Federal Railroad Administration
Office of Safety
Headquarters Assigned
Accident Investigation Report
HQ-2008-95

Burlington Northern Santa Fe (BNSF)
Devon, MT
December 18, 2008

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-2008-95

1.Name of Railroad Operating Train #1: BNSF Rwy Co. [BNSF]	1a. Alphabetic Code: BNSF	1b. Railroad Accident/Incident No.: MT1208103
2.Name of Railroad Operating Train #2: BNSF Rwy Co. [BNSF]	2a. Alphabetic Code: BNSF	2b. Railroad Accident/Incident No.: MT1208103
3.Name of Railroad Operating Train #3: N/A	3a. Alphabetic Code: N/A	3b. Railroad Accident/Incident No.: N/A
4.Name of Railroad Responsible for Track Maintenance: BNSF Rwy Co. [BNSF]	4a. Alphabetic Code: BNSF	4b. Railroad Accident/Incident No.: MT1208103
5. U.S. DOT_AAR Grade Crossing Identification Number:	6. Date of Accident/Incident: Month 12 | Day 18 | Year 2008	7. Time of Accident/Incident: 10:25: ☑ AM ☐ PM

8. 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)* — Code: 09

9. Cars Carrying HAZMAT	10. HAZMAT Cars Damaged/Derailed	11. Cars Releasing HAZMAT	12. People Evacuated	13. Division
0	0	0	0	Montana

14. Nearest City/Town	15. Milepost *(to nearest tenth)*	16. State Abbr	16. State Code	17. County
Devon	1042.8	N/A	MT	TOOLE

18. Temperature (F) *(specify if minus)*	19. Visibility *(single entry)* 1. Dawn 2. Day 3.Dusk 4.Dark — Code	20. Weather (single entry) 1. Clear 2. Cloudy 3. Rain 4. Fog 5.Sleet 6.Snow — Code	21. Type of Track 1. Main 2. Yard 3. Siding 4. Industry — Code
-7 F	2	2	1

22. Track Name/Number	23. FRA Track Class (1-9, X) — Code	24. Annual Track Density *(gross tons in millions)*	25. Time Table Direction 1. North 2. South 3. East 4. West — Code
Main	5	71.01	3

OPERATING TRAIN #1

26. Type of Equipment Consist *(single entry)* 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 A. Spec. MoW Equip. — Code	27. Was Equipment Attended? 1. Yes 2. No — Code	28. Train Number/Symbol
9	1	BNSF17561

29. Speed *(recorded speed, if available)* R - Recorded E - Estimated — Code	30. Trailing Tons *(gross tonnage, excluding power units)*	31. Method(s) of Operation *(enter code(s) that apply)*	31a. Remotely Controlled Locomotive?
10 MPH | E	N/A	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	0 = Not a remotely controlled; 1 = Remote control portable; 2 = Remote control tower; 3 = Remote control transmitter - more than one remote control transmitter: 0

32. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded *(yes/no)*
(1) First involved *(derailed, struck, etc)*	BNSF17561	1	yes
(2) Causing *(if mechanical cause reported)*	0	0	N/A

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

Alcohol	Drugs
0	0

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

35. 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	0	0	0	0	0
(2) Total Derailed	0	0	0	0	0

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

37. Equipment Damage This Consist	38. Track, Signal, Way, & Structure Damage	39. Primary Cause Code	40. Contributing Cause Code
$50,000.00	$0.00	H402	N/A

Number of Crew Members

41. Engineer/ Operators	42. Firemen	43. Conductors	44. Brakemen
1	0	0	0

Length of Time on Duty

45. Engineer/Operator	46. Conductor
Hrs 3 Mi 25	Hrs 0 Mi 0

Casualties to:	47. Railroad Employees	48. Train Passengers	49. Other
Fatal	0	0	0
Nonfatal	0	0	0

