RAILROAD: New Jersey Transit Rail Operations

LOCATION: Hoboken, New Jersey

DATE, TIME: May 8, 1987, 4:30 p.m.

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

EMPLOYEE:

Occupation	Electrician
Age	29 years
Length of Service . .	6 months
Last Rules Training .	Not required
Last Safety Training .	November 25, 1986
Last Physical Exam . .	November 25, 1986

Circumstances Prior to the Accident

The accident site is within Grove Street Interlocking limits. The Interlocking consists of four parallel tangent tracks that extend east to west geographically. From the north, the tracks are designated as Nos. 3 and 1 for westward traffic, and Nos. 2 and 4 for eastward traffic. In addition, there are various interlocked crossovers.

At about 2:00 p.m., an electrical gang of five employees was sent to Grove Street Interlocking to repair a failed power cable. The employees were working at two separate manholes. The first manhole the train approached is located to the north and adjacent to Track No. 3 approximately 0.7 miles west of Hoboken Station. The second manhole is to the west of the first about 200 feet and is located between Tracks No. 3 and 1. At this location, the track centers are 15 feet.

Accident

At about 4:25 p.m., the New Jersey Transit westbound Commuter Train No. 1051, with Locomotive No. 4164 and three coaches, departed Hoboken Terminal on Track No. 4 diverting from Track No. 4 to Track No. 3. Following the diverting move, the engineer observed an employee just north of Track No. 3, at the easterly manhole. He sounded the locomotive bell, and continued in a westerly direction. Immediately thereafter, the engineer observed another employee in a crouched position between Tracks No. 3 and 1 looking into the westerly manhole. With the bell

still ringing, he sounded the locomotive whistle, and noting that the employee did not clear the track, he immediately applied the emergency brake.

The employee was struck by the locomotive before the train could come to a stop. At the time of the accident, the train was traveling about 33 mph, and the locomotive headlight was on. The weather was dry and clear.

Post-Accident Investigation

The electrician (groundman) located at the easterly manhole advised that when Train No. 1051 passed his location he did not recall hearing the train bell or the train whistle. He was preparing cable for the electrician working in the manhole. There were street traffic noises and other train traffic within the interlocking. When the train passed his location, he returned to the manhole, facing eastward. He was unaware of the accident.

The fatally injured employee was an electrician who was the groundman for the two electricians working in the westerly manhole. He was located north of the manhole and adjacent to the south rail of Track No. 3. His duties were to furnish tools and supplies to the electricians and to protect the open manhole.

Post-accident investigation developed that just prior to the accident, one of the electricians in the manhole had requested a tool from the fatally injured groundman. Carrier's safety rules do not require flag or watchman protection for this type of operation.

Results of toxicological testing of the deceased were negative.

Applicable Rules

New Jersey Transit Rail Operations
Safety Rules for Maintenance of Way
Employees

Protection against moving
equipment:

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 and comply with provisions of Rule 3214, par. (b) item 1.

3214.(b) Main Track

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

REPORT: 14

RAILROAD: The Chesapeake and Ohio Railway Company

LOCATION: Cincinnati, Ohio

DATE, TIME: May 9, 1987, 6:05 a.m.

PROBABLE CAUSE: Failure to remain clear of moving equipment.

EMPLOYEE:

Occupation	Conductor
Age	59 years
Length of Service . . .	32 years
Last Rules Training. . .	December 17, 1986
Last Safety Training . .	December 17, 1986

Circumstances Prior to the Accident

After completing the required off-duty period, a train crew consisting of an engineer, conductor and two brakemen was called for duty at Lima, Ohio, at 1:20 a.m., on the day of the accident. The crew was called to take Extra 4302 South, a trailer-on-flat-car (TOFC) train consisting of four locomotives and 46 cars, to Cincinnati, Ohio. The train was equipped with an end-of-train device, and the crew was positioned on the locomotives. At approximately 5:30 a.m., the train arrived at Queensgate Yard, Cincinnati, moving south on No. 1 main track. The crew received instructions to leave the four rear cars of the train on the Camera Lead and take the rest of the train to the TOFC facility, about one-half mile south. As the head end of the train approached the Hopple Street viaduct, a brakeman dismounted on the west side to make the uncoupling. The rear four cars were left standing on the Camera Lead, and the rest of the train was delivered to the TOFC facility.

