

[FE-02-98](#) (document link)

**SUMMARY FOR FE-02-98:**  
**SELECTED AND POSSIBLE CONTRIBUTING FACTORS**

**SELECTED FACTORS**

**Railroad:** Burlington Northern Santa Fe Corporation

**Location:** Omaha, Nebraska

**Region:** Region 6

**Month:** January

**Date:** 01/24/98

**Time:** 10:15 a.m., CST

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

**Switchman Foreman**

47 years old

26 years of service

Last rules training: March 1996

Last safety training: March 1996

Last physical: July 1988

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

**Craft: Transportation**

**Positions:**

**Job 106**

Engineer

Switchman Foreman

Switchman Helper

**Job 111G**

Engineer

Switchman Foreman

Switchman Helper

Yardmaster

**Activity: Switching**

## **SUMMARY FOR FE-02-98 CONTINUED**

### **POSSIBLE CONTRIBUTING FACTORS**

#### **EVENT**

The Switchman Foreman of Job 106 was fatally injured when struck on the head by the handle of a hand-operated switch he attempted to operate.

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

The incident occurred as his locomotive trailed through improperly lined switch points. Switch points had been lined for switching crew 111G, also working in the area and headed in a different direction.

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

Radio communication between the two crews resulted in no absolute understanding about coordinating the lining of switches for both jobs.

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

The speed of the train for Assignment 106 was excessive per the railroad's operating rules, which required train speeds, except on main tracks or block signal territory, to be slow enough to allow stopping within half the range of vision for obstructions such as derails or switches lined improperly.

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

The Switchman Foreman of Job 106 got off moving equipment, in non-compliance with the railroad's operating rules.

#### **PCF No. 5**

Just prior to the incident, the Engineer and Switchman Helper observed the Switchman Foreman slipping as he was running in three to five inches of snow. He was properly attired for the weather.

#### **PCF No. 6**

The fatally injured employee's recent use of cocaine may have affected adversely his judgment, motor coordination, reaction time, and alertness at the time of the incident.

**REPORT:** FE-02-98

**RAILROAD:** Burlington Northern Santa Fe Corporation (BNSF)

**LOCATION:** Omaha, Nebraska

**DATE & TIME:** Jan. 24, 1998 - Estimated 10:15 a.m. CST

**PROBABLE CAUSE:** The Switchman Foreman of Switching Assignment 106 was struck on the head and fatally injured by the handle of a hand-operated switch while attempting to operate the switch as his locomotive trailed through improperly lined switch points.

**EMPLOYEE:**

|                       |                   |
|-----------------------|-------------------|
| Occupation:           | Switchman Foreman |
| Age:                  | 47 Years          |
| Length of Service:    | 26 Years          |
| Last Rules Training:  | March 15, 1996    |
| Last Safety Training: | March 15, 1996    |
| Last Physical Exam:   | July 27, 1988     |

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

On Jan. 24, 1998, a 3-person crew consisting of an Engineer, Switchman Foreman, and Switchman Helper went on duty at 7:30 a.m. at BNSF's Gibson Yard in Omaha, Nebraska, to operate Switch Assignment 106. These crew members had completed their statutory off-duty periods. The Switchman Foreman had been off duty for the previous two days.

This crew was assigned to perform switching operations at Gibson Yard, a flat switching yard with several tracks arranged to be accessible from the Freight Lead. The tasks for Assignment 106 included yard switching, arranging cars into groups and delivering these groups to the industries serviced out of the yard, and handling the switching needs of the intermodal facility at the yard.

The crew members boarded their assigned switch engine, BN 3601, which was standing on the Macks Lead track. They were performing switching moves on the north end of the yard. Switch Assignment 111G, also on duty at 7:30 a.m., was working on the south end of the yard. The 3-person crew of Assignment 111G comprised an Engineer, Switchman Foreman, and Switchman Helper. After completing work on the south end of the yard, the crew of Assignment 111G had been given a switch list to perform work on the north end of the yard. This included switching a cut of approximately 70 cars located on Track No. 3.

At approximately 10 a.m., the Engineer and Switchman Helper of Assignment 111G were transported from the yard office to the north end of the yard by highway vehicle, to pick up the locomotives on Track No. 6. These units were to be used to perform the work on the north end of the yard. The Switchman Foreman of Assignment 111G walked from the yard office to Track No. 3 and walked the length of the cut-of-cars to insure that the air hoses were coupled.

Meanwhile, the crew of Assignment 106 picked up a car on Track No. 4 to place on Track No. 1, then proceeded to Track No. 9 to pick up a cut of 29 cars. After Assignment 106 moved from Track No. 1 to Track No. 9, the Assignment 111G's crew moved its locomotives from Track No. 6 to Track No. 3 and left the hand-operated switches to Track Nos. 6 and 1 lined against the westward movement that Assignment 106 was preparing to make.

The Assignment 106 crew coupled to the cars on Track No. 9, and the Switchman Foreman contacted the Yardmaster and asked for permission to proceed to Douglas Street. At approximately 10:15 a.m., with the Yardmaster's permission, they proceeded westbound on the Freight Lead. The locomotive was headed east. The Engineer had to gradually increase the throttle to position 8 to get over an elevated area of the track. Their estimated speed was between 8 and 10 mph.

