

Signal Maintainer Struck by Train

SUMMARY

A 36 year old male signal maintainer died from injuries suffered when he was struck by a moving train while working on a track-side signal. Following a snowstorm, the victim was examining a switch heater that melts ice from track switches. Approximately 30 minutes after he had left the area and train traffic was allowed to continue, he returned to the track to re-examine the heater and was struck from the rear by an oncoming train.

Because of the recent snow and cold weather, the victim was wearing heavy headgear. There were no tracks to indicate that he had gone into the switch house to activate the emergency beacon to warn oncoming trains of his presence and he had his back to the train as it was approaching. The engineer was blowing a whistle as it approached a crossing. When the victim stood up, the engineer saw him and applied all possible braking systems to attempt to get the train stopped. Because of the noise created by the propane torch the victim was using, along with the head covering to protect him from the cold and the fact that train whistles are more easily heard from the side than in the direct path, the victim apparently did not hear the train coming and made no attempt to escape.

Employers may be able to minimize the potential for occurrence of this type of incident through the following precautions:

- **Insure that employees understand and comply with regulations to stay clear of tracks after clearance authorization has been issued.**
- **Issue bright-colored clothing to signal maintainers so that they are more readily visible from a distance.**
- **Workers should understand and comply with rules that require setting emergency beacons when working on tracks.**

INTRODUCTION

On a Wednesday morning, February 15, 1995, a signal maintainer was working on a switch heater following a major snowstorm in the area. He had been authorized to be in the area and, while he was in the process of servicing the heater, all train traffic was prohibited from that section of track. After completing the work he was cleared from the area and normal traffic was resumed.

Around a half-hour after being cleared from the area, the victim returned to re-inspect the heater. His vehicle was parked near the switch with the passenger door open. A ratchet-type tool was inserted into the switch and the switch control box was closed with the lock lying on top of the switch control box.

Having received clearance to proceed, a westbound train was approaching the area and the train's whistle was blowing as it was approaching a crossing. The engineer saw the victim stand up between the rails of the westbound main line, and activated all the train's and cars' brakes, while continuing to blow the whistle. The victim had his back to the train at the time he was struck.

The victim was kneeling between the tracks over a propane-type heating system prior to the approach of the train. He was wearing head protection against the cold weather and brown coveralls that were difficult to see from a distance. The emergency beacon that usually emits from the switch house when a worker is in a position of danger had not been activated.

INVESTIGATION

The WY- Wyoming FACE Project was notified of the incident via media releases on February 16, 1996. Reports were requested from the local sheriff and coroner, and from representatives of the rail company who employed the victim. Company officials denied WY- Wyoming FACE investigators authority to review company records and a desk audit was conducted in lieu of an investigation.

Based on evidence at the scene and witness statements given to local officials, it appears that the victim had been working on the switch to try to free it from the ice that had formed as a result of the snow and cold. He had received authority to be in the area and all train traffic had been diverted from that track segment as long as he was under the clearance authority. After he had worked for a period of time, he left the area and clearance authority was released.

Approximately 30 minutes after clearance had been released, he returned to the switch area to again apply heat in order to free the switch. His vehicle was parked nearby with the passenger door open and the victim was between the tracks using a propane-type torch to heat the switch mechanism. A ratchet-type tool had been inserted into the switch, indicating that he had tried to turn the switch and then determined that additional heat was needed.

The switch control box was closed but not locked and the lock was lying on top of the control box. The switch house contained an apparently operational emergency beacon that should have been on to alert any potential traffic of danger. There were no footprints seen leading to or from the switch house to indicate that he had gone in to activate the emergency beacon.

The sequence of events indicated by on-site evidence is that the victim returned to check the switch, unlocked the control box and attempted to turn the switch and discovered that it was still frozen, and determined to apply heat to unfreeze the switch. He then apparently gathered propane materials from his car and brought them to the track to warm the switch using the torch. He knelt down over the switch to torch the switch mechanism. The noise of the torch, coupled with the fact that he had head covering to protect him from the cold, drowned out the sound of the approaching train.

As he stood up, having applied heat to the switch, he was seen by the engineer who applied all possible brakes in an attempt to stop the train. As the sound of the train whistle is less audible to persons in its direct path than to persons to the side of the train's path, and since the victim had his back to the train as it approached, he did not hear the train coming and did not recognize the danger he was in.

CAUSE OF DEATH

The Medical Examiner listed the cause of death as total body destruction due to impact from moving locomotive.

RECOMMENDATIONS/DISCUSSION

This incident could have been prevented by any of several precautionary actions available to the victim. He could have set the emergency beacon to alert any potential traffic that he was returning to the area. He could have requested authority for a second clearance to work again on the switch mechanism.

There is a possibility that, if he had been wearing brighter clothing, the engineer would have seen him early enough to react more quickly. The noise of the propane torch and the diminished hearing resulting from the heavy headgear made the sound of the approaching train less distinguishable.

Employers with a potential for an incident similar to this to occur should strictly enforce regulations pertaining to the safety of their employees. Switch workers should understand and comply with regulations including gaining clearance authority prior to any on-track operation and using available emergency signalling devices in the event that such authority does not communicate effectively among all users of the tracks.

FATAL ACCIDENT CIRCUMSTANCES AND EPIDEMIOLOGY (Wyoming FACE) PROJECT

The National Institute for Occupational Safety and Health (NIOSH), Division of Safety Research (DSR), performs Fatal Accident Circumstances and Epidemiology (Wyoming FACE) investigations when a participating state reports an occupational fatality and requests technical assistance. The goal of these evaluations is to prevent fatal work injuries in the future by studying the working environment, the worker, the task the worker was performing, the tools the worker was using, the energy exchange resulting in fatal injury, and the role of management in controlling how these factors interact.

States participating in this study include: Kentucky, Maryland, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, and West Virginia.

NIOSH Funded/State-based Wyoming FACE Projects providing surveillance and intervention capabilities to show a measurable reduction in workplace fatalities include: Alaska, California, Colorado, Indiana, Iowa, Kentucky, Massachusetts, Maryland, Minnesota, Missouri, Nebraska, New Jersey, Wisconsin and Wyoming.

Additional information regarding this report is available from:

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Please use information listed on the Contact Sheet on the NIOSH FACE web site to contact [In-house FACE program personnel](#) regarding In-house FACE reports and to gain assistance when State-FACE program personnel cannot be reached.