SUMMARY FOR FE-03-03
SELECTED AND POSSIBLE CONTRIBUTING FACTORS

SELECTED FACTORS

Railroad: Illinois Central Railroad (subsidiary of Canadian National Railroad)
Location: Flat Rock, Michigan
Region: 4

Month: February
Date: Feb. 11, 2003
Time: 5 p.m., EST

Data for Fatally Injured Employee(s)

Brakeman
57 years old
31 years of service
Last rules training: Sept. 26, 2002
Last safety training: Dec. 20, 2002
Last physical: Sept. 4, 2001

Data for All Employees (Craft, Positions, Activity)

Craft: Transportation and Engine

Positions:

216 YFRS35 Crew
Fatally injured Brakeman
Locomotive Engineer
Conductor

Extra Yard YFXS31 Crew
Locomotive Engineer
Brakeman
Conductor

Yard Master

Activity: Switching

EVENT

A Brakeman was fatally injured when struck by rail cars during a shoving movement.

SUMMARY FOR FE-03-03 CONTINUED

POSSIBLE CONTRIBUTING FACTORS

PCF No. 1

The 216 Crew Brakeman failed to stand clear of the track when moving equipment was approaching.

PCF No. 2

The ground along the rails was snow-covered, and the ground between the running rails was slippery. The 216 Crew Brakeman compounded this safety hazard by failing to wear anti-slip covers, such as rubber overshoes or boots.

PCF No. 3

After lining the switch, the 216 Brakeman left the vicinity of his switch without advising his own crew members or acknowledging the extra crew members when walking in front of their van to get coffee. This lack of communication prevented the 216 Engineer from spotting the Brakeman until he had been struck during a switching movement and was found lying under a tank car.

REPORT:	**FE-03-2003**	
RAILROAD:	Illinois Central Railroad (IC), a subsidiary of Canadian National Railroad	
LOCATION:	Flat Rock, Michigan	
DATE & TIME:	Feb. 11, 2003, 5 p.m., EST	
EVENT[1]:	A Brakeman was fatally injured when struck by rail cars during a shoving movement.	
EMPLOYEE:	Craft:	Transportation and Engine (T&E)
	Activity:	Switching
	Occupation:	Brakeman
	Age:	57 years
	Length of Service:	31 years
	Last Rules Training:	Sept. 26, 2002
	Last Safety Training:	Dec. 20, 2002
	Last Physical:	Sept. 4, 2001

CIRCUMSTANCES PRIOR TO THE ACCIDENT

At 3:30 p.m. on Feb. 11, 2003, a regular yard crew reported for duty for Assignment 216 YFRS35 at the Trim Shanty at IC's Flat Rock Yard, in Woodhaven, Michigan. The crew comprised an Engineer, Conductor, and Brakeman. The crew's assignment was to switch the shop tracks. A short safety briefing was held before commencing work.

At 3:39 p.m., on Feb. 11, 2003, an extra yard crew reported for duty for Assignment YFXS31 at the Trim Shanty. This crew also comprised an Engineer, Conductor, and Brakeman. The crew's initial assignment was to pull 21 cars from the North Receiving Track to the Northbound Departure Yard.

The weather was partly cloudy and cold; the temperature was 21° F with a wind chill of 10° F, and winds gusting up to 10 mph. The ground along the rails and between the running rails was snow-covered. The distance from the Trim Shanty to the accident site, which was flat with no major obstructions, was approximately 75 feet.

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1 "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.

THE ACCIDENT

The 216 Crew began the process of switching the shop tracks at the conclusion of the safety briefing. The Conductor was located on the north side of the shop track switch, having lined the switch in order to pull the cars out of that track. He also lined the switch on the northbound trim track. The Brakeman lined the North Loop Pocket switch for his crew to go onto the No. 4 Shop Track. Sometime after he lined the switch, he told his Engineer via radio to come back eight to nine car lengths. From the tower, the Yard Master observed the Brakeman lining the switch. However, the Yard Master did not see the Brakeman leave the vicinity of this switch. Without telling anyone, the Brakeman then walked across the lead to the shanty with a coffee cup in hand to get more coffee.

The Extra Crew came to the 5-shop track switch and stopped, waiting for the 216 yard assignment to clear before shoving into the Northbound Departure Yard. The Conductor of the 216 Crew indicated that he had talked with the Extra Crew's Conductor via radio, advising him to stop clear of the lead because his crew was switching the shop track and had the lead fouled. He told the Extra Crew's Conductor that when he cleared the lead, the Extra Crew could go to the departure yard.

