Federal Railroad Administration
Office of Safety
Headquarters Assigned
Accident Investigation Report
HQ-2007-82

Burlington Northern Santa Fe
Mulvane, KS
December 17, 2007

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

FRA FACTUAL RAILROAD ACCIDENT REPORT

FRA File # HQ-2007-82

1.Name of Railroad Operating Train #1	1a. Alphabetic Code	1b. Railroad Accident/Incident No.
BNSF Rwy Co. [BNSF]	BNSF	KS1207117
2.Name of Railroad Operating Train #2	2a. Alphabetic Code	2b. Railroad Accident/Incident No.
Union Pacific RR Co. [UP]	UP	1207WH008
3.Name of Railroad Operating Train #3	3a. Alphabetic Code	3b. Railroad Accident/Incident No.
N/A	N/A	N/A
4.Name of Railroad Responsible for Track Maintenance:	4a. Alphabetic Code	4b. Railroad Accident/Incident No.
BNSF Rwy Co. [BNSF]	BNSF	KS1207117
5. U.S. DOT_AAR Grade Crossing Identification Number	6. Date of Accident/Incident: Month 12 Day 17 Year 2007	7. Time of Accident/Incident: 09:55: ☑ 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: 04

9. Cars Carrying HAZMAT	10. HAZMAT Cars Damaged/Derailed	11. Cars Releasing HAZMAT	12. People Evacuated	13. Division
7	2	0	0	Kansas

14. Nearest City/Town	15. Milepost *(to nearest tenth)*	16. State Abbr	16. State Code	17. County
Mulvane	225.4	N/A	KS	SEDGWICK

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
31 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 Track No 2	3	57.10	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
1	1	ERRSTOP264

29. Speed *(recorded speed, if available)* R - Recorded E - Estimated: 18 MPH — Code: R

30. Trailing Tons *(gross tonnage, excluding power units)*: 2460

31. 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

31a. 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

32. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded *(yes/no)*
(1) First involved *(derailed, struck, etc)*	UP 6759	1	N/A
(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	1	0	0	0	2
(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	112	0	0
(2) Total Derailed	0	0	0	0	0

37. Equipment Damage — This Consist: $300,000.00

38. Track, Signal, Way, & Structure Damage: $9,674.00

39. Primary Cause Code: H221

40. Contributing Cause Code: H605

Number of Crew Members

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

Length of Time on Duty

45. Engineer/Operator: Hrs 3 Mi 25

46. Conductor: Hrs 3 Mi 25

Casualties to:	47. Railroad Employees	48. Train Passengers	49. Other
Fatal	0	0	0
Nonfatal	2	0	0

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

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

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	LVB5917

56. Speed *(recorded speed, if available)* R - Recorded E - Estimated: 19 MPH — Code: R

58. 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

58a. Remotely Controlled Locomotive? 0 = Not a remotely controlled; 1 = Remote control portable

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57. 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
4029			e N/A N/A N/A N/A	0

59. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded *(yes/no)*	60. 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)*	GATX63553	47	yes		N/A	N/A
(2) Causing *(if mechanical cause reported)*	0	0	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	63. Cars	Loaded a. Freight	Loaded b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Train	2	0	0	0	0	(1) Total in Equipment Consist	18	0	61	0	0
(2) Total Derailed	0	0	0	0	0	(2) Total Derailed	2	0	7	0	0

64. Equipment Damage This Consist	65. Track, Signal, Way, & Structure Damage	66. Primary Cause Code	67. Contributing Cause Code
$398,500.00	$0.00	H221	N/A

Number of Crew Members: 68. Engineer/ Operators	69. Firemen	70. Conductors	71. Brakemen
1	0	1	1

Length of Time on Duty: 72. Engineer/Operator	73. Conductor
Hrs 3 Mi 40	Hrs 3 Mi 40

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	78. Was EOT Device Properly Armed? 1. Yes 2. No	79. Caboose Occupied by Crew? 1. Yes 2. No
1	1	N/A

OPERATING TRAIN #3

80. Type of Equipment Consist *(single entry)*	81. Was Equipment Attended? 1. Yes 2. No	Code	82. 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 A. Spec. MoW Equip.	N/A	N/A	N/A