Moving westward on the Freight Lead, there was a gradual left-hand curve between Track No. 9 and Track No. 7. Tank cars on Track No. 7 obstructed the crew's view of the track ahead. As the crew of Assignment 106 approached the curve, the Switchman Helper heard the crew of Assignment 111G on the radio. Because Assignment 111G was in the area, the Switchman Helper on Assignment 106 told the Engineer to throttle down. The Engineer throttled down to the idle position and was using the independent brakes as they came around the curve and into view of the switch to Track No. 6. The Engineer observed that the switch was lined against their movement when they were about three car lengths from the switch.

Approximately two minutes before, they had made an eastward move from Track No. 1 to Track No. 9 on the Freight Lead and all of the switches, including this switch, were lined for a straight move on the Freight Lead. The two Switchmen Foremen had a radio conversation regarding their respective movements, but reached no absolute understandings.

At this point, the Switchman Foreman for Assignment 106 exited the cab of the locomotive onto the platform. He rode on the platform for a distance of about one and one half to two car lengths. The Engineer made a full application of the brakes about one car length in advance of the switch to Track No. 6, using the automatic brake valve. The Switchman Helper advised the Switchman Foreman not to attempt to line the switch, that they would just run through the switch. The Switchman Foreman got off the locomotive about one car length from the switch and ran westward ahead of the move in an effort to line the switch for their move.

Weather conditions were cloudy, with a temperature of 20° F . The ground was covered with snow.

## **THE ACCIDENT**

There were approximately three to five inches of snow on the ground. The Switchman Foreman of Assignment 106 was wearing high-top overshoes with ice cleats. The Engineer and Switchman Helper observed the Switchman Foreman slipping as he was running. Then, the Switchman Helper lost sight of the Switchman Foreman and thought he had given up on the attempt. Afterwards, he saw a “flash of movement” out of the corner of his eye as the Assignment 106 train went through the switch and observed that the Switchman Foreman had been hurt. The engine stopped approximately 200 feet west of the switch to Track No. 6.

The Switchman Helper immediately called the Yardmaster and requested a call to 911. He ran back to the switch where the Switchman Foreman was lying on the ground and noticed the severity of his injuries. He checked the Switchman Foreman for a pulse, but did not detect one. He went back to the locomotive and got a coat to cover the victim.

An ambulance arrived at the scene, and a member of the ambulance crew checked the victim for a pulse, then covered the Switchman Foreman back up with the coat. The Switchman Foreman was pronounced dead at the scene by the Douglas County Coroner upon his arrival.

## **POST-ACCIDENT INVESTIGATION**

There were no witnesses to the final actions of the Switchman Foreman. Based on the injuries sustained by the Switchman Foreman, he apparently reached the switch and stepped on the foot latch, releasing the switch handle as the locomotive’s lead truck was passing through the switch. The force of the switch points being forced over caused the switch handle to spring upward. The handle struck the Switchman Foreman in the face, resulting in his death.

Results of toxicological testing of the deceased were positive for Benzoyllecgonine with a urine concentration of 3,922 ng/ml, and a blood concentration of 113 ng/ml.

A preliminary report from the Greystone Health Sciences Corporation laboratory stated the following:

“...He was not under the direct influence of cocaine at the time of his death (that is, he was not intoxicated). However, due to the demonstrated residual effects of cocaine that can appear after use, it is quite possible that the deceased was still impacted to some unknown degree at the time of the accident and that may have affected his judgment and/or physical performance.”

The Greystone Health Sciences Corporation laboratory, in a letter of “final findings” further stated the following:

“...Interpretation and Conclusion. In spite of the limitations and scientific concerns described above, some preliminary conclusions from the data can be provided for the purposes of the FRA’s accident investigation.

Assuming the deceased was not a chronic user and had not ingested a very large amount of the drug, he likely used cocaine some time between six and 24 hours before his death. A careful investigation of the deceased's behavior and actions during the previous 24 hours would likely allow a further refinement of that time frame.

Second, based on the low levels of parent cocaine found in his urine (in comparison to the metabolite) and its absence in detectable levels in the blood, it is our opinion that the deceased had not likely used cocaine while on duty that morning.

Finally, it is also our professional opinion that the deceased was not under the direct influence of cocaine at the time of the accident. However, if later investigation reveals cocaine use in the late evening or especially in the early morning hours, it is possible that the deceased could have been impacted to some unknown degree at the time of his death due to the residual effects from his previous use of cocaine."

## **APPLICABLE RULES**

### **General Code of Operating Rules Burlington Northern and Santa Fe Railway**

#### **1.5 Drugs and Alcohol**

The use or possession of intoxicants, over-the-counter or prescription drugs, narcotics, controlled substances, or medication that may adversely affect safe performance is prohibited while on duty or on company property, except medication that is permitted by a medical practitioner and used as prescribed. Employees must not have any prohibited substances in their bodily fluids when reporting for duty, while on duty, or while on company property.

#### **6.28 Movement on Other than Main Track**

Except when moving on a main track or on a track where a block system is in effect, trains or locomotives must move at a speed that allows them to stop within half the range of vision short of a:

- Train;
- Engine;
- Railroad car;
- Men or equipment fouling the track;
- Stop signal; **or**
- Derail or switch lined improperly.

## **7.2 Communication Between Crews Switching**

To avoid injury or damage where locomotives may be working at both ends of a track or tracks, crews switching must have a clear understanding of movements to be made.

### **Safety Rules and General Responsibilities for All Employees Burlington Northern and Santa Fe Railway**

#### **S-13.5 Getting On or Off Equipment**

Do not get on or off moving equipment, except in an emergency to avoid injury.