**Watchman Dies After Being Struck by Freight Train While Assisting in Snow Clearing From Train Tracks - Massachusetts**

**Investigation: # 03-MA-066-01**
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## SUMMARY

On December 6, 2003, a 59-year-old male watchman (the victim) was fatally injured while assisting with clearing snow from a pedestrian walkway that intersected train tracks at a train station. The victim's main task, as a watchman, was to look out for oncoming trains and warn the work crew of approaching trains. At the time of the incident, the work crew's first notification of the approaching freight train was when the train sounded its horn. The victim and one other coworker were located in-between two sets of tracks snow blowing when they heard the train's horn. The victim had been attempting to jump out of the way of the approaching train when the train struck him. The victim landed on his left side with his head and upper body covered with snow. After the train passed a coworker went over to the victim and started clearing the snow from around him. A call was placed for Emergency Medical Services (EMS). EMS responded to the incident site within minutes. The victim was transported to a local hospital where he was pronounced dead. The Massachusetts FACE Program concluded that to prevent similar occurrences in the future, railroad transportation companies/agencies should:

- **Ensure that watchmen/lookouts are performing only train approach detection tasks;**
- **Ensure that the train approach warning method used is appropriate for the work site location and current weather conditions;**
- **Ensure that roadway workers are trained in safe operating procedures for on-track work;**
- **Ensure that work crews have access to the schedules of all trains that will pass through their work area; and**
- **Ensure that all train stations and locations where workers are routinely on or near the tracks have both visual and audio train approach warning systems.**

## INTRODUCTION

On December 7, 2003, the Massachusetts FACE Program was alerted by the local media that on December 6, 2003, a 59-year-old male was fatally injured while clearing snow from train tracks. An investigation was initiated. On February 12, 2004, the Massachusetts FACE Program Director and a coworker traveled to the transportation management company’s office where three company representatives were interviewed. The death certificate, corporate information,

and police incident report were reviewed during the course of the investigation. In addition, a site visit to the incident location was conducted at a later date and photographs were taken.

The victim's employer, a private transportation management company, has a contract with a public sector authority. The company had been formed when three companies merged approximately one year prior to the incident. At the time of the incident, the company employed approximately 1,700 people, of which approximately 1,500 were unionized positions, represented by 14 unions. The remaining non-union employees held management job titles. The victim originally worked at one of the transportation management companies involved in the merger. The victim held the job title of watchman for approximately 15 years and the work crew on site at the time of the incident had worked together for approximately four years.

The company has designated individuals in charge of safety and health committees for the four main departments. These company departments are transportation, engineering, mechanical, and customer service. The federal regulatory agency for this industry is the Federal Railroad Administration (FRA), which is responsible for enforcement of employee safety and health regulations.

## INVESTIGATION

The FRA's definition of a roadway worker is any employee of a railroad, or of a contractor to a railroad[1]. The work crew involved in the incident consisted of three roadway workers: one foreman/tractor operator (foreman); one mechanic/snow blower operator (mechanic); and one watchman (the victim). On the day of the incident the start time for the work crew was 6:00 p.m. All three employees had met up at one prearranged location to pick up equipment needed to complete the assigned tasks of clearing snow at three commuter rail stations. At approximately 7:30 p.m., when the crew arrived at the incident station, the weather was near blizzard conditions. Prior to beginning the snow clearing task, they held a safety briefing and tested their two-way radios. At the time of the incident, the victim was wearing an orange reflective coat.

During the winter season, one of the main tasks for this work crew was clearing snow. This task consisted of clearing snow from areas around train stations including pedestrian walkways and ground level platforms. At a majority of the train stations, the work crew was not responsible for elevated boarding platforms and parking lots. Some of the train stations, including the incident train station, had storage sheds on site that held equipment used for snow clearing. The work crew brought the additional equipment needed to complete the snow clearing tasks.

The train station where the incident took place has two sets of train tracks, one for trains heading east and one for trains heading west, and a separate boarding platform for each track. The station also has a walkway that runs north and south with a crossing platform that intersects the tracks. The crossing platform is level with the tracks giving pedestrians a smooth and level walking surface to traverse the tracks to access each boarding platform. Unlike some of the

other commuter rail stations, the station involved in the incident did not have a train approaching warning system for pedestrians.