50. EOT Device? 1. Yes 2. No	51. Was EOT Device Properly Armed? 1. Yes 2. No
N/A	N/A

52. Caboose Occupied by Crew? 1. Yes 2. No: N/A

OPERATING TRAIN #2

53. Type of Equipment Consist *(single entry)* 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 A. Spec. MoW Equip. — Code	54. Was Equipment Attended? 1. Yes 2. No — Code	55. Train Number/Symbol
1	1	QCHCPTL313

56. Speed *(recorded speed, if available)* R - Recorded E - Estimated — Code	58. Method(s) of Operation *(enter code(s) that apply)*	58a. Remotely Controlled Locomotive?
58 MPH | R	a. ATCS; b. Auto train control; g. Automatic block; h. Current of traffic; m.Special instructions; n. Other than main track	0 = Not a remotely controlled; 1 = Remote control portable

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57. Trailing Tons *(gross tonnage, excluding power units)*: 4151

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): e | N/A | N/A | N/A | N/A

2 = Remote control tower
3 = Remote control transmitter - more than one remote control transmitter: 0

59. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded *(yes/no)*
(1) First involved *(derailed, struck, etc)*	BNSF4998	1	yes
(2) Causing *(if mechanical cause reported)*	0	0	N/A

60. 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

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

62. 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	0	0	0	0	0

63. Cars	Loaded a. Freight	Loaded b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Equipment Consist	51	0	0	0	0
(2) Total Derailed	0	0	0	0	0

64. Equipment Damage This Consist: $1,500.00

65. Track, Signal, Way, & Structure Damage: $0.00

66. Primary Cause Code: H402

67. Contributing Cause Code: N/A

Number of Crew Members

68. Engineer/ Operators	69. Firemen	70. Conductors	71. Brakemen
1	0	1	0

Length of Time on Duty

72. Engineer/Operator: Hrs 2 Mi 25

73. Conductor: Hrs 2 Mi 25

Casualties to:	74. Railroad Employees	75. Train Passengers	76. Other
Fatal	0	0	0
Nonfatal	0	0	0

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

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

79. Caboose Occupied by Crew? 1. Yes 2. No: N/A

OPERATING TRAIN #3

80. Type of Equipment Consist *(single entry)*: 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; A. Spec. MoW Equip. Code: N/A

81. Was Equipment Attended? 1. Yes 2. No: N/A

82. Train Number/Symbol: N/A

83. Speed *(recorded speed, if available)* Code: R - Recorded; E - Estimated: N/A MPH N/A

84. Trailing Tons *(gross tonnage, excluding power units)*: N/A

85. 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): N/A | N/A | N/A | N/A | N/A

85a. 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: N/A

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

87. 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

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

89. 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	N/A	N/A	N/A	N/A	N/A
(2) Total Derailed	N/A	N/A	N/A	N/A	N/A

90. Cars	Loaded a. Freight	Loaded b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Equipment Consist	N/A	N/A	N/A	N/A	N/A
(2) Total Derailed	N/A	N/A	N/A	N/A	N/A

91. Equipment Damage This Consist: N/A

92. Track, Signal, Way, & Structure Damage: N/A

93. Primary Cause Code: N/A

94. Contributing Cause Code: N/A

Number of Crew Members

95. Engineer/ Operators	96. Firemen	97. Conductors	98. Brakemen
N/A	N/A	N/A	N/A

Length of Time on Duty

99. Engineer/Operator: Hrs N/A Mi N/A

100. Conductor: Hrs N/A Mi N/A

Casualties to:	101. Railroad Employees	102. Train	103. Other
Fatal	N/A	N/A	N/A
Nonfatal	N/A	N/A	N/A

104. EOT 1. Yes 2. No: N/A

105. Was EOT Device Properly 1. Yes 2. No: N/A

106. Caboose Occupied by Crew? 1. Yes 2. No: N/A

Highway User Involved

107. Code: N/A
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)*

108. Vehicle Speed *(est. MPH at impact)*: N/A

109. *geographical)* Code: N/A
1.North 2.South 3.East 4.West

Rail Equipment Involved

111. Equipment Code: N/A
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)*

112. Position of Car Unit in: N/A

110. Position	Code	113. Circumstance	Code
1.Stalled on Crossing 2.Stopped on Crossing 3.Moving Over Crossing 4. Trapped	N/A	1. Rail Equipment Struck Highway User 2. Rail Equipment Struck by Highway User	N/A
114a. 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	N/A	114b. Was there a hazardous materials release 1. Highway User 2. Rail Equipment 3. Both 4. Neither	N/A

114c. State here the name and quantity of the hazardous materials released, if any.

