Federal Railroad Administration
Office of Safety
Headquarters Assigned
Accident Investigation Report
HQ-2006-54

CSX Transportation
Baltimore, MD
June 25, 2006

Note that 49 U.S.C. §20903 provides that no part of an accident or incident report made by the Secretary of Transportation/Federal Railroad Administration under 49 U.S.C. §20902 may be used in a civil action for damages resulting from a matter mentioned in the report.

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FRA FACTUAL RAILROAD ACCIDENT REPORT

FRA File # HQ-2006-54

1.Name of Railroad Operating Train #1: CSX Transportation [CSX]	1a. Alphabetic Code: CSX	1b. Railroad Accident/Incident No.: R000023598
2.Name of Railroad Operating Train #2: CSX Transportation [CSX]	2a. Alphabetic Code: CSX	2b. Railroad Accident/Incident: R000023598
3.Name of Railroad Responsible for Track Maintenance: N/A	3a. Alphabetic Code: N/A	3b. Railroad Accident/Incident No.: N/A
4. U.S. DOT_AAR Grade Crossing Identification Number	5. Date of Accident/Incident: Month 06 / Day 25 / Year 2006	6. Time of Accident/Incident: 08:13:00 ☑ AM ☐ PM

7. Type of Accident/Indicent (single entry in code box): 1. Derailment; 2. Head on collision; 3. Rear end collision; 4. Side collision; 5. Raking collision; 6. Broken Train collision; 7. Hwy-rail crossing; 8. RR grade crossing; 9. Obstruction; 10. Explosion-detonation; 11. Fire/violent rupture; 12. Other impacts; 13. Other (describe in narrative): 03

8. Cars Carrying HAZMAT	9. HAZMAT Cars Damaged/Derailed	10. Cars Releasing HAZMAT	11. People Evacuated	12. Division
0	0	0	0	Baltimore

13. Nearest City/Town	14. Milepost (to nearest tenth)	15. State Abbr	15. State Code	16. County
Bel-Camp (Van Bibber)	070.51	N/A	MD	HARFORD

17. Temperature (F) (specify if minus)	18. Visibility (single entry) 1. Dawn 2. Day 3.Dusk 4.Dark	Code	19. Weather (single entry) 1. Clear 2. Cloudy 3. Rain 4. Fog 5.Sleet 6.Snow	Code	20. Type of Track 1. Main 2. Yard 3. Siding 4. Industry	Code
81 F		2		3		1

21. Track Name/Number	22. FRA Track Class (1-9, X)	Code	23. Annual Track Density (gross tons in millions)	24. Time Table Direction 1. North 3. East	Code
Van Bibber Siding		4	38.6		4

OPERATING TRAIN #1

25. Type of Equipment Consist (single entry)	A. Spec. MoW Equip. Code	26. Was Equipment Attended? 1. Yes 2. No	Code	27. Train Number/Symbol
1. Freight train; 2. Passenger train; 3. Commuter train; 4. Work train; 5. Single car; 6. Cut of cars; 7. Yard/switching; 8. Light loco(s).; 9. Maint./inspect.car	1		1	K277-23

28. Speed (recorded speed, if available) R - Recorded E - Estimated		Code
	16 MPH	R

29. Trailing Tons (gross tonnage, excluding power units): 6794

30. Method(s) of Operation (enter code(s) that apply): a. ATCS; b. Auto train control; c. Auto train stop; d. Cab; e. Traffic; f. Interlocking; g. Automatic block; h. Current of traffic; i. Time table/train orders; j.Track warrant control; k. Direct traffic control; l.Yard limits; m.Special instructions; n. Other than main track; o. Positive train control; p. Other (Specify in narrative)

Code(s)				
e	N/A	N/A	N/A	N/A

30a. Remotely Controlled Locomotive? 0 = Not a remotely controlled; 1 = Remote control portable; 2 = Remote control tower; 3 = Remote control transmitter - more than one remote control transmitter: 0

31. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded (yes/no)
(1) First involved (derailed, struck, etc)	N/A	1	N/A
(2) Causing (if mechanical cause reported)	N/A	N/A	N/A