83. Speed *(recorded speed, if available)* R - Recorded E - Estimated	Code	MPH	Code
N/A	N/A		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)*	87. 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)*	N/A	N/A	N/A		N/A	N/A
(2) Causing *(if mechanical cause reported)*	N/A	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	90. Cars	Loaded a. Freight	Loaded b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Train	N/A	N/A	N/A	N/A	N/A	(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	(2) Total Derailed	N/A	N/A	N/A	N/A	N/A

91. Equipment Damage This Consist	92. Track, Signal, Way, & Structure Damage	93. Primary Cause Code	94. Contributing Cause Code
N/A	N/A	N/A	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	100. Conductor
Hrs N/A Mi N/A	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	105. Was EOT Device Properly 1. Yes 2. No	106. Caboose Occupied by Crew? 1. Yes 2. No
N/A	N/A	N/A

Highway User Involved

107. 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)*	Code
	N/A

108. Vehicle Speed *(est. MPH at impact)*	109. *geographical)* 1.North 2.South 3.East 4.West	Code
N/A		N/A

Rail Equipment Involved

111. Equipment 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)*	Code
	N/A

112. Position of Car Unit in
N/A

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110. Position 1.Stalled on Crossing 2.Stopped on Crossing 3.Moving Over Crossing 4. Trapped	Code N/A	113. Circumstance 1. Rail Equipment Struck Highway User 2. Rail Equipment Struck by Highway User	Code 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	Code N/A	114b. Was there a hazardous materials release 1. Highway User 2. Rail Equipment 3. Both 4. Neither	Code 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	116. Signaled Crossing *(See instructions for codes)*	Code	117. Whistle Ban 1. Yes 2. No 3. Unknown	Code
Code(s) N/A N/A N/A N/A N/A N/A N/A	N/A	N/A	N/A	N/A

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

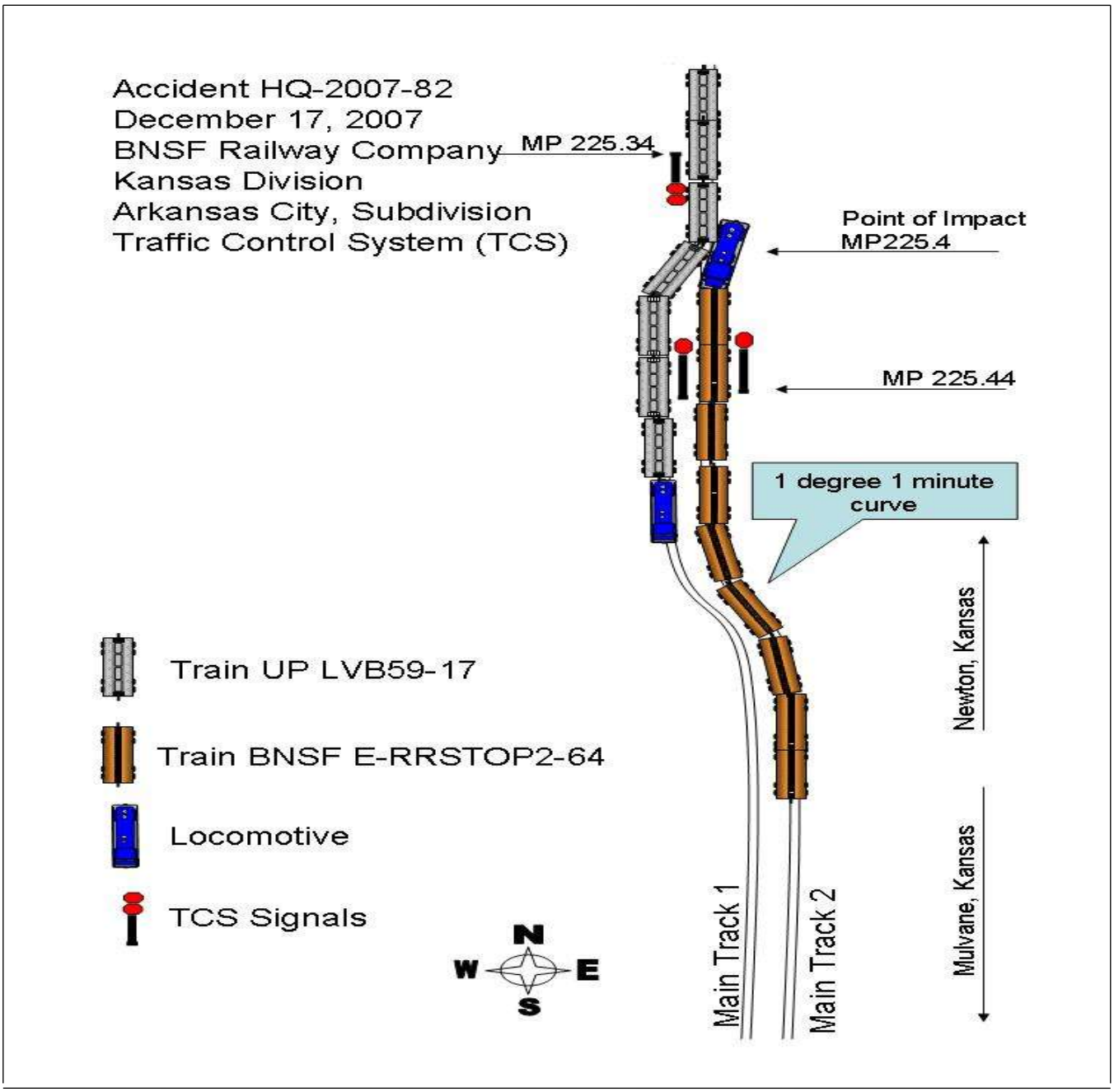
121. Age	122. Driver's Gender 1. Male 2. Female	Code N/A	123. Driver Drove Behind or in Front of and Struck or was Struck by Second Train 1. Yes 2. No 3. Unknown	Code N/A	124. Driver 1. Drove around or thru the Gate 2. Stopped and then Proceeded 3. Did not Stop 4. Stopped on Crossing 5. Other *(specify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