N/A

115. Type 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					

116. Signaled Crossing *(See instructions for codes)*	Code	117. Whistle Ban 1. Yes 2. No 3. Unknown	Code
	N/A		N/A

118. Location of Warning 1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach	Code	119. Crossing Warning with Highway Signals 1. Yes 2. No 3. Unknown	Code	120. Crossing Illuminated by Street Lights or Special Lights 1. Yes 2. No 3. Unknown	Code
	N/A		N/A		N/A

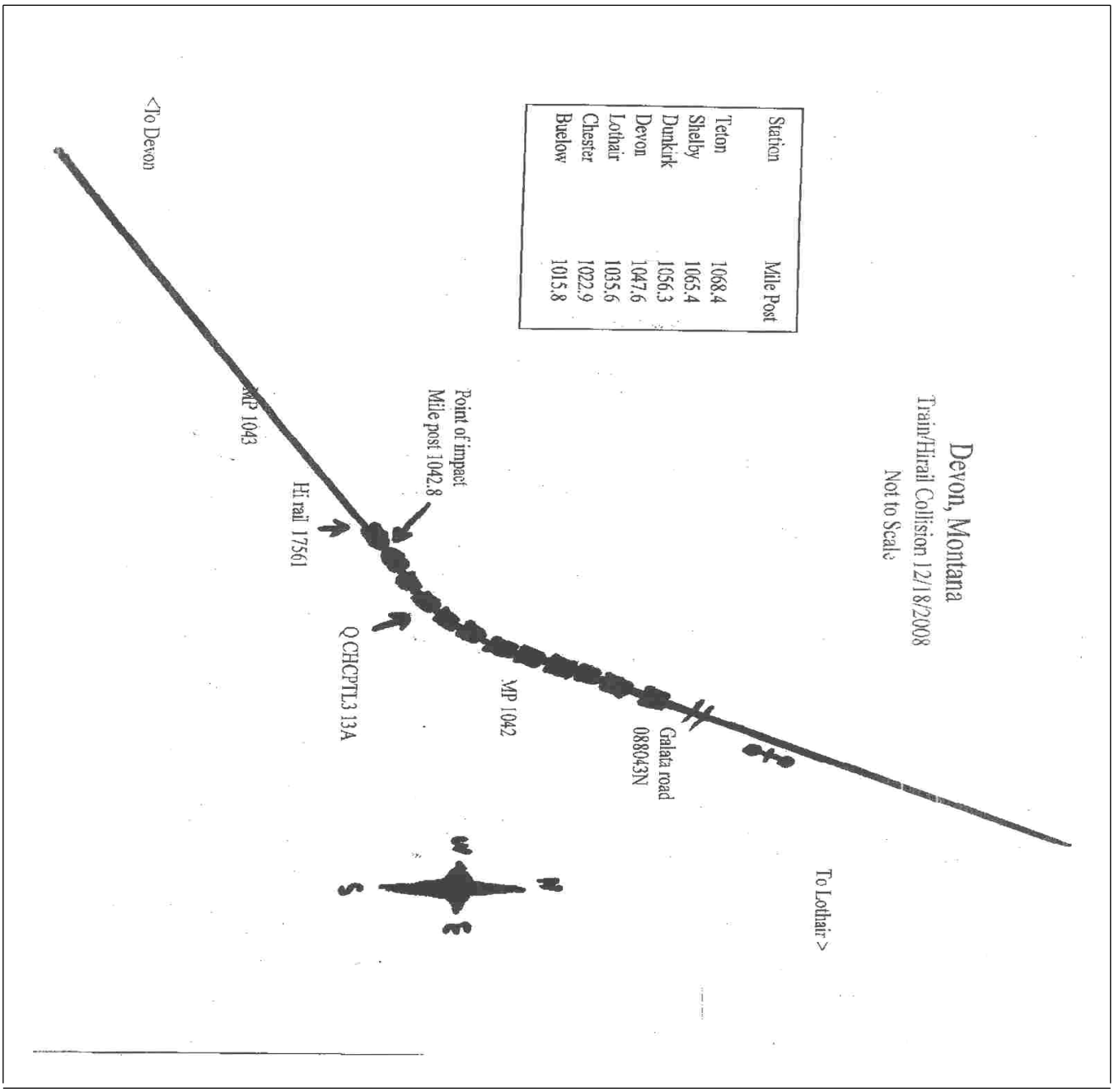
121. Age	122. Driver's Gender 1. Male 2. Female	Code	123. Driver Drove Behind or in Front of and Struck or was Struck by Second Train 1. Yes 2. No 3. Unknown	Code	124. Driver 1. Drove around or thru the Gate 2. Stopped and then Proceeded 3. Did not Stop 4. Stopped on Crossing 5. Other *(specify in narrative)*	Code
N/A		N/A		N/A		N/A