32. If railroad employee(s) tested for drug/alcohol use, enter the number that were positive in the appropriate box.

Alcohol	Drugs
N/A	N/A

33. Was this consist transporting passengers? (Y/N): N

34. Locomotive Units	a. Head End	Mid Train b. Manual	Mid Train c. Remote	Rear End d. Manual	Rear End c. Remote
(1) Total in Train	2	0	0	0	0
(2) Total Derailed	1	0	0	0	0

35. Cars	Loade a. Freight	Loade b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Equipment Consist	71	0	2	0	0
(2) Total Derailed	0	0	0	0	0

36. Equipment Damage This Consist	37. Track, Signal, Way, & Structure Damage	38. Primary Cause Code	39. Contributing Cause Code
25000	10000	H221	N/A

Number of Crew Members				Length of Time on Duty	
40. Engineer/ Operators	41. Firemen	42. Conductors	43. Brakemen	44. Engineer/Operator	45. Conductor
N/A	0	1	0	Hrs 7 Mi 42	Hrs 7 Mi 42

Casualties to:	46. Railroad Employees	47. Train Passengers	48. Other
Fatal	0	0	0
Nonfatal	N/A	0	0

49. EOT Device? 1. Yes 2. No: 1

50. Was EOT Device Properly Armed? 1. Yes 2. No: 1

51. Caboose Occupied by Crew? 1. Yes 2. No: 2

OPERATING TRAIN #2

52. Type of Equipment Consist (single entry)	A. Spec. MoW Equip. Code	53. Was Equipment Attended? 1. Yes 2. No	Code	54. Train Number/Symbol
1. Freight train; 2. Passenger train; 3. Commuter train; 4. Work train; 5. Single car; 6. Cut of cars; 7. Yard/switching; 8. Light loco(s).; 9. Maint./inspect.car	N/A		N/A	Q409-24

55. Speed (recorded speed, if available) R - Recorded E - Estimated		Code
	0 MPH	R

57. Method(s) of Operation (enter code(s) that apply): a. ATCS; b. Auto train control; g. Automatic block; h. Current of traffic; m.Special instructions; n. Other than main track

57a. Remotely Controlled Locomotive? 0 = Not a remotely controlled; 1 = Remote control portable

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56. Trailing Tons (gross tonnage, excluding power units)	c. Auto train stop d. Cab e. Traffic f. Interlocking	i. Time table/train orders j.Track warrant control k. Direct traffic control l.Yard limits	o. Positive train control p. Other (Specify in narrative) Code(s)	2 = Remote control tower 3 = Remote control transmitter - more than one remote control transmitter
12053			e N/A N/A N/A N/A	0

58. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded (yes/no)	59. If railroad employee(s) tested for drug/alcohol use, enter the number that were positive in the appropriate box.	Alcohol	Drugs
(1) First involved (derailed, struck, etc)	SIRX52 5222	126	no		N/A	N/A
(2) Causing (if mechanical cause reported)	0	N/A	N/A	60. Was this consist transporting passengers? (Y/N)		N

61. Locomotive Units	a. Head End	Mid Train b. Manual	Mid Train c. Remote	Rear End d. Manual	Rear End c. Remote	62. Cars	Loade a. Freight	Loade b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Train	3	0	0	0	0	(1) Total in Equipment Consist	85	0	41	0	0
(2) Total Derailed	0	0	0	0	0	(2) Total Derailed	0	0	0	0	0

63. Equipment Damage This Consist	64. Track, Signal, Way, & Structure Damage	65. Primary Cause Code	66. Contributing Cause Code
50194	0	H221	N/A

Number of Crew Members				Length of Time on Duty	
67. Engineer/ Operators	68. Firemen	69. Conductors	70. Brakemen	71. Engineer/Operator	72. Conductor
1	N/A	1	N/A	Hrs 2 Mi 57	Hrs 2 Mi 57

Casualties to:	73. Railroad Employees	74. Train Passengers	75. Other
Fatal	0	0	0
Nonfatal	0	0	0

76. EOT Device? (1. Yes 2. No)	77. Was EOT Device Properly Armed? (1. Yes 2. No)	78. Caboose Occupied by Crew? (1. Yes 2. No)
1	1	2

Highway User Involved

79. Type	Code
A. Auto B. Truck C. Truck-Trailer. D. Pick-Up Truck E. Van F. Bus G. School Bus H. Motorcycle J. Other Motor Vehicle K. Pedestrian M. Other (spec. in narrative)	N/A

