

**SUMMARY FOR FE-11-02**  
**SELECTED AND POSSIBLE CONTRIBUTING FACTORS**

**SELECTED FACTORS**

**Railroad:** Delaware and Hudson Railway Company  
(subsidiary of the Canadian Pacific Railroad)  
**Location:** Binghamton, New York  
**Region:** 1

**Month:** April  
**Date:** April 9, 2002  
**Time:** 8:15 p.m., EST

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

Car Inspector  
52 years old  
25 years of service  
Last rules training: Nov. 13, 2001  
Last safety training: Nov. 13, 2002  
Last physical: Unknown

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

**Craft of Fatally Injured Employee: Maintenance of Equipment (MOE)**

**Positions of all Employees (MOE and Transportation and Engine):**

**MOE Personnel**

Mechanical Manager  
Fatally Injured Car Inspector  
Injured Car Inspector  
Third Car Inspector

**Yard Crew**

Locomotive Engineer  
Conductor  
Brakeman  
  
Yard Master  
Terminal Yard Coordinator  
Area Manager

## **SUMMARY FOR FE-11-02 CONTINUED**

### **SELECTED FACTORS CONTINUED**

#### **Activities**

The fatally injured Carman was replacing a freight car coupler knuckle with assistance from the injured Carman, while the yard crew was conducting switching operations.

#### **EVENT**

A Car Inspector was crushed by a free rolling car.

### **POSSIBLE CONTRIBUTING FACTORS**

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

The yard crew shoved and released Tank Car CITX 14344 en route to a track where one Car Inspector was replacing a coupler knuckle while another was holding the coupling lever. The *free rolling, unsecured car* impacted the car on which they were working, causing it to roll south, knocking one of the Car Inspectors to the ground, then rolling over him and severing both legs. This Car Inspector died shortly afterwards. The other Car Inspector sustained injuries to his face, shoulder, and back.

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

A re-enactment of the incident demonstrated that the tank car, traveling between 4 and 5 mph when rolling freely down Track No. 16, could not be heard by the Car Inspectors.

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

The Car Inspectors were unable to see the freely rolling tank car for two reasons: the incident occurred after sunset in a dimly lighted area; and Car CITX 14344 was a black tank car approaching from a direction where it was blocked from the view of the Car Inspectors.

#### **PCF No. 4**

Employee statements and photographs depicted that the blue signal equipment was still in the vehicle at the time of the incident; therefore no protection was provided, in non-compliance with Federal regulations and the railroad's operating rules.

**SUMMARY FOR FE-11-02 CONTINUED**

**POSSIBLE CONTRIBUTING FACTORS CONTINUED**

**PCF No. 5**

Workers failed to assure that each remotely and/or manually controlled switch was lined against movement to the track on which they were working and locked with an effective locking device.

**REPORT:** FE-11-2002

**RAILROAD:** Delaware and Hudson Railway Company (DH)  
Subsidiary of Canadian Pacific Railroad (CP)

**LOCATION:** Binghamton, New York

**DATE& TIME:** April 9, 2002; 8:15 p.m., EST

**EVENT<sup>1</sup>:** A Car Inspector was crushed by a free rolling car.

**EMPLOYEE:**

Craft:	Maintenance of Equipment (MOE)
Activity:	Replacing Freight Car Coupler Knuckle
Occupation:	Car Inspector
Age:	52 years old
Length of Service:	25 years
Last Rules Training:	Nov. 13, 2001
Last Safety Training:	Nov. 13, 2001
Last Physical Examination:	Unknown

The following railroad personnel were on duty the day of the incident: Mechanical Manager; the fatally injured Car Inspector; the injured Car Inspector; another on-duty Car Inspector; Yard Master; Terminal Yard Coordinator; Area Manager; and yard crew comprising a Locomotive Engineer, Conductor, and Brakeman.

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

The Mechanical Manager had worked the day shift and was at home at the time of the incident. The fatally injured Car Inspector reported to work at 1 p.m., following 16 hours off duty. Until the time of the incident, the fatally injured Car Inspector performed inbound and outbound inspections. The injured Car Inspector reported for duty at 3 p.m., following 16 hours off duty. Until the time of the incident, the injured Car Inspector performed inbound and outbound inspections. Another on-duty Car Inspector reported for duty at 3 p.m., following two days off duty. Until the time of the accident, he had performed inbound inspections.

The Yard Master reported for duty at 3 p.m., following 16 hours off duty. Until the time of the accident, he supervised switching and inspection assignments in the yard. The Terminal Yard

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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.

Coordinator reported for duty at 6:30 p.m., following 12 hours off duty. Until the time of the accident, he managed the yard operations. The Area Manager had worked the day shift in the Saratoga, New York area, and was off duty at the time of the accident.

The yard crew (Locomotive Engineer, Conductor, and Brakeman) reported for duty at 3:59 p.m. The Locomotive Engineer had 10 hours, 29 minutes off duty after working 12 hours; the Conductor stated he had received the proper rest; and the Brakeman had been off duty for 16 hours.

Prior to the accident, the yard crew was transported to the “cab track” where the Engineer performed an inspection on the locomotives. The crew performed routine switching activities at the north end of the yard until going to the yard office for a coffee break at approximately 7:40 p.m.