125. Driver Passed Highway Vehicle 1. Yes 2. No 3. Unknown	Code	126. 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		N/A

Casualties to:	Killed	Injured	127. Driver 1. Killed 2.Injured 3. Uninjured	Code	128. Was Driver in the Vehicle? 1. Yes 2. No	Code
				N/A		N/A
129. Highway-Rail Crossing Users	N/A	N/A	130. Highway Vehicle Property Damage *(est. dollar damage)*	N/A	131. Total Number of Highway-Rail Crossing Users *(include driver)*	N/A

132. Locomotive Auxiliary Lights? 1. Yes 2. No	Code	133. Locomotive Auxiliary Lights Operational? 1. Yes 2. No	Code
	N/A		N/A
134. Locomotive Headlight Illuminated? 1. Yes 2. No	Code	135. Locomotive Audible Warning Sounded? 1. Yes 2. No	Code
	N/A		N/A

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



137. SYNOPSIS OF THE ACCIDENT

Burlington Northern Santa Fe (BNSF) Freight Train Q-CHCPTL3-13A collided with a BNSF hi-rail vehicle at mile post 1042.8 on the BNSF Montana Division, Hi Line Subdivision at 10:25 a.m. December 18, 2008. The BNSF train dispatcher and track inspector conducted a job briefing with each other, but failed to communicate the intentions and assignment of the track inspector. The track inspector asked the train dispatcher for a track and time authority permit to occupy the Main Track from Devon, Montana eastward. The dispatcher issued the authority from Devon westward. The track and time authority permit was issued and read back correctly, but the track inspector placed his hi-rail vehicle on the Main Track at Devon and traveled eastward instead of westward. The operator of the hi-rail vehicle was operating outside the limits of his authority.

There were no injuries, no evacuation, and no hazardous materials were released.

The hi-rail vehicle was completely destroyed. Estimated damage was $50,000. The controlling locomotive on BNSF Train QCHCPTL3-13A sustained $1,500 in damage but was able to continue to a repair point.

At the time of the accident it was daylight, 7 degrees, with approximately a 20 mph wind. Blowing snow limited visibility to approximately one half mile.

The hi-rail vehicle was equipped with a functional Hi-Rail Limits Compliance System (HLCS) but it was not activated.

The probable cause of the accident was H402 “motor car or on-track equipment rules, failure to comply.” The track inspector was operating his hi-rail vehicle outside the limits of his authority.

