

SUMMARY FOR FE-34-03
SELECTED AND POSSIBLE CONTRIBUTING FACTORS

SELECTED FACTORS

Railroad: Massachusetts Bay Commuter Railroad

Location: Wellesley, Massachusetts

Region: Region 1

Month: December

Date: Dec. 6, 2003

Time: 8:20 p.m., EST

Data for Fatally Injured Employee(s)

Bridge and Building Mechanic (Watchman/Lookout)

59 years old

15 years of service

Last rules training: Jan. 15, 2003

Last safety training: June 8, 2003

Last physical: N/A

Data for All Employees (Craft, Position, Activity)

Craft: Maintenance of Way

Positions:

Massachusetts Bay Commuter Railroad (MBAX) MOW Gang

Foreman

Fatally injured Bridge and Building Mechanic

Other Bridge and Building Mechanic

MOW Supervisor

CSX Freight Train Q 420-06

Engineer

Conductor

CSX Dispatcher

Activity: The gang was clearing snow from the commuter passenger station's platforms, walkways, and stairways.

SUMMARY FOR FE-34-03 CONTINUED

SELECTED FACTORS CONTINUED

EVENT

A Bridge and Building Mechanic, acting as Watchman/Lookout for the rest of the MOW gang, was fatally injured when struck by an on-coming freight train.

POSSIBLE CONTRIBUTING FACTORS

PCF No. 1

At the time of the accident, the fatally injured Bridge and Building Mechanic was distracted from his role as Watchman/Lookout because he was performing other duties (operating a snow blower to remove snow from pedestrian walkways), in non-compliance with Federal regulations and railroad safety rules concerning roadway worker protection.

PCF No. 2

The Foreman also acted in non-compliance with the above Federal regulations and railroad safety rules when he instructed the fatally injured employee to perform other duties in addition to his role as Watchman/Lookout.

PCF No. 3

The investigation revealed that MBAX gangs routinely used train approach warning to provide on-track safety due to an historic reluctance of CSX to issue MBAX work gangs foul time (a safer method).

PCF No. 4

Although the CSX crew reported that the train's headlight was on at the time of the accident, the remaining MBAX crew reported that it was not. Investigators could not establish who was correct. However, the near blizzard conditions limited visibility for all concerned, despite overhead illumination at the station.

PCF No. 5

According to statements provided by the CSX Dispatcher and train crew, they were not aware that an MBAX snow removal gang was working at the Wellesley Farms passenger station. Since all rail traffic over this section of the railroad (CSX freight, Amtrak passenger, and Massachusetts Bay Transit Authority commuter trains) operated under a contract agreement with

SUMMARY FOR FE-34-03 CONTINUED

POSSIBLE CONTRIBUTING FACTORS CONTINUED

PCF No. 5 Continued

MBAX, there should have been communication between MBAX and the CSX Dispatcher, especially considering the inclement weather conditions.

REPORT: FE-34-2003

RAILROAD: Massachusetts Bay Commuter Railroad (MBAX)

LOCATION: Wellesley, Massachusetts

DATE & TIME: Dec. 6, 2003; 8:20 p.m., EST

EVENT¹: A Bridge and Building (B&B) Mechanic, acting as Watchman/Lookout for the rest of the MOW gang, was fatally injured when struck by an on-coming freight train.

EMPLOYEE:

Craft:	Maintenance of Way (MOW)
Activity:	The gang was clearing snow from the commuter passenger station's platforms, walkways, and stairways.
Occupation:	B&B Mechanic acting as Watchman/Lookout for the rest of the crew
Age:	59 years
Length of Service:	15 years
Last Rules Training:	Jan. 15, 2003
Last Safety Training:	June 8, 2003
Last Physical:	N/A

CIRCUMSTANCES PRIOR TO THE ACCIDENT/INCIDENT

At 6 p.m. on Dec. 6, 2003, three MBAX MOW employees reported for duty at the railroad's maintenance facility in Readville, Massachusetts. The 3-person crew comprised a Foreman and two B&B Mechanics. Due to a severe winter storm and a heavy accumulation of snow in the Boston area, the crew was called to work an overtime assignment to clear snow from commuter passenger station platforms, walkways, and stairways. After speaking with their Supervisor and receiving their job assignments, the three men loaded two gasoline-powered snow blowers and a salter attachment into a company truck and departed Readville.