Trim 4, a 11:55 p.m. yard assignment working in Queensgate Yard, was instructed to switch 34 cars standing on Bowl 30 to Track D-5. At approximately 5:45 a.m., Trim 4 pulled the cars north past the Short S switch and began shoving south on the D Yard Lead. In the area of the accident, the Camera Lead is adjacent to the D Yard Lead. Prior to the shoving movement, the conductor of Trim 4 walked south on the D Yard Lead lining switches and was waiting on Track D-5 to make a coupling.

At the time of the accident it was dawn, the weather was clear, and the air temperature was about 50° F.

The Accident

After Trim 4 switched the cars onto Track D-5, the crew returned north on the D Yard Lead, pulling one car. As they approached the Hopple Street viaduct, the engineer observed an object or figure lying outside the east rail of the D Yard Lead approximately 30 feet north of D3 switch. The engineer stopped the movement, and the conductor of Trim 4 left the locomotive to investigate. The conductor found a severely injured man and called the yardmaster with his radio to summon emergency assistance. The injured man stated that he was the conductor of the trailer train, and that he had stepped in front of moving cars. The injured man was pronounced dead at 6:53 a.m., at the emergency room of the University of Cincinnati Hospital.

Post-Accident Investigation

Uncoupling cars from the rear of the inbound trailer train on the Camera Lead is routine. A carrier officer stated that routinely, after the uncoupling is made, the rest of the train is pulled south, the switches are relined for the main tracks, and the crew members walk to the East Road, where they are met by a taxi as their tour of duty is completed. The conductor had apparently dismounted from the east side, relined switches, walked toward the East Road, and stepped into the path of cars being shoved on the D Yard Lead. There were no witnesses to the conductor's activities from the time his train entered Queensgate Yard until the time he was discovered.

Results of toxicological testing of the deceased were negative.

Applicable Rules

Chessie System Railroads Safety Rules

On or About Tracks

No. 45. Expect movement of equipment on any track, at any time, in either direction. Always look in both directions before crossing or getting close to any track. Crossing tracks immediately in front of moving trains, locomotives, or cars is prohibited. When crossing tracks near standing equipment, always allow sufficient room to avoid injury in case of sudden or unexpected movement.

REPORT: 15

RAILROAD: Grand Trunk Western Railroad Company (GTW)

LOCATION: Flat Rock, Michigan

DATE, TIME: May 13, 1987, 3:00 a.m.

PROBABLE CAUSE: Failure of a car inspector to be alert for movement of a motor vehicle while walking, with traffic flow, on a service road.

A contributing factor was the excessive speed of the motor vehicle driven by an off-duty employee.

EMPLOYEE:		
	Occupation	Car Inspector
	Age	60 years
	Length of Service	19 years
	Last Rules Training	Not Required
	Last Safety Training	Rule of the day by supervisor
	Last Physical Examination. . .	October 1986

Circumstances Prior to the Accident

A car inspector for the GTW at Flat Rock, Michigan, reported for duty at this facility at 11:00 p.m., on May 12, 1987, and was assigned work the northbound yard complex until 7:00 a.m., the next morning. His first task was to bleed cars on Tracks No. 3 and 6. He departed from the north end of the yard and worked his way to the south end of the yard. After completion of this assignment, the car inspector notified the lead car inspector, also assigned to the North Yard, to pick him up at the yard office. This notification was transmitted by radio about 2:50 a.m. The car inspector departed the south end of the yard and walked toward the railroad-owned service road. This is a two-lane, bituminous-paved private roadway with the entrance at Vreeland Road, a public roadway running in an east-west direction. The private service roadway runs in a northeast direction from Vreeland Road, past the yard office. The area between the yard and the service road is that of open terrain with no obstacles.

The car inspector entered onto the service road and started walking, with the flow of traffic, along the south side of the

road, toward the yard office. A light pole, with an operable light, was in the immediate vicinity of the accident area. The weather conditions were clear and dark, with a full moon.

The Accident

Shortly before 3:00 a.m. on the day of the accident, a GTW conductor entered the private service road from Vreeland Road, driving his 1979 four-door Chevrolet toward the yard office to report for a duty assignment.

A carrier service van and driver had departed from the yard office with two train crew employees, headed in a southwest direction on the service road toward Vreeland Road. The van and the Chevrolet were approaching each other, with their headlights on, when the occupants of the van noticed the approaching vehicle swerve to the left, and then straighten out. The witnesses noticed something "fly across the road" in front of the van. When the van passed the automobile, it stopped, and the occupants got out to investigate the scene. The automobile also stopped, and the driver got out and commented that he "hit something."

