SUMMARY FOR FE-30-03
SELECTED AND POSSIBLE CONTRIBUTING FACTORS

SELECTED FACTORS

Railroad: Illinois Central Railroad
Location: Grenada, Mississippi
Region: 3

Month: October
Date: Oct. 22, 2003
Time: 9:45 a.m., CST

Data for Fatally Injured Employee(s)

Carpenter
39 years old
9 years of service
Last rules training: May 7, 2003
Last safety training: June 30, 2003
Last fall protection training: Dec. 3, 1997
Last physical: Not Required

Data for All Employees (Craft, Position, Activity)

Craft: Maintenance of Way

Positions:

Two Bridge Gangs, ICCX DO1 and CO1
Foreman (Employee in Charge)
Two Assistant Foremen
Pile Driver Engineer
Bridge Welder
Carpenter
Carpenter Helper/Tie Handler Operator

Activity: Renewing bridge ties

EVENT

While assisting other bridge workers in the replacement of old bridge ties, a Carpenter fell from a railroad trestle and drowned.

SUMMARY FOR FE-30-03 CONTINUED

POSSIBLE CONTRIBUTING FACTORS

PCF No. 1

The Carpenter, in non-compliance with Federal bridge worker safety standards, failed to reconnect his personal fall protection equipment to a rail slide before leaving the safe zone.

PCF No. 2

In non-compliance with railroad operating rules, the Carpenter failed to comply with instructions from his supervisor, who was concerned with his safety.

REPORT: **FE-30-2003**

RAILROAD: Illinois Central Railroad (IC)

LOCATION: Grenada, Mississippi

DATE & TIME: Oct. 22, 2003; 9:45 a.m., CST

EVENT[1]: While assisting other bridge workers in the replacement of old bridge ties, a Carpenter fell from a railroad trestle and drowned.

EMPLOYEE:	Craft:	Maintenance of Way (MOW)
	Activity:	Installing Bridge Ties
	Occupation:	Carpenter
	Age:	39 years
	Length of Service:	9 years
	Last Rules Training:	May 7, 2003
	Last Safety Training:	June 30, 2003
	Last Fall Protection Training:	Dec. 3, 1997
	Last Physical:	Not Required

CIRCUMSTANCES PRIOR TO THE ACCIDENT

On Oct. 22, 2003, two IC bridge gangs, ICCX DO1 and CO1, reported to the IC train depot in Grenada, Mississippi, at 7 a.m., CST. They held a job briefing and safety meeting at the train depot from 7 a.m. to 7:30 a.m. The job briefing included their on-track authority, general safety rules, and bridge worker safety. For this project, both gangs would be working together renewing bridge ties on Bridge No. 617.3. The combined bridge gangs comprised one Foreman, who was the Employee In Charge (EIC), two Assistant Foremen, one Pile Driver Engineer, one Carpenter Helper/Tie Handler Operator, one Bridge Welder, and one Carpenter. About 7:45 a.m., the bridge crew inspected and put on their personal fall protection equipment. The EIC received a track warrant authority to occupy the main track, MP 617 to MP 618, from 7:30 a.m. until 3:30 p.m.

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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.

Five members of the bridge crew walked north from the depot at MP 617.0 to the bridge and began work. At 8:30 a.m., the hi-rail gang truck was set on the main track at the depot and hi-railed north to the bridge. The on-track Tie Handler moved from a side track, at MP 617.1, onto the main track and followed the hi-rail gang truck to the bridge.

On an 80-foot through-plate section of the bridge, the bridge gangs were removing old bridge ties and replacing them with new ties. The bridge gang removed the spikes that secured the rail to the old timber. Then using track jacks, they raised both rails so the Tie Handler could remove the old ties. Ten consecutive ties were removed, exposing an opening 11 feet in length by 20 feet, 6 inches in width. The Tie Handler was now positioned south of the opening, and the gang truck was positioned 30 feet north of the opening.