80. Vehicle Speed (est. MPH at impact)	81. Direction geographical) 1.North 2.South 3.East 4.West	Code
0		N/A

82. Position	Code
1.Stalled on Crossing 2.Stopped on Crossing 3.Moving Over Crossing 4. Trapped	N/A

86a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials? (1. Highway User 2. Rail Equipment 3. Both 4. Neither)	Code
	N/A

Rail Equipment Involved

83. Equipment	Code
1.Train(units pulling) 2.Train(units pushing) 3.Train (standing) 4.Car(s) (moving) 5.Car(s) (standing) 6.Light Loco(s) (moving) 7.Light(s) (standing) 8.Other (specify in narrative)	N/A

84. Position of Car Unit in Train
0

85. Circumstance	Code
1. Rail Equipment Struck Highway User 2. Rail Equipment Struck by Highway User	N/A

86b. Was there a hazardous materials release by (1. Highway User 2. Rail Equipment 3. Both 4. Neither)	Code
	N/A

86c. State here the name and quantity of the hazardous materials released, if any.
N/A

87. Type of Crossing Warning	1.Gates	2.Cantilever FLS	3.Standard FLS	4.Wig Wags	5.Hwy. traffic signals	6.Audible	7.Crossbucks	8.Stop signs	9.Watchman	10.Flagged by crew	11.Other (spec. in narr.)	12.None
Code(s)	N/A	N/A		N/A	N/A		N/A	N/A		N/A	N/A	

88. Signaled Crossing Warning (See instructions for codes)	Code

89. Whistle Ban (1. Yes 2. No 3. Unknown)	Code
	N/A

90. Location of Warning (1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach)	Code
	N/A

91. Crossing Warning Interconnected with Highway Signals (1. Yes 2. No 3. Unknown)	Code
	N/A

92. Crossing Illuminated by Street Lights or Special Lights (1. Yes 2. No 3. Unknown)	Code
	N/A

93. Driver's Age	94. Driver's Gender (1. Male 2. Female)	Code
0		N/A

95. Driver Drove Behind or in Front of Train and Struck or was Struck by Second Train (1. Yes 2. No 3. Unknown)	Code
	N/A

96. Driver (1. Drove around or thru the Gate 2. Stopped and then Proceeded 3. Did not Stop 4. Stopped on Crossing 5. Other (specify in narrative))	Code
	N/A

97. Driver Passed Standing Highway Vehicle (1. Yes 2. No 3. Unknown)	Code
	N/A

98. View of Track Obscured by (primary obstruction) (1. Permanent Structure 2. Standing Railroad Equipment 3. Passing Train 4. Topography 5. Vegetation 6. Highway Vehicle 7. Other (specify in narrative) 8. Not obstructed)	Code
	N/A

101. Casulties to Highway-Rail Crossing Users	Killed	Injured
	0	0

99. Driver Was (1. Killed 2.Injured 3. Uninjured)	Code
	N/A

100. Was Driver in the Vehicle? (1. Yes 2. No)	Code
	N/A

102. Highway Vehicle Property Damage (est. dollar damage)	103. Total Number of Highway-Rail Crossing Users (include driver)
0	0