The witnesses and the driver of the automobile walked along the roadway south and looked for what the conductor had hit. Seeing nothing, they turned to walk back to the automobile when they found a body lying face down on the roadway and under the rear axle of the automobile. The body was that of the car inspector. After finding that there were no vital signs, they notified the hump tower by radio that an employee was struck by an automobile on the service road in the area of the diesel shop roadway and requested to have an ambulance and police dispatched to the scene. The hump tower notified the police department, and an ambulance was requested.

The conductor departed the scene of the accident and walked to the yard office. The witnesses remained at the scene to see if any assistance could be made to the victim. The Flat Rock fire and rescue squad transported the victim to Seaway Hospital, where he was pronounced dead at 4:05 a.m.

Post-Accident Investigation

Flat Rock police officers investigated the scene of the accident and took statements from the witnesses. A GTW police officer was also at the scene and assisted in the investigation. The conductor told the police that he did not see the victim until impact. The conductor was asked if he had been drinking, and he replied, "No, I just woke up to come to work." His speech and demeanor did not indicate any evidence of alcohol use.

After completion of the interview, the investigating officers and the conductor returned to the scene of the accident in the police

patrol unit. The officers noticed an odor of alcohol coming from the back seat area where the conductor was sitting. The subject was transported to the Flat Rock Police Department, and was asked to submit to a blood test. He first agreed to have blood alcohol test taken, but decided that he should contact a lawyer before giving consent. After consulting with an attorney, he refused to provide the blood sample or make any statements.

The posted speed limit on the service road is 10 mph. The police department estimated that the speed of the vehicle that struck the car inspector was between 22 and 25 mph. From the point of impact to the final stopping point, the vehicle traveled a distance of 58 feet. There were skid marks on the roadway measuring 27 feet in length prior to the stopping point of the vehicle.

Inspection of the accident vehicle at a garage in Flat Rock, Michigan, revealed damage to the right front fender and hood area, right rear side of hood, and right side windshield. No mechanical defects were noted. The view of the roadway at the accident scene, before and beyond, was clear with no obstructions. The roadway is level, and the surface was dry. The overhead street light was working. The distance from the entrance point of the vehicle at Vreeland Road, to the point of impact is .2 miles. There is neither a sidewalk nor a path on either side of this service road. The roadway, approximately 40 feet in width, is not marked nor painted with lines.

Applicable Rules

Grand Trunk Western Railroad
Safety Rules
Effective March 1, 1986

Rule No. 2006. The operation of a personal or Company vehicle, while on the Company property or while in the performance of assigned duties, must be in compliance with Company regulations and instructions; such as speed, parking, restricted areas, traffic signs or signals, etc.

REPORT: 16

RAILROAD: CSX Transportation, Incorporated (CSX)

LOCATION: Nashville, Tennessee

DATE, TIME: June 18, 1987, 12:20 p.m.

PROBABLE CAUSE: Failure of welder helper to remain clear of continuous welded rail being loaded onto a welded rail train.

EMPLOYEE:

Occupation	Welder Helper (Point Man)
Age	60 years
Length of Service	43 years, 11 mos.
Last Rules Training. . . .	Weekly safety meetings
Last Safety Training . . .	June 17, 1987
Last Physical Examination.	None

Circumstances Prior to the Accident

The Nashville Rail Welding Plant is located in the carrier's Radnor Yard complex in Nashville, Tennessee. This plant produces continuous welded rails (CWR) by the Electric Flash Pressure Butt Weld process. The plant is laid out in a north and south configuration, with the welding machines being enclosed in a building at the south end. There are two independently operated welding stations in the building designated as the east and west welders, each providing a separate string of CWR. Immediately north of the building are hydraulic machines, into which the CWR strings are inserted. These machines, through pressure contact with the rail and a hydraulic drive, provide the power to push the CWR onto the rail cars designed to transport the CWR to the field for installation. Between the power source and the rail cars (approximately 200 feet) are a series of moveable guides and rollers to position the rails in their proper place on the rail train.

There are two loading tracks to hold the rail trains while receiving the CWR. This rail train consists of 27 flat cars, 24 of which are spacer and support cars, with an upright about 10 feet from each end to support the rails, in four tiers of ten welded rails each. Two end cars are equipped with moveable bulkheads to support the rail ends in their proper position. A

tie down car is placed in the middle of the train equipped similar to the support and spacer cars. It additionally has an "A" frame arrangement across the car at the center so the CWR strings may be clamped to the car, preventing lengthwise movement of the rail.

