

**SUMMARY FOR FE-12-02**  
**SELECTED POSSIBLE CONTRIBUTING FACTORS**

**SELECTED FACTORS**

**Railroad:** Union Pacific Railroad Company

**Location:** Pine Bluff, Arkansas

**Region:** 5

**Month:** May

**Date:** May 4, 2002

**Time:** 8:40 a.m., CST

**Data for Fatally Injured Employee(s)**

Switchman

53 years old

Two years, four months of service

Last rules training: Jan. 23, 2002

Last safety training: April 3, 2002

Last physical: Nov. 2, 1999

**Data for All Employees (Craft, Positions, Activity)**

**Craft:** Transportation and Engine

**Positions:**

**Crew for Yard Assignment YPB01-04**

Switchman

Conductor

Engineer

Yard Master

**Activity**

Switching

## **SUMMARY FOR FE-12-02 CONTINUED**

### **EVENT**

A Switchman was crushed between rail cars while attempting to adjust knuckles.

### **POSSIBLE CONTRIBUTING FACTORS**

#### **PCF No. 1**

After the locomotive and four cars had come to a stop, the Switchman stepped between the fourth car and the remaining 35 cars north of his position. As he attempted to adjust the coupler on the fourth car, a cut of unsecured cars rolled from the north and struck him, fatally injuring him. The Switchman was in non-compliance with Union Pacific safety rules prohibiting him from going between or in front of an engine or car to arrange knuckles or couplers, to manipulate other appliances, or for any other reason.

#### **PCF No. 2**

The Switchman had failed to inspect the cars not coupled to the locomotive to ensure that they were secure, applying hand brakes if necessary. He also failed to separate the cars by a minimum of 50 feet.

#### **PCF No. 3**

The Switchman was in non-compliance with Union Pacific safety rules when he failed to communicate with his crew before fouling the track.

**REPORT:** FE-12-2002

**RAILROAD:** Union Pacific Railroad Company (UP)

**LOCATION:** Pine Bluff, Arkansas

**DATE & TIME:** May 4, 2002; 8:40 a.m., CST

**EVENT<sup>1</sup>:** The employee was crushed between rail cars while attempting to adjust knuckles.

**EMPLOYEE:**

Craft:	Transportation and Engine (T&E)
Activity:	Aligning the knuckles of two rail cars
Occupation:	Switchman
Age:	53 years
Length of Service:	2 years, 4 months
Last Rules Training:	Jan. 23, 2002
Last Safety Training:	April 3, 2002
Last Physical:	Nov. 2, 1999

### **CIRCUMSTANCES PRIOR TO THE ACCIDENT**

On May 04, 2002, at 7 a.m., three UP train crew members reported for duty at the Pine Bluff Terminal in Pine Bluff, Arkansas, after having received their statutory off-duty rest periods. Three crew members, an Engineer, Conductor, and Switchman, were assigned to perform switching operations on Yard Assignment YPB01-04. Their duties required them to assemble trains by removing rail cars from the bowl tracks and placing them onto outbound tracks. The bowl tracks descended north to south and had a hump located on the north end of the yard.

After switching two trains, the crew members were instructed by the Yard Master to proceed to Track No. 31, where they were ordered to couple all 39 cars on the track. The locomotive and crew headed north onto Track No. 31 from the south end and coupled onto the first car. The Engineer was sitting on the east side at the controls of the locomotive. The Conductor and Switchman were standing on the nose platform at the north end of the locomotive. YPB01-04 coupled to the first car on the south end of the cut, and the Switchman dismounted the

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<sup>1</sup> “Event” is defined as “occurrence that immediately precedes and directly results in the fatality.” Possible contributing factors are identified in the following report and attached summary.

locomotive on the east side. The Conductor returned to the locomotive cab and waited with the Engineer.

The weather was cloudy, and the temperature was 61° F.