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

Casualties to:	Killed	Injured	127. Driver 1. Killed 2.Injured 3. Uninjured	Code N/A	128. Was Driver in the Vehicle? 1. Yes 2. No	Code 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 N/A	133. Locomotive Auxiliary Lights Operational? 1. Yes 2. No	Code N/A
134. Locomotive Headlight Illuminated? 1. Yes 2. No	Code N/A	135. Locomotive Audible Warning Sounded? 1. Yes 2. No	Code N/A

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



137. SYNOPSIS OF THE ACCIDENT

At 9:55 a.m. CST, December 17, 2007, Burlington Northern Santa Fe Railway Company (BNSF) eastbound (geographic direction north) empty coal Train Symbol E-RRSTOP2-64 (Train No. 1) collided with Union Pacific Railroad Company (UP) westbound (geographic direction south) local Train Symbol LVB59-17 (Train No. 2). The side collision occurred at milepost 225.4 on the BNSF Arkansas City Subdivision of the Kansas Division, approximately 2 miles north of Mulvane, Kansas. BNSF Unit Coal Train E-RRSTOP2-64 struck the 47th car of UP Freight Train LVB59-17.

No equipment of BNSF Train derailed. Damage to BNSF lead Locomotive No. UP 6759 was approximately $300,000. Track damage was estimated at $9,674.

Nine cars of UP Train No. LVB59-17 were derailed with no hazardous materials released, resulting in $398,500 damage to equipment.

Crewmembers of BNSF Train No. E-RRSTOP2-64 were treated for serious, non-life threatening injuries and Federal Railroad Administration (FRA) Post-Accident Toxicological Testing was performed. The weather was cloudy and the temperature was 31°F.

The accident was caused by the failure of BNSF Train No. E-RRSTOP2-64 to comply with the signal indication requiring it to stop before any part of the train passed the signal located at milepost 225.44.

The primary cause of the accident is H221- failure of the crew to comply with Automatic block or interlocking signal displaying a stop indication. Also a contributing cause to the collision is H605 - Failure to comply with restricted speed in connection with the restrictive indication of a block or interlocking signal.

138. NARRATIVE

Circumstances Prior to the Accident

BNSF TRAIN E-RRSTOP2-64 (Train No. 1)

The crew of BNSF Train E-RRSTOP2-64 consisted of a conductor and an engineer, both of whom had received the required statutory off-duty rest period prior to reporting for duty. On December 17, 2007, at 6:30 a.m., the crew went on duty at the away-from-home terminal in Arkansas City, Kansas. The UP performed a Class 1 air brake inspection in North Platte, NE, before interchanging the train with BNSF at Topeka, KS. Prior to departing Arkansas City, the engineer made an application and release of the train air brakes as a test. They departed Arkansas City at 8:00 a.m., after receiving the required track warrants, track bulletins, and other documents needed for the trip. The train consisted of three locomotives, UP 6759 on the head end, and UP 5981 and UP 6800 as distributed power locomotives on the rear of the train and 112 empty coal hopper cars; totaling 2,460 trailing tons; and was 5,923 feet in length.