Three types of trains, commuter, freight, and passenger use the lengths of tracks involved in the incident. The commuter and passenger trains have regular set arrival and departure schedules for each station they stop at. The victim's company reported that the freight trains that travel on these tracks do not have available schedules of when the freight trains will arrive, depart and pass through different locations. All train movement over the tracks is dispatched by the freight train company dispatcher, who is located in New York. The train involved in the incident was a freight train, which had originated in New York, with approximately 76 cars attached. Prior to the incident, the train made one stop in Massachusetts where most of the cars were dropped off. At the time of the incident the train had approximately 12 freight cars and four locomotives still attached.

The train approach warning system used by the work crew on the day of the incident was the watchman/lookout system. The FRA standard states that for this type of system, the warning shall be given in sufficient time to enable each roadway worker to move to and occupy a previously arranged place of safety not less than 15 seconds before a train moving on that track passes the location of the workers[1]. In addition, the standard states that the watchman/lookout assigned to provide train approach warning shall devote full attention to detecting approaching trains and communicating a warning and shall not be assigned any other duties while functioning as a watchman/lookout[1].

The employer described the victim's job title as a watchman and his main task as the person that alerts the work crew, in this case, the mechanic and foreman, of approaching trains. According to the employer, the victim had been assigned to stay with the mechanic and to keep in communication with the tractor operator via a two-way radio. The victim’s task as a watchman included positioning himself in a location where he could observe the approach of trains from either direction and be within an arms distance of the mechanic. Once a train was observed, the watchman would alert the work crew of the train at least 15 seconds before the train was to pass the work crew's location. In this case, the watchman would have physically tapped the mechanic and contacted the foreman via the two-way radio.

At approximately 8:15 p.m., the mechanic was operating a snow blower and clearing snow from the crossing platform that traversed the tracks when he heard a train horn. He looked up and noticed an approaching train without its headlight on. The train was traveling on the eastbound track, the same track the victim was in. The mechanic then alerted the other workers by yelling “train” prompting the foreman to stop the tractor he was operating on a boarding platform. The mechanic stepped, in a southerly direction, out of the track he was in. The victim started running in a northerly direction while holding onto the snow blower he had been operating. It appeared that the victim was attempting to jump north of the eastbound track when he was struck by the train. After the train passed, the mechanic went over to the victim who was lying on his left side with his head and upper body covered in snow. The snow blower, which was dented from also

being struck by the train, was lying on its side to the east of the victim. The mechanic started to clear the snow from the victim and the foreman radioed for emergency assistant. Emergency Medical Services (EMS) responded to the incident site within minutes and the victim was transported to a local hospital where he was pronounced dead.

During the investigation, a representative of the victim's employer stated that it was thought that the victim was not operating a snow blower on the night of the incident and it was the mechanic who had been operating the snow blower that was struck by the passing train that night. It was also stated that the reason there were two snow blowers was that the mechanic started using a second snow blower when the first snow blower stalled and would not restart. The mechanic was using the second snow blower while the first snow blower rested, because it was thought that the first snow blower's engine had flooded.

According to the police report, both the foreman and the mechanic stated that the victim had been operating a snow blower during the evening. The police report also included a statement by the mechanic that his snow blower and the tractor were on at the time of the incident, but he was unsure if the victim's snow blower was on. The train engineer, who had nine years of experience, claimed that the train's headlight was on and that when he noticed the victim on the track he immediately sounded the train's horn and activated the train's emergency braking system. Once the brakes were activated the train continued to travel 2,250 feet before coming to a complete stop.

The mechanical inspection of the lead locomotive revealed no defective conditions that would have led to the cause of the incident. The lead locomotive’s event recorder data was analyzed and indicated that the freight train was traveling at 42 miles per hour (MPH) when it struck the victim. The maximum speed for freight trains through the station involved in the incident was 40 MPH. In addition, the conflicting information about the lead locomotive’s headlight being on or off was not resolved. The event recorder does not have the capability of recording whether the headlight was on or off.

## CAUSE OF DEATH

The medical examiner listed the cause of death as multiple injuries due to blunt trauma.