They arrived at the Wellesley Farms commuter passenger station at approximately 7:45 p.m. Before exiting the truck, the Foreman conducted a job briefing and assigned one of the employees to perform the duties of Watchman/Lookout to provide train approach warning for the crew. The Foreman would

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.

operate a Kubota tractor to remove snow from the Track No. 2 platform while the other Mechanic was to operate the snow blower to remove snow from the pedestrian walkways.

At 9 a.m., on Dec. 6, 2003, following their statutory off-duty time, the two crew members (Engineer and Conductor) for CSX, Incorporated (CSX) Freight Train Q 420-06 reported for duty at the railroad's yard in Selkirk, New York. Following routine pre-departure duties, the crew departed Selkirk Yard at 1:36 p.m., operating the 76-car train east en route to Beacon Park Yard in Boston. The train stopped at North Yard in Framingham, Massachusetts, and the crew cut off 59 cars before departing Framingham at approximately 8 p.m. Prior to leaving North Yard, the crew communicated with the CSX Dispatcher via radio. The crew departed, eastbound, on signal indication, with four locomotives (623, 5117, 6228 and 6221) and 12 trailing freight cars. According to statements provided by the CSX Dispatcher and train crew, they were not aware that an MBAX snow removal crew was working at the Wellesley Farms passenger station.

The Wellesley Farms passenger station was located in Wellesley, Massachusetts, at MP 12.5 on the Boston Subdivision of CSX's Albany Division. At this location, the railroad comprised two east/west (timetable direction) main line tracks (Track No. 1, to the north, and Track No. 2, to the south). The outdoor station comprised two, track-level, asphalt passenger platforms located on the north and south sides of the tracks. The platform on the north side was for westbound (or outbound) passengers and the platform on the south side was for eastbound (or inbound) passengers. An asphalt pedestrian walkway crossed over the two tracks through a 10-foot wide opening in a chain-link fence separating the two tracks. The station was illuminated by overhead lighting, which was mounted on poles along the south side of the station.

Rail traffic over this section of the railroad included CSX freight, Amtrak passenger, and Massachusetts Bay Transit Authority (MBTA) commuter trains operated under a contract agreement with MBAX. Train movements over the line were dispatched by CSX from the railroad's dispatch center located in Selkirk, New York. Maximum authorized timetable speed for freight trains operating on both Track No. 1 and Track No. 2 was 40 mph. There were no speed restrictions in place at the time of the accident.

At the time of the accident, the National Weather Service, located in Taunton, Massachusetts, reported near blizzard conditions with sustained winds of 15 mph. The high temperature was 32° F, and the low was 22° F. The service called for a total snow accumulation of 26 inches with considerable drifting.

THE ACCIDENT

The B&B Foreman was operating a Kubota tractor, plowing snow on the Track No. 2 platform. He had completed one pass westward and then turned the tractor around in the parking lot to make a second pass. As he drove the tractor back onto the platform, heading east, he observed the Watchman/Lookout with a snow blower, facing south on the pedestrian walkway within the gage of Track No. 1. He also observed the other Mechanic who was operating a snow blower in a northerly direction on the pedestrian walkway to the south of Track No. 1. After hearing a locomotive horn, he looked over his left shoulder and saw the eastbound train rapidly approaching on Track No. 1. He observed the two men attempting to dive clear of the oncoming train as it passed.

The Mechanic who was operating the snow blower northward observed the approaching train when it was approximately 30 yards from his location. He heard the horn and yelled a warning to his co-worker, and then observed the co-worker attempt to dive away from the approaching train toward the north side of the tracks.

Departing Framingham, CSX Train Q 420-06 operated eastbound on Track No. 1, approaching Wellesley Farms station. The lead locomotive's (CSX 623) event recorder data indicated the train speed was 42 mph. The Engineer was seated at the controls of the locomotive on the right side of the cab. The Conductor was seated on the left side of the locomotive cab. Visibility was poor due to the heavy snow fall. As the train approached Wellesley Farms Station, the Engineer activated the locomotive's crossing bell. When the Engineer first observed the two individuals on the track ahead, he sounded the locomotive horn and applied the dynamic brakes.

The Conductor was going over paperwork when he heard the Engineer activate the bell and sound the horn. He first observed the individual approximately 400 to 500 feet in front of the train. The Conductor turned away and did not witness the impact.

As the front of the locomotive passed the individuals' location, the Engineer and Conductor both heard an impact, but did not know whether they had struck the men or just the snow blower. The train continued traveling a distance of 2,250 feet before coming to a full stop. At approximately 8:20 p.m., the Engineer made an emergency radio call to the CSX Dispatcher to report the incident.