The Tie Handler began sliding new ties into place, working north to south. As the Tie Handler was sliding the second tie beneath the rail and over a floor beam, he began having difficulty sliding the tie over the floor beam rivets. The Foreman instructed the Tie Handler to "bump" the tie, in an attempt to force it over the floor beam rivets. The Foreman directed the bridge gang to move to the safe zone behind the gang truck and between the rails. He told the bridge gang members they could disconnect their lanyards from their rail sliders once in the safe zone.

While the Tie Handler "bumped" the tie, the Carpenter took a pry bar and moved to the west stringer in an apparent attempt to help position or hold the tie as it was being installed. Noticing the situation, the Foreman instructed the Carpenter to move away from the area because he had not reconnected his personal fall protection equipment to a rail slide**.** An Assistant Foreman and Welder heard the Foreman tell the Carpenter to get out of the way and come back. Neither man was sure if the Carpenter heard the Foremen's instructions.

The weather was sunny, and the temperature was about 70° F.

THE ACCIDENT

At 9:45 a.m. the Carpenter was standing on a stringer and girder portion of the through-plate bridge. He either slipped or lost his balance while attempting to help the Tie Handler move the tie, which was lodged between the bridge floor beam and the rail. An Assistant Foreman saw the Carpenter fall backward into the Yalobusha River. He removed his fall protection equipment and jumped off the bridge into the water in an attempt to save the Carpenter. The other bridge workers observed the Carpenter resurface once downstream.

The Tie Handler Operator used his mobile telephone to call 911 and request emergency personnel at 9:45 a.m. The Grenada Police Department, Grenada Fire Department, and Grenada Lake Medical Center arrived at the scene about 9:55 a.m. At about 11:00 a.m., the U.S. Army Corps of Engineers shut down the Grenada Lake spillway to lower the water and slow the water's current downstream. At 6:04 p.m., the Carpenter's body was found about 300 feet downstream and wearing his personal fall protection equipment.

The final report of the autopsy stated the cause of death to be fresh water drowning consistent with a fall from a railroad trestle.

POST-ACCIDENT INVESTIGATION

The 958-foot, 2-inch bridge comprised, from the north, a 208-foot ballast deck timber structure, a 30-foot, 7-inch I-beam span, an 80-foot through-plate girder, a 139-foot riveted through-truss span, an 80-foot through-plate girder, a 30-foot, 7-inch I-beam span, and a 390-foot ballast deck timber structure.

The Carpenter fell 23 feet, 10 inches into the Yalobusha River. The river, approximately 360 feet wide and 10 feet deep, had a water speed of two to three feet per second.

It was determined that when the Carpenter fell into the river, he was wearing boots, standard summer type clothing with coveralls, and a body harness with a lanyard. The carrier's fall retrieval plan at the work site comprised a Rollgliss rescue frame system.

The Grenada County Coroner sent the Carpenter's body to the State Medical Examiner in Jackson, Mississippi, for an autopsy and toxicological testing. Body fluids were sent to the State Crime Lab for laboratory testing. Results are not expected for up to two years.

APPLICABLE RULES

Federal Railroad Administration Regulations
Bridge Worker Safety Standards
49 CFR Part 214

214.103 Fall protection, generally.

(a) Except as provided in paragraphs (b) through (d) of this section, when employees work twelve feet or more above the ground or water surface, they shall be provided and shall use a personal fall arrest system or safety net system . . .

Canadian National
Life Safety Rule Book

Section II

Rule 1H: Comply with all IC rules and policies that relate to our job task(s).

Section III

E-6, Rule 1: Comply with all company requirements for fall protection.

IC Operating Rules

General Rule B: Employees will report to and comply with instructions from supervisors who have the proper jurisdiction.

On Track Safety Rule 1005: When working near or observing equipment, communicate with the equipment operator and make sure everyone understands:

1) ...
2) Location of employees working around and observing equipment
3) Operator's blind spots
4) ...
5) When duties require one to be near the equipment, stay outside the 15-foot safe area.

Exception: The equipment operator and employee must jointly establish a safe location for the employee to occupy when duties require the employee to be within the 15-foot safe area.

Fall Protection Manual

General Safety Requirements:

4) The Foreman may allow employees to move over the bridge, at his discretion, without tying off provided that they do not step over or approach unprotected openings or step on the field side of the running rails. No work may be done without tying off.