A contributing factor is the track inspector’s failure to use HLCS which is installed in BNSF hi-rail vehicles. This system operates with GPS technology and interaction with the train dispatcher. It sounds an alert when a hi-rail vehicle travels beyond its Main Track Authority. If this system would have been enabled by the track inspector, the accident would have been prevented. Even though BNSF has a rule requiring the system to be used, it is commonly known that employees do not use it.

138. NARRATIVE

CIRCUMSTANCES PRIOR TO THE ACCIDENT

HI-RAIL VEHICLE:

Following an off duty period of approximately 7 hours, a track inspector reported for duty at the Maintenance of Way (MOW) office in Shelby, Montana, at 7 a.m. MST December 18, 2008. The track inspector participated in a conference call and job briefing with the road-master. He then drove his personal vehicle 65 miles east to Chester, Montana, where he changed vehicles to a BNSF one ton, two wheel drive hi-rail truck. The track inspector then drove the hi-rail truck approximately 25 miles back west to Devon. His assignment was to inspect track eastward from Devon to Pacific Junction (near Havre, Montana) a distance of approximately 83 miles.

At 9:48 a.m. the track inspector called the Havre West train dispatcher located in Fort Worth, Texas, and requested track and time authority to occupy the track between the switches at Devon and eastward. The train dispatcher issued track and time permit number 243-62 to the track inspector with authority from the East Siding Switch at Devon to the Eastward Control Signal at Dunkirk until 10:20 a.m. Dunkirk is the first station west of Devon, approximately 9 miles. The track inspector placed the hi-rail truck on the main track at Devon and proceeded eastward instead of westward.

BNSF TRAIN Q-CHCPTL3-13A:

A crew consisting of an engineer and conductor went on duty at Havre at 8:00 a.m. to operate westward BNSF train Q-CHCPTL3-13A from Havre westward to Whitefish, Montana, approximately 257 miles. The crew had been off duty for 25 hours and 50 minutes, which is in excess of the required statutory off duty rest period prior to reporting for this assignment. The crew gathered the necessary paperwork, had a job briefing,

completed the required train air brake test, and departed Havre at 8:40 a.m. The trip was uneventful from Havre to Lothair, Montana. The train departed Lothair westbound operating on a clear signal indication. The engineer was at the controls of the lead locomotive, and the conductor was in the back seat on the conductor's side of the locomotive cab (south side). As the train began to traverse the curve at mile post 1042 the engineer noticed the hi-rail truck. Since the train was in a curve the engineer could not ascertain if the hi-rail truck was on the main track, so he did not take immediate action.

Approaching the accident site from the west to east, starting at mile post 1044, the track is a 1-degree 25-minute curve to the left for approximately 450 feet. Then the track is tangent for approximately one mile to the point of impact. Continuing eastward, the track remains tangent for approximately another 600 feet and then into a 1-degree 5-minute curve to the left for approximately 3/4 mile. From the west, the track is ascending at a grade of 0.85 to milepost 1043.2 and descends at 1-percent to the point of impact and on to milepost 1042.2. The grade then ascends at 0.79 percent to and beyond mile 1041.

THE ACCIDENT

The hi-rail vehicle continued eastward instead of westward, and the operator saw the train as he was traversing a segment of tangent track just east of mile post 1043. He was traveling approximately 45 mph. Upon observing the train he slowed to approximately 10 mph. and exited the vehicle. He ran to the north side of the track. As the track inspector ran, he heard the train impact the hi-rail vehicle.

The first indication to the engineer that the hi-rail truck was on the Main Track was when he saw the track inspector exit the vehicle. The engineer yelled a warning to the conductor, placed the train air brakes in emergency, and started to get on the floor. He realized he should have activated emergency braking from the rear of the train as well as from the controlling locomotive, and returned to the control stand. He activated a rear end emergency application of the train air brakes, returned to the floor and braced his feet against the front wall of the locomotive cab. The conductor was also on the floor and braced against the front wall. Both crew members reported hearing and feeling the collision.