Approaching the accident site, the engineer was located on the east side of the locomotive seated at the locomotive control panel. The conductor was seated on the west side of the locomotive at the conductor's desk.

Approaching the accident site at milepost (MP) 226.8 the grade is undulating from a 0.69-percent descending grade to milepost 226.5, then to a 0.78-percent ascending grade to MP 226.2. From MP 225.65 to the accident site, it is a 0.66-percent descending grade. There is a 1-degree 1-minute, left-hand curve from MP 226.0 to 225.5. The track is then tangent for approximately 690 feet to the accident site at MP 225.4.

UP TRAIN LVB59-17 (Train No. 2)

The UP Train LVB59-17 crew consisted of a conductor, an engineer, and a brakeman, all of whom had received the required statutory off-duty rest period prior to reporting for duty. On December 17, 2007, at 6:15 a.m., the crew went on duty at the home terminal of Wichita, Kansas. They departed Wichita at

approximately 7:30 a.m., after receiving the required track warrants, track bulletins, and other documents needed for their trip. A Class 1 air brake inspection was made prior to departure by the assigned crew of UP Train LVB59-17. The train consisted of 2 locomotives (UP 2300 and UP 1920), 18 loaded rail cars and 61 empty rail cars, a total of 4,029 trailing tons, and was 4,174 feet in length.

Approaching the accident site, the engineer was located at the controls on the west side of the lead locomotive. The conductor and brakeman were seated on the east side of the lead locomotive.

Approaching the accident site, the grade is flat for approximately 1 mile. The track is tangent for approximately 2,000 feet approaching the accident site.

THE ACCIDENT

BNSF TRAIN E-RRSTOP2-64 (Train No. 1)

At approximately 9:43 a.m., eastbound BNSF Train E-RRSTOP2-64 encountered a signal indicating diverging approach at the crossover from Main Track No. 3 to Main Track No. 2, located at MP 227.2. The conductor's signal awareness form confirms the diverging approach indication at 9:51 a.m., at a speed of 21 mph. The maximum authorized speed through this turnout is 25 mph as designated in current BNSF Timetable No. 7. Event recorder data shows the BNSF Train traveling at a speed of 20 mph through the crossover. The diverging approach signal required the train crew to proceed on the diverging route as prescribed. Throughout the turnout, trains are required to reduce train speed to 25 mph and be prepared to stop short of the next signal. The next signal was an absolute signal located at MP 225.44.

Tests performed by BNSF employees, accompanied by FRA Inspectors, verified the diverging approach signal at MP 227.2 and the stop signal at MP 225.44 were working as intended.

After BNSF Train E-RRSTOP2-64 cleared the 25 mph turnout, the engineer increased the throttle to throttle Position number 8 and speed increased to a recorded of 33 mph, in violation of BNSF rule 9.1.12, which requires that the train crew maintain train speed at or below 30 mph, prepared to stop at the next signal. Approximately 1,766 feet prior to impact, BNSF Train E-RRSTOP2-64, operating on Main Track No. 2, met UP Train LVB59-17 which was operating on Main Track No. 1.

Approximately 1,100 feet from impact, the engineer of BNSF Train E-RRSTOP2-64 manipulated the throttle from throttle Position 8 to dynamic brake. Information was gathered from the camera mounted on the lead locomotive of of the train and an accident re-enactment was performed on December 18, 2007. This information indicated that after coming out of a 1-degree 1-minute left-hand curve, the crew of the BNSF Train had approximately a 690-foot preview to the red absolute signal stop indication at MP 225.44 and to the UP Train, fouling the main track ahead.

An emergency application of the train air brakes was initiated approximately 364 feet from the point of impact, or 100 feet from the stop signal indication at MP 225.44. The BNSF Train was traveling at a recorded speed of 30 mph at the time of the emergency brake application. At the clearance point at MP 225.4 where the collision occurred, the BNSF Train was traveling at a recorded speed of 18 mph.