### **THE ACCIDENT**

The Switchman dismounted the locomotive, instructed the Engineer, via radio, to “stretch” the cars, and then commenced walking north. The locomotive and four cars made a reverse southward movement, and the Switchman instructed the Engineer, “That’ll do 01.” The locomotive moved south a distance of 34 feet before coming to a complete stop. The Engineer stopped, centered the reverser, and applied the locomotive’s independent brake. The Engineer and Conductor stated that they did not move the locomotive again and waited approximately 15 minutes without any communication from the Switchman. The Conductor attempted to contact the Switchman, via radio, on several occasions but received no response. At approximately 8:40 a.m., the Conductor dismounted the locomotive and walked north four car lengths where he discovered the Switchman’s body pinned between the knuckles of the fourth and fifth cars. The Conductor notified the Yard Master on the radio that a man was coupled and requested assistance. The Engineer heard the radio transmission, dismounted the locomotive, and walked north to where the Conductor and Switchman were located. The Engineer and Conductor returned to the locomotive and waited for Emergency Services.

### **POST-ACCIDENT INVESTIGATION**

Through interviews and analysis of data, the investigators concluded that prior to the accident, the YPB01-04 headed north onto Track No. 31 and coupled onto the first car of the cut. The Switchman then dismounted the locomotive on the east side, instructed the Engineer on the radio to stretch the cars, and then began walking north. The next instruction received from the Switchman was to stop the movement. The locomotive and four cars came to a stop, having moved a total of 34 feet. The Engineer stated that he did not make another movement and the Conductor concurred. The locomotive was equipped with an 8-track pulse recorder. The tape data analysis indicated that after the locomotive moved south a distance of 34 feet, the locomotive remained stopped for 17 seconds and then made another southward movement of 17 feet, over a 7-second period.

The physical evidence (position of the Switchman’s body and feet) indicated the Switchman did not foul the track until after the locomotive completed its second movement (17 feet north), and that the locomotive and four cars had come to a stop. The Switchman stepped behind the fourth car (MOBX 52886), with his body located between it and the remaining 35 cars north of his position. The Switchman began adjusting the coupler on the MOBX 52886, but failed to first secure the cars north of his location with hand brakes. As the Switchman was adjusting the knuckle on MOBX 52886, a cut of unsecured cars rolled from the north and struck him, crushing his torso between the fourth and fifth cars behind the locomotive. Both the Engineer and the Conductor stated that the Switchman had not notified them before he fouled the track.

The Engineer and Conductor were taken to the yard office where carrier managers debriefed them. Blood and bodily fluids were obtained from the remains of the deceased for toxicological testing, and the results were negative. Toxicological testing was not conducted on the Engineer or Conductor.

### Analysis

The incident would have been prevented had the Switchman obeyed Union Pacific rules that were applicable to his movements. He did not communicate with his crew before fouling the track; he did not separate the cars by a minimum of 50 feet; and he did not inspect the cars not coupled to the locomotive to ensure that they were secure, applying hand brakes if necessary.

### APPLICABLE RULES

System Special Instructions  
Effective April 2, 2000  
Order Category : SYS. SI. 10-E-10-F  
**SYSTEM GENERAL ORDER NO. 4**

**Rule 81.5.4** - Understanding between crew members before fouling track. If the equipment is coupled to an occupied engine, before an employee steps foul of the track:

The employee must notify the Engineer by job briefing, agreed upon hand signal, or radio communication (“Conductor Smith to UP 1234. Going into red zone”).

The Engineer must apply the locomotive or train brakes and center the reverse, then notify the employee by job briefing, agreed upon hand signal, or radio communication i.e.; (“UP 1234 to Conductor Smith, I understand, I am set and centered”).

If going between cars, the employee must inspect cars not coupled to the locomotive to ensure they will not move, applying hand brakes if necessary.

### Union Pacific Safety Rules for all Employees

Rule 81.13.1 - Going between Cars:

Do not go between or in front of engine or car to arrange knuckles or couplers, to manipulate other appliances, or for any other reason.

Rule 81.13.3 - Coupler Adjustment

When necessary to make a coupler adjustment, separate equipment at least 50 feet and stop equipment.