The Extra Crew's Conductor and Brakeman were riding in a van to protect their shove movement. After the crew of the 216 yard assignment had cleared the lead and the switch was lined for movement, the Conductor of the Extra Crew told his Engineer to start shoving ahead. The Extra Crew's Conductor and Brakeman then got out of the van to line the switches on the yard lead track. They didn't observe the rear car of the movement all the time and didn't see the accident happen.

The Van Driver said he saw the Brakeman from the 216 Crew walk in front of his vehicle with a coffee cup in his hand, as the Driver was transporting the Extra Crew's Conductor and Brakeman around to the lead. He indicated the Brakeman wasn't wearing a hood or ear muffs, but had a red cap on his head and was walking in a hurry. He said the Brakeman didn't acknowledge him or the crew in the van.

The Engineer of the 216 Crew indicated that he was located on the east side of his locomotive in the Engineer's seat, approximately 50 feet west of the lead, when he noticed the Brakeman's red cap on the ground outside of the running rail. He looked further ahead and saw the Brakeman on the track under the tank car. The Engineer called on the radio for all movements to stop, announced the Brakeman had been struck, and requested assistance. He said the movement had stopped by that time. The Yard Master called 911 to report the accident.

The Flat Rock Police Department received the call at 4:59 p.m. The police department and Flat Rock Fire Department emergency response personnel arrived on the scene at 5:05 p.m. The Brakeman, who had suffered massive injuries to his head and body, was pronounced dead at the scene by the Wayne County Medical Examiner.

At the time of the accident, the Conductor and Brakeman of the Extra Crew were in a van protecting the shove and didn't observe the Brakeman from the 216 Crew trying to cross in front of their movement. The view they had from their position on the lead was unobstructed. However, the Extra Crew's Engineer could not see the rear of his 21-car shoving movement. Before the movement was stopped, 14 cars had passed over the body of the Brakeman.

POST-ACCIDENT INVESTIGATION

The Federal Railroad Administration (FRA) investigators conducted a mechanical inspection of the radio which was used on the locomotive of the extra yard job and the regular assigned job. They found no defects and concluded that both radios had functioned as intended. The railroad's radio technicians conducted an inspection of the radios used by both train crews; they were found to be in good working order. The investigation further revealed that the deceased employee had not experienced any sleep deprivation.

A site analysis by FRA revealed that the track where the accident had occurred had patches of snow, but was not excessively slippery except between the running rails. The Brakeman was properly attired for safety, but his footwear comprised conventional leather soles without anti-slip covers, such as rubber overshoes or boots. The railroad did not require anti-slip covers, but most employees used them when available. In all other respects, the Brakeman was properly attired. No physical evidence of tripping was found at the site. Immediately near the accident site, a large, plastic coffee mug was found. The snap-on cover of the mug was found adjacent to it. Interviews with his co-workers revealed that the Brakeman was a coffee drinker and could always be found with his cup nearby. He had been observed by supervisors carrying his coffee mug while on the leads during switching operations. The Van Driver stated that he had observed the Brakeman walking with the coffee mug in his hand just before the accident. However, no other employees observed this behavior on the day of the accident. It could not be determined if the act of carrying the coffee mug had affected the employee's method of walking or had contributed to his inattentiveness.

Crew members indicated that they had observed no unusual behavior from the Brakeman, who had appeared jovial in exchanges with his co-workers prior to the accident.

The final report of the Coroner's Office regarding the autopsy of the Brakeman revealed no medical conditions that could have accounted for the death of the employee. The Medical Examiner's report also stated, incorrectly, that the employee fell from the top of the train and was run over and killed.

Federal post-accident, toxicological tests of the deceased were negative.

The railroad began a "Take Five for Safety" campaign immediately after the accident. It comprised discussing the accident with employees and requiring them to answer five questions related to SOFA[2] activities.

APPLICABLE RULES

IC operating rules require employees to take measures to prevent injury to themselves or others. They must be alert and attentive when performing their duties. Employees must expect the movement of trains, engines, cars, or other movable equipment at any time, on any track, and in either direction. Also, the rules require that employees must stand clear of the track when an engine, car, or other moving equipment is approaching. Within the yard, all movements must be made at a speed which is specified in the timetable special instructions. In Flat Rock Yard, this speed is 10 mph.

The following rule books were sources of this information:

Illinois Central Railroad
U. S. Operating Rules
Second Edition
Effective: 1200 Hours, Sunday, June 2, 2002
Rule C&F

Illinois Central Railroad
U.S. Safety Rule Book - Transportation
Effective: July 15, 2002
Rule 8, 9
T-11, Rule 2.

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[2] SOFA is an acronym for Switching Operations Fatality Analysis, promoted by the industry, FRA, and labor unions, that emphasizes safe procedures in yard operations.