On the day of the accident, the welder helper was assigned as point man on the rail loading operation, working under the direction of the welder operator. The point man guides the rail from the plant to the rail cars, starting it into the proper location on the car. As the welder makes the welds and advances the rail, the point man guides it into its assigned opening on all cars. The welder operator in the building and the point man in the field are from 100 to 1,600 feet apart while performing their duties and are in contact via radio communications. A base station type radio is at the welder, and a hand-held walkie talkie is used by the point man. As the CWR string is started in the south end of the train, the point man places a "rabbit" on the string end. The "rabbit," angled and shaped to keep the rail from jamming into the support beams of the train, has a steel bar extending to the adjacent rail to assist in keeping the moving rail in its proper position.

As a string was being pushed north on the train the day of the accident, the point man proceeded to the middle of the train (750 - 800 feet) to the tie down car. At this location he was securing previously loaded strings to the center "A" frame. This was done by first driving two rail anchors, side by side, on the rail base on each side of the "A" frame. The next step was to insert a steel tie down block in place that makes contact with the two adjacent rail bases, insert a bolt through the cross car support beams and the tie block, place a nut on the bolt, and tighten the nut with an air impact wrench. He then repeated the tie down operation on the opposite side of the "A" frame.

On this day, the plant was welding new 136-pound rail of various lengths of 72 to 80 feet. Each weld made requires approximately four and one half to five minutes to complete. The welder then activates the pusher machine, and the CWR string will advance one rail length into the train at a typical speed of 50 to 70 feet per minute.

The weather was partly cloudy with a temperature of about 90° F., and there was a slight breeze.

The Accident

At approximately 12:20 p.m., the west point man was on the tie down car while the third rail on the fourth, or top, tier was being loaded. The welder had been counting completed welds and knew the string should be approaching a location about 300 feet north of the tie down car, where the point man was supposed to

contact him. The welder attempted to make radio contact with his point man for confirmation. Since he could not, he stopped welding and sent another welder helper to find the point man. At approximately 12:39 p.m., this welder helper located the point man's body on top of the tie down car. He called the plant office via radio, requesting emergency medical assistance. The east welder operator heard the call and immediately shut his welder down since the east welder was loading another rail onto this train.

Nashville Med Com (911) received the call for assistance at 12:41 p.m., and the Nashville Metropolitan Fire Department Ambulance and Fire Department First Responder units arrived on the scene at 12:46 p.m. The units removed the welder helper from the tie down car and transported him to Nashville's Metropolitan General Hospital at about 1:30 p.m., where the employee was pronounced dead on arrival.

Post-Accident Investigation

The employee is known to have been working on the tie down car, securing CWR strings previously loaded on the top tier. Two other welding plant employees, who were working on the rail train repairing rollers, handholds, etc., passed by the tie down car sometime between noon and 12:15 p.m. exchanging waves and greetings with the point man, who was up on the tie down car performing his duties. The rail anchors had been applied to the base of both strings on both sides of the tie down "A" frame. The tie down block and bolt had been positioned and tightened on the north side of the "A" frame between the two strings. The tie down block and bolts had been placed between the strings on the south side of the "A" frame and tightened; the impact wrench was still in place on the bolt at the time of the accident.

Since there were no witnesses to the actual accident, an effort was made to reconstruct what took place from the facts developed during the post-accident investigation. The employee apparently was standing on the CWR strings of the third tier. He was facing the south side of the "A" frame and the west side of the rails loaded on the fourth tier, operating the impact wrench on the bolt between the two rails. The third string of rail, which was in the process of loading, had apparently stopped at some point between 40 and 45 feet south of the employee while another weld was made. The employee continued tightening the bolt, possibly thinking that 39-foot rail was being welded; the weld was finished and the rail advanced 75 to 80 feet, striking the man on the back of the calf of the right leg and pinning him against the "A" frame, as it continued to move another 35 to 40 feet. It is believed that the guide bar on the "rabbit" was the actual instrument that caused the severity of the injury. The employee's radio, which was normally carried in his right hip pocket, was located directly under him on the north side of the

"A" frame on the deck of the car. It did have several marks on it from falling and was in the on position.

The victim apparently believed he had time to complete his task before the third rail arrived at his work location and had his back to the approaching rail.

Applicable Rules

None.