When the train had passed, the Foreman saw that one of the Mechanics was in the clear. The Foreman made an emergency radio transmission from the radio in his tractor. The Foreman and B&B Mechanic discovered the injured employee laying in the snow on the Track No. 1 platform. Since the employee was conscious at that time, they removed snow from around him, and placed a jacket over him to keep him warm until emergency responders arrived at 8:29 p.m.

Personnel from the following emergency response agencies responded: the American Medical Response Ambulance Service; the Wellesley Fire Department; the MBTA Police Department; the Wellesley Police Department; and the Massachusetts State Police Department.

The injured employee was treated by EMT personnel at the scene before being transported to Newton-Wellesley Hospital by local ambulance. He was pronounced dead at 9:03 p.m. by the attending physician at the hospital.

POST-ACCIDENT INVESTIGATION

The Chief Medical Examiner's office performed an autopsy on the fatally injured employee. The Standard Certificate of Death indicates the cause of death as multiple injuries due to blunt trauma.

Post-accident toxicology tests performed on the deceased were negative. The crew members of Train Q 420-06 and the CSX Dispatcher were not tested.

Data collected from the event recorder mounted on the lead locomotive (CSX 623) of Train Q 420-06 was downloaded and analyzed by railroad personnel. The relevant data indicated actions taken by the Engineer were consistent with the post-accident statements made by the two train crew members. The

locomotive data also indicated a 4-second blast of the horn and application of the dynamic brakes prior to point of impact.

Mechanical inspection of the involved locomotive revealed no defective conditions that caused, or contributed to the cause, of the accident. Post-accident statements of the train crew indicated that the locomotive headlight was on. However, the MBAX Foreman and the surviving Mechanic stated that they did not see a locomotive headlight prior to the accident. The event recorder does not have the capability of recording whether the locomotive headlight was on or off.

FRA conducted interviews with relevant railroad employees involved in the accident. The MBAX B&B Foreman stated that MBAX crews routinely used train approach warning to provide on-track safety due to a historic reluctance of CSX to issue MBAX work crews foul time. He also stated that the fatally injured employee was a qualified and experienced employee who routinely performed the duties of Watchman/Lookout.

Conclusion and Analysis

The fatality of the railroad employee was ruled accidental by law enforcement authorities who investigated the accident. The railroad snow removal crew was utilizing train approach warning (as that term is defined in 49 CFR, Part 214) for on-track safety of the crew.

The fatally injured railroad employee was trained and qualified by the railroad to perform the duties of Watchman/Lookout and had routinely performed such duties. He was assigned by his Supervisor to perform the role of Watchman/Lookout by providing train approach warning for the snow removal gang. However, at the time of the accident (and as instructed by the Foreman), the employee was otherwise engaged performing duties which diverted his attention from his assigned role as Watchman/Lookout.

A contributing factor of the accident, near blizzard conditions limited visibility for the members of the snow removal crew as well as for the train crew.

APPLICABLE RULES

49 CFR, Part 214, Subpart C - Roadway Worker Protection

§214.329 Train approach warning provided by Watchmen/Lookouts

Roadway workers in a roadway work group who foul any track outside of working limits shall be given warning of approaching trains by one or more Watchmen/Lookouts in accordance with the following provisions:

- (a) Train approach 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 at the maximum speed authorized on that track can pass the location of the roadway worker.
- (b) Watchmen/Lookouts assigned to provide train approach warning shall devote full attention to detecting the approach of trains and communicating a warning thereof, and shall not be assigned any other duties while functioning as Watchmen/Lookouts.

§214.335 On-track safety procedures for roadway work groups

- (a) No employer subject to the provisions of this part shall require or permit a roadway worker who is a member of a roadway work group to foul a track unless on-track safety is provided by either working limits, train approach warning, or definite train location in accordance with the applicable provisions of §§214.319, 214.321, 214.323, 214.325, 214.327, 214.329 and 214.331 of this part.
- (b) No roadway worker who is a member of a roadway work group shall foul a track without having been informed by the roadway worker responsible for the on-track safety of the roadway work group that on-track safety is provided.

MBAX and NORA Safety Rules

Roadway Worker Protection Manual

329. Train Approach Warning Provided by Gang Watchmen/Advance Watchmen

Gang watchman and advance gang must:

- (a) Give their entire attention to watching for trains, engines, and maintenance machinery, and warning roadway workers, and must not perform, even momentarily, any other duties.