The train continued westbound approximately a half mile beyond the point of impact. When the train stopped the engineer and conductor got off the floor and activated the 911 emergency call button on the railroad radio several times but did not get a response. The conductor and engineer conducted a job briefing, and the conductor left the locomotive to assess the damage. The engineer, thinking that perhaps the radio on the controlling locomotive was damaged in the collision, went to the second locomotive and initiated another 911 call. The train dispatcher attempted to answer the 911 call several times, before making contact. The conductor went to the hi-rail truck, which was attached to the front of the lead locomotive, and determined there was no one in the vehicle. He then started walking the train on the north side to determine if any train cars were derailed and also in an attempt to locate the track inspector.

The engineer reported the collision to the train dispatcher. At that time, the condition of the track inspector was unknown. The dispatcher initiated emergency response. As soon as the conductor found the track inspector, he reported to the engineer that the track inspector was not injured. The conductor continued inspecting the remainder of the train and discovered that there were no derailed cars.

POST ACCIDENT ANALYSIS

At the accident location, sight distance was limited to approximately one half mile due to blowing snow.

The method of operation is a Traffic Control System (TCS).

The investigation established that the hi-rail truck was equipped with a Hi-rail Limits Compliance System (HLCS) that was not in use. It was left in the N/A position. HLCS is a global positioning system (GPS) based technology that, when in use, interfaces with the dispatcher's track and time authorities, and associates the authority limits with the actual position of the HLCS unit. HLCS units are deployed on most BNSF hi-rail vehicles. When the system is activated the equipment is required to be tested by the hi-rail operator and the train dispatcher. The dispatcher audio recordings establish that the HLCS unit number was exchanged however no test of the equipment occurred. The investigation also established that the track inspector was new to the position and had not been trained on how to activate the HLCS system. The train dispatcher and Maintenance of Way employee (MOW) interview statements revealed that it is not unusual for MOW persons

to leave the HLCS unit in the N/A position. The track inspector stated that during his break-in time with other track inspectors the system had never been activated. The system is designed to provide audio and visual warnings to the operator and dispatcher when the activated system approaches, or exceeds the existing track authority limits. If the system had been activated, it is likely that the operator and the train dispatcher would have been notified that the hi-rail vehicle was outside its authority limits, and the accident would have been averted. Even though BNSF has a rule requiring the system be used, it is commonly known that employees do not use it.

The track inspector's usual job was operating a crane on the rail relay gang. Previously he was a machine operator on a tie replacement gang and also a bulldozer operator. As a bulldozer operator he was conversant with track and time procedures.

The investigation revealed that this was the track inspector's first exposure to HLCS, and that he was not trained on how to use the system.

During his 27 year railroad career he had never worked east of Shelby prior to this assignment. Due to a Union agreement he was assigned to the track inspector position. He was accompanied on his assigned territory five trips before he began inspecting on his own. The accident occurred during his first day inspecting alone. The track inspector stated he did not know Dunkirk was west of Devon.

The track inspector reported having a rules examination in February, 2008. He stated the instruction was based on rules changes. The refresher course did not have a segment on HLCS.

FRA obtained fatigue related information, for a 10-day period preceding this incident including the 10-day work history (on duty/off duty cycles) for all the employees involved. Upon analysis of that information FRA concluded that fatigue was not probable for any of the employees involved.

The accident occurred on an Amtrak route but no passenger train delays occurred.

The track inspector was post accident toxicological tested under BNSF regulations. The results were negative.

PROBABLE CAUSE

The probable cause of the accident was H402 "motor car or on-track equipment rules, failure to comply." The track inspector was operating his hi-rail vehicle outside the limits of his authority to occupy the track.

A contributing factor is the track inspector's failure to use HLCS which is installed in BNSF hi-rail vehicles. This system operates with GPS technology and interaction with the train dispatcher. It sounds an alert when a hi-rail vehicle travels beyond its main track authority. If this system would have been enabled by the track inspector the accident would have been averted. Even though BNSF has a rule requiring the system be used, it is commonly known that employees do not use it.

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