104. Locomotive Auxiliary Lights? (1. Yes 2. No)	Code
	N/A

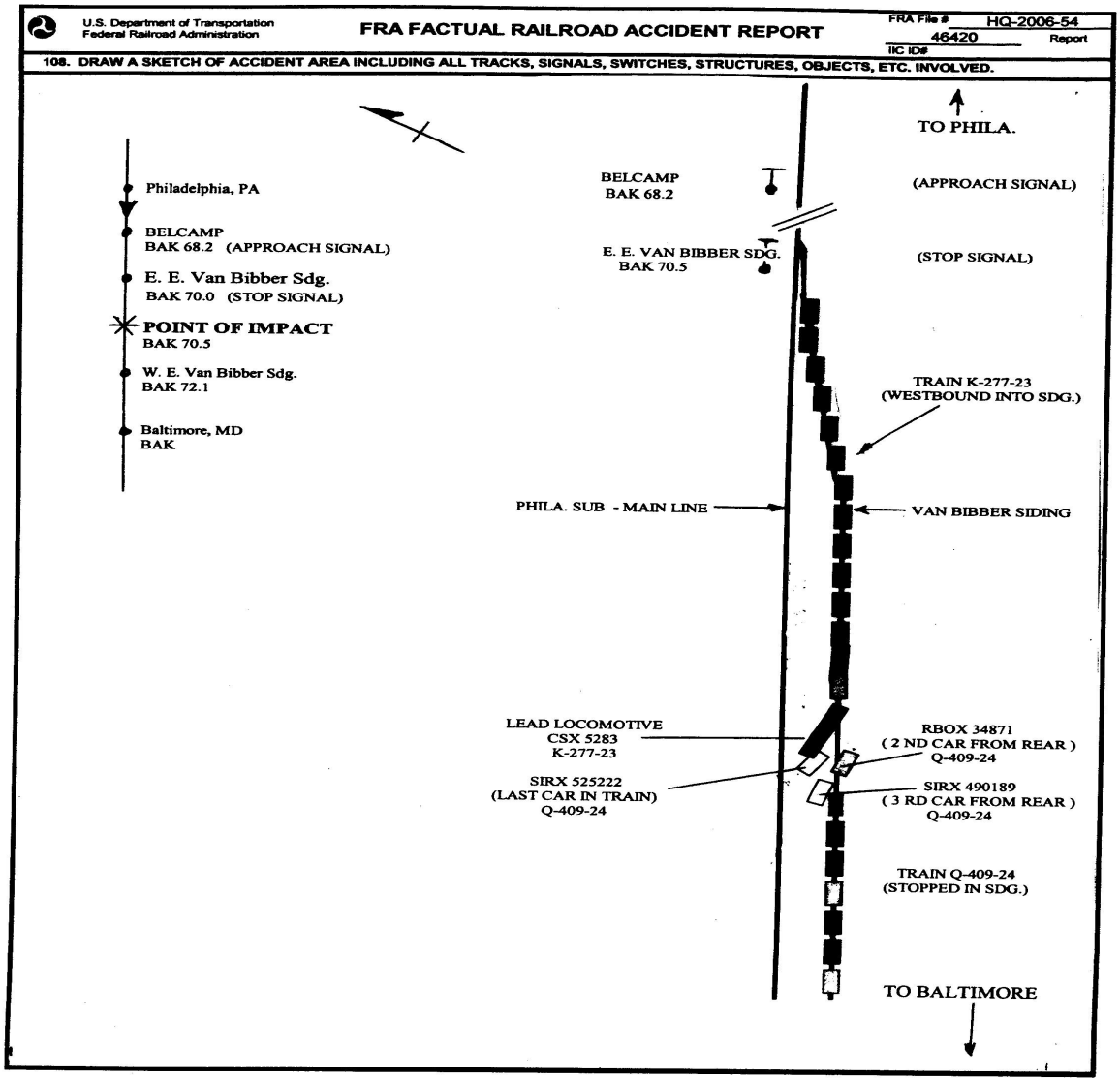
105. Locomotive Auxiliary Lights Operational? (1. Yes 2. No)	Code
	N/A

106. Locomotive Headlight Illuminated? (1. Yes 2. No)	Code
	N/A

107. Locomotive Audible Warning Sounded? (1. Yes 2. No)	Code
	N/A

108. DRAW A SKETCH OF ACCIDENT AREA INCLUDING ALL TRACKS, SIGNALS, SWITCHES, STRUCTURES, OBJECTS, ETC., INVOLVED.

SKETCH
HQ-2006-
54.jpg



109. SYNOPSIS OF THE ACCIDENT

K-277-23, a westbound CSX freight train struck the rear of standing train, CSX, Q-409-24, on June 26, 2006 at 08:13 a.m. The impact occurred in Van Bibber, MD, at MP BAK 070.51, located at the east end of Van Bibber siding on the Philadelphia Subdivision of the Baltimore division.

At this time there are no reported injuries. The three rear end cars of standing train, Q-409-24 and the lead locomotive of K-277-23 derailed. The estimated cost of the accident is $71,000. The temperature at the time of the derailment was approximately 77 degrees Fahrenheit and raining.

The probable cause of the accident is failing to comply with a stop signal indication. The crew was tested under reasonable cause testing.

110. NARRATIVE

CIRCUMSTANCES PRIOR TO THE ACCIDENT

The train crew that was operating CSX train K277-23 at the time of the collision consisted of a locomotive engineer and conductor. Their initial on duty time was12:30 a.m., EST, June 25, 2006, at CSX Bay View yard in Baltimore, MD. Baltimore Terminal is the home terminal for both employees. Both the locomotive engineer and conductor received more than the statutory off duty period, prior to reporting for duty.