## RECOMMENDATIONS/DISCUSSION

**Recommendation #1: Railroad transportation companies/agencies should ensure that watchmen/lookouts are performing only train approach detection tasks.**

**Discussion:** The Federal Railroad Administration (FRA) standard 49CFR214 *Railroad Workplace Safety* states that the watchman/lookout assigned to provide train approach warnings

shall devote full attention to detecting the approach of trains, communicating warnings and shall not be assigned any other duties while functioning as a watchman/lookout[1].

In this case, it was stated in the police report, by the victim's two coworkers, that during the evening of the incident the victim had been operating a snow blower. However, it was not clear if the snow blower that the victim was holding onto was turned on at the time of the incident. In order to ensure the safety of the work crew and themselves, watchmen/lookouts must have their complete and total attention focused on the tracks to detect any approaching trains, therefore they should not be assigned additional tasks, such as clearing snow, or tending to malfunctioning equipment.

**Recommendation #2: Railroad transportation companies/agencies should ensure that the train approach warning method used is appropriate for the work site location and current weather conditions.**

**Discussion:** The work crew was performing snow clearing tasks at a suburban train station during a major nighttime snowstorm. Visibility, for both the crew members and the freight train engineer, would have been limited due to the nighttime darkness and the heavy falling snow. These conditions would have minimized the distance between the crew members and the freight train at the point of detection of the approaching train. There are multiple train approach warning methods; the one in use at the time of the incident was warning provided by watchmen/lookout. This warning method requires that the train approach warning be given by the watchman/lookout in sufficient time to enable each roadway worker to move to and occupy a previously arranged place of safety. The warning should be given to the workers not less than 15 seconds before a train moving on that track passes the location of the workers[1].

In this case, a better train approach warning method would have been the foul time method. Foul time is a method that designates a section of track where movement of trains must be authorized by a train dispatcher. Train movement will only be reestablished when the roadway workers report to the dispatcher that they are clear of the track[1]. This method would have prevented all trains from entering the section of the track where the crew members were clearing snow, until the work crew reported that their task was complete and they were off of the tracks. It was reported by some of the victim’s coworkers that the use of the foul time method was not possible because they typically could not get in touch with the freight train company’s dispatchers.

**Recommendation #3: Railroad transportation companies/agencies should ensure that roadway workers are trained in safe operating procedures for on-track work.**

**Discussion:** Outlined in 49CFR214 *Railroad Workplace Safety* are qualifications and training for all workers who work on railroad tracks. These include, but are not be limited to:

- Recognition of railroad tracks and an understanding of the space around railroad tracks where on-track safety is required.

- Functions and responsibilities of workers involved with on-track safety procedures.
- Compliance with on-track safety instructions given by workers performing or responsible for on-track safety functions.
- Proper safety procedures upon receiving a train approach warning/signal given by a watchmen/lookout.
- Hazards associated with working on or near railroad tracks, including review of on-track safety rules and procedures.

Also outlined in 49CFR214, are specific training and qualifications for watchmen/lookouts. These include, but are not be limited to:

- Railroad rules and procedures to be used for train approach warning.
- Determination of the distance along a track at which trains must be visible in order to provide the warning time.
- Detection and recognition of approaching trains.
- Effective warning of workers of approach trains.

Training provided for watchmen/lookouts should be recurrent annually. In addition, the employer must keep documentation of the training for each employee readily available.

**Recommendation #4: Railroad transportation companies/agencies should ensure that work crews have access to schedules of all trains that will pass through their work area.**

**Discussion:** Work crew members who spend time performing maintenance or any other task on or near tracks should be informed of each train's schedule that will pass through their work area. The work crew should be made aware of any unscheduled trains that will pass through the work area as soon as the information is available. In addition, all train engineers should also be informed of any work areas that will be located on or near the tracks on which they will be traveling.

**Recommendation #5: Railroad transportation companies/agencies should ensure that all train stations and locations where workers are routinely on or near the tracks have both visual and audio train approach warning systems.**

**Discussion:** All train stations and other locations where workers are routinely on or near the tracks for tasks such as snow clearing should have both visual and audio train approach warning systems. These warning systems combined with the work crews and train engineers having knowledge of each other's schedules, as described in recommendation #4, and an additional train approach warning method of either foul time or watchmen/lookouts would give the work crews multiple ways to detect approaching trains.

**REFERENCES**

1. Code of Federal Regulations, 49 CFR 214 (b)(4) Railroad workplace safety, Government Printing Office.