### **General Operations and Procedures at Binghamton Yard**

1. Binghamton Yard is located in the town of Conklin, Broome County, New York and is a main classification yard for the D&H.
2. Binghamton Yard receives rail freight traffic from the Canadian Pacific Railroad (CP) and interchange rail traffic from the Norfolk Southern Railway (NS) and New York Susquehanna & Western Railroads (NYS&W).
3. Freight cars are classified into a 3-group, 15-track, bowled yard and switched onto tracks (with larger blocks of cars) or kicked over a hump and lined onto designated tracks (no retarders).
4. Binghamton Yard has a locomotive repair facility located north (compass direction) of the Classification Yard. The car repair facility is staffed only during the day shift with movements into and out of the facility controlled by Mechanical Department personnel. Blue signal protection is provided to protect workers within the facility during hours of operation. During the evening hours and night shift, blue signal protection is removed to allow crews access to the tracks within the facility.
5. During the evening and night shifts, Car Inspectors are assigned to work in the yard performing mechanical inspections, train air brake tests, and minor repairs. Personnel routinely wait inside a trailer located near the car repair facility for assignments from the Yard Master. Small ATV type vehicles (a.k.a “mules”) are used by Car Inspectors to carry materials and to get around in the yard. When working on equipment, Car Inspectors are to provide themselves with blue flag protection as specified by DH Operating Rules and 49 CFR, Part 218, Subpart B.
6. Yard Tracks Nos. 2 through 15, are used for switching freight cars and classifying outbound trains. Tracks Nos. 16 and 17 are routinely used for storing “bad order” cars destined for the car repair facility and to perform minor repairs.

The area around the accident site was dimly lit and constructed of typical yard track ballast. (In contrast to ballast stone used on main or side tracks, which averages 1½ to 2 inches, typical yard ballast, commonly called walking stone, is smaller and more granular, and easier and safer for walking

because the ground surface maintains a smoother surface longer.) Weather conditions at the time of the accident was overcast, with scattered rain showers. The temperature was 46° F.

### **THE ACCIDENT**

At approximately 7:50 p.m., the Conductor of the yard crew received instructions from the Yard Master (via the switch list) to switch 35 cars located on the No. 2 Runner Track. At approximately 8:05 p.m., the yard crew began switching the cars and placed 16 cars on Track No. 15. The next nine cars were switched onto various tracks (Nos. 9, 10, and 12). The tenth car (CTX 14344) was a “bad order” car destined to Track No. 16 for repairs. At approximately 8 p.m., the Yard Master telephoned the Car Inspector and instructed him to replace a coupler knuckle on car SAN 505, located on Track No. 16. A short time later, the fatally injured Car Inspector departed the trailer en route to Track No. 16. The injured Car Inspector arrived to assist the fatally injured Car Inspector. At approximately 8:20 p.m., the yard crew shoved and released Tank Car CITX 14344 en route to Track No. 16. The car was released approximately 359 feet from the switch controlling access to Track No. 16. At the same time, the fatally injured Car Inspector was replacing the coupler knuckle on the south end of Car SAN 505, and the injured Car Inspector was holding the coupling lever. The free rolling car impacted the north end of standing Car SAN 505, causing it to roll south. The impact knocked the fatally injured Car Inspector to the ground, and the car rolled over him, severing both legs. The injured Car Inspector was knocked clear, but sustained injuries to his face, shoulder, and back.

The injured Car Inspector contacted the Yard Master via radio to report the accident and requested medical assistance. Emergency responders arrived at the scene at approximately 8:30 p.m., but were unable to save the life of the fatally injured Car Inspector.

### **POST-ACCIDENT INVESTIGATION**

On the following day (April 10), FRA and D&H Officials conducted a re-enactment of the accident using the involved equipment. Car CITX 14344 was released in motion to Track No. 16 at a speed of 4 to 5 mph as supported by the current recorder data download (4.4 mph). CITX 14344, when rolling freely down Track No. 16, could not be heard. The incident occurred after sunset in a dimly lighted area; also to be taken into consideration is the fact that CITX 14344 was a black tank car which was switched onto the north end of standing car SAN 505 as the Car Inspectors were working the south end of the car. It is apparent that they neither saw nor heard the car prior to impact. Employee statements and photographs depicting the blue signal protection still in the vehicle revealed that no protection was provided.

Carrier records indicated that the deceased employee received annual training on railroad safety rules including blue signal protection procedures. The employee last attended safety training sessions on November 13, 2001. Railroad records indicated that the employee had previously received disciplinary action for failure to follow proper blue signal protection procedures.

FRA post-accident toxicological test results were negative.

## APPLICABLE RULES

### 49 CFR Part 218, Subpart B (Blue Signal Protection of Workers)

When workers are on, under, or between rolling equipment on tracks other than main tracks:

- (a) A blue signal must be displayed at or near each manually operated switch providing access to that track.
- (b) Each manually operated switch providing access to the track on which the equipment is located must be lined against movement to that track and locked with an effective locking device.
- (c) The person in charge of the workers must have notified the operator of any remotely controlled switch that work is to be performed and have been informed by the operator that each remotely controlled switch providing access to the track on which the equipment is located has been lined against movement to that track and locked as prescribed in 218.30.
- (d) If rolling equipment requiring blue signal protection as provided for in this section is on a track equipped with one or more crossovers, both switches of each crossover must be lined against movement through the crossover toward that rolling equipment, and the switch of each crossover that provides access to the rolling equipment must be protected in accordance with the provisions of paragraphs (a), and (b), or (c) of this section.
- (e) If the rolling equipment to be protected includes locomotives, a blue signal must be attached to the controlling locomotive at a location where it is readily visible to the engine man or operator at the controls of that locomotive.

### Railroad Operating Rule 16 (b) - Blue Signal Protection of Workers

#### (b) Responsibilities of Workmen

Before going on, under, or between engines and/or cars, workmen must take the actions prescribed below. Each craft or group of workmen must display its own blue signal.

If the equipment is on track other than main track or controlled siding:

1. Attach a blue signal to the controlling engine(s) at a location where it will be clearly visible to an employee at the controls of that engine.
2. Line each hand-operated switch providing access to the track against movement to the track, and lock each switch with an effective locking device.