The train crew was called to operate CSX Train Q406-24 from Baltimore, MD to Philadelphia, PA. After reporting for duty, the crew was relieved from assignment Q406-24 and instructed to operate train K650-23 because it was a higher priority train. They departed Bay View Yard at 1:30 A.M.

The crew arrived at 58th street in Philadelphia, PA at 5:20 A.M. The crew was then instructed to operate CSX Train K277-23 back to Baltimore, MD. CSX westbound freight train K277-23 consisted of 2 locomotives, 71 loads and 2 empties cars consisting of mixed freight. The train was 6,800 feet in length and consisted of 6,794 trailing tons. A class one brake test was performed on 6/22/06 on the train. The crew departed on train K277-23 from Philadelphia at 6:10 a.m.

The railroad timetable direction of the train is west. Timetable direction will be used throughout the report.

As the westbound K277-23 approached the accident area, the locomotive engineer was seated at the control on the north side of the locomotive. The conductor was seated on the south side of the locomotive.

Traversing west on the single track mainline there are in succession a 2 degree 15 minute curve to the right for 1700 feet, a tangent segment of track, 600 feet in length, a 2 degree 15 minute curve to the left for 1950 feet in length, a tangent segment of 800 feet in length, continuing through a right hand turnout into the siding, then onto a tangent segment of track 1925 feet in length to the point of collision. The grade approaching the accident area is 0.75% descending westward.

The view for the westbound train K277-23 approaching the collision point with the end of train Q409-24 was approximately 2150 feet and unrestricted.

THE ACCIDENT

The accident occurred at the east end of Van-Bibber siding on the Philadelphia subdivision of the Baltimore division. The head end of Q409-24 was at the west end of Van-Bibber siding.

The westbound train, K-277-23 with lead locomotive CSX 5283, was operating at a recorded speed of 48 miles per hour approaching the accident area. The speed was recorded, when the locomotives passed the approach signal at Bel-Camp. These speeds were verified by the locomotive's event recorder.

The maximum authorized speed for trains on this segment of track is 50 miles per hour, as designated in the current CSX timetable number 5.

Maximum authorized speed for trains operating over a segment of track governed by an "Approach Signal" is reduced to 35 mph (crews must immediately reduce their train speed to 35 mph and operate their train prepared to stop at the next signal).

given an approach signal.

They proceeded to travel approximately one mile and a half and then rounded a right-hand curve. There the stop signal located on the right of the track at the west end of Van-Bibber, became visible. The engineer immediately initiated an emergency brake application.

The locomotive was traveling at a speed of 48 mile per hour when the emergency brake application was initiated. The engineer stated that the signal was approximately 1,500 feet past the curve.

Westbound train, Q409-24 with lead locomotive CSX 8237 was stopped in the siding at Van-Bibber, which is located at milepost BAK 070.51, at the time of the collision.

Both crew members remained in their respective positions during the accident. The conductor stated that because of his training, he did not consider jumping from the locomotive because he knew that the locomotive was the safest place.

At the point of impact, K277-23 was traveling at a recorded speed of sixteen (16) miles per hour.

The collision occurred on the east end of the Van-Bibber siding located at mile post BAK 070.51. The collision caused the lead unit of K277-23 to derail but remain in an upright /
cross-way position. The rear three cars on the Q409-24 derailed. The rear car SIRX 525222 was empty and remained upright. RBOX 34871 was loaded and remained in an upright position, and SIRX 490189 was empty and remained in an upright position.

Neither of the crew-members required medical attention and were transported to their home duty terminal.

ANALYSIS AND CONCLUSION

Post accident toxicological tests were performed on both crewmembers. All tests returned with negative result. The CSX signal department performed signal tests. It was determined that all signals were working properly.

The locomotive download and the interview from the crew revealed critical evidence to the cause of the accident. The crew on k277-23 violated Federal Regulation and Railroad Operating Rules.

PROBABLE CAUSE AND CONTRIBUTING FACTORS

The train crew failed to comply with the stop signal, displayed at Van-Bibber, as required by CSX operating rules. The train crew's failure to comply with the approach signal, prior to the stop signal, was a contributing factor.