UP TRAIN LVB59-17 (Train No. 2)

At approximately 9:54 a.m., UP Train LVB59-17 passed a signal displaying diverging clear from the single Main Track to Main Track No. 1. The maximum authorized speed in the turnout is 25 mph. The train was traveling at an estimated speed of 23 mph. According to interviews with the crew of UP Train LVB59-17, approximately 10 seconds after proceeding through the turnout they met the head end of BNSF Train E-RRSTOP2-64. Seconds later, they heard the BNSF Train go into an emergency application of the train brakes. Crew-members of the UP Train stated they thought BNSF Train E-RRSTOP2-64 was under control but, "operating a little too fast." Seconds after the BNSF Train went into emergency air brake application, the UP Train experienced an undesired emergency application of the train air brake system. At the time of the accident, UP Train LVB59-17 was operating at a recorded speed of 19 mph.

Following the collision, the conductor and brakeman of UP Train LVB59-17 walked back to aid the BNSF crew. The conductor of the UP Train stated that by the time he got to the accident scene, the ambulance had

arrived and was transporting the crew-members of the BNSF for medical treatment.

ANALYSIS AND CONCLUSIONS

ANALYSIS - LOCOMOTIVE ENGINEER OPERATING PERFORMANCE:

The lead locomotive of BNSF Train E-RRSTOP2-64 was equipped with a speed recorder and locomotive event recorder as required. The relevant event recorder data was downloaded by the BNSF Trainmaster at the accident site and analyzed at the BNSF Headquarters in Ft. Worth, Texas. In addition, the locomotive was equipped with a camera.

Event recorder data and camera snapshots were sequenced to develop the accident. BNSF Train E-RRSTOP2-64 was operating under a diverging approach signal indication. This signal indication required the train to reduce speed to 30 mph and be prepared to stop at the next signal.

The engineer of BNSF Train E-RRSTOP2-64 operated the train at a maximum speed of 33 mph. Approximately 364 feet prior to impact, or 100 feet from the absolute signal requiring stop, the train was being operating at 30 mph. This distance was not consistent with good train handling to stop in the distance required.

The signal awareness log required by the BNSF is to be completed by the conductor; it recorded a diverging approach signal located at MP 227.2 or approximately 2 miles away from the accident site.

Conclusion:

The engineer failed to properly control BNSF Train E-RRSTOP2-64 in accordance with railroad operating rules, which resulted in failure to comply with a signal indication requiring stop and the subsequent side collision with an opposing train at that location.

ANALYSIS - TOXICOLOGICAL TESTING:

FRA post-accident toxicological testing was performed for the train crewmembers of BNSF Train E-RRSTOP2 -64. All test results were negative. The crew of UP Train LVB59-17 were not tested.

CONCLUSION:

Drugs and alcohol were not factors.

ANALYSIS: FATIGUE

FRA obtained fatigue related information, for the 10-day period preceding this incident including the 10-day work history (on duty/off duty cycles) for all of the employees involved.

Conclusion:

Upon analysis of that information FRA concluded fatigue was not probable for any of the employees involved.

OVERALL CONCLUSION:

The BNSF was not in full compliance with their own and all applicable Federal Standards. The engineer of BNSF Train E-RRSTOP2-64 failed to comply with General Code of Operating Rules (GCOR) 9.5, Where Stop Must Be Made; and Code of Federal Regulations 49CFR Part 240.117(e)(2). The crewmembers were the only witnesses to the accident. The engineer of BNSF Train E-RRSTOP2-64 stated in a report of interview that the last thing she remembered was seeing the red signal at MP 225.44 and instructing the conductor to place the train into emergency. BNSF Train E-RRSTOP2-64 failed to stop short of the signal displaying a stop indication located at MP 225.44. As a result BNSF Train E-RRSTOP2-64 collided with UP Train LVB59-17.

PROBABLE CAUSE AND CONTRIBUTING FACTORS

The accident was caused by the failure of the crew of BNSF Train E-RRSTOP2-64 to comply with the diverging approach signal indication, requiring them to immediately reduce train speed to 30 mph and prepare to stop before any part of the train passed the signal located at MP 225.44. The primary cause of the accident is H221- Automatic block or interlocking signal displaying a stop indication - failure to comply. Also a contributing cause to the collision is H605 - Failure to comply with restricted speed in connection with the restrictive indication of a block or interlocking signal.