Federal Railroad Administration
Office of Safety
Headquarters Assigned
Accident Investigation Report
HQ-2005-11

Burlington Northern Santa Fe (BNSF)
Wellsville, Kansas
February 11, 2005

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-2006-11

1.Name of Railroad Operating Train #1: Union Pacific RR Co. [UP]	1a. Alphabetic Code: UP	1b. Railroad Accident/Incident No.: 0206FW021
2.Name of Railroad Operating Train #2: N/A	2a. Alphabetic Code: N/A	2b. Railroad Accident/Incident: N/A
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: 839260P	5. Date of Accident/Incident: Month 02 / Day 16 / Year 2006	6. Time of Accident/Incident: 01:29: ☐ 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): 07

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

13. Nearest City/Town	14. Milepost (to nearest tenth)	15. State Abbr	15. State Code	16. County
Olden	347.3	N/A	TX	EASTLAND

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
87 F		2		1		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
Single Main		4	9.2		3

OPERATING TRAIN #1

25. 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: 1

26. Was Equipment Attended? 1. Yes 2. No: 1

27. Train Number/Symbol: ZLAM N3-15

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

29. Trailing Tons (gross tonnage, excluding power units): 4121

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	35. Cars	Loade a. Freight	Loade b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Train	5	0	0	0	0	(1) Total in Equipment Consist	88	0	0	0	0
(2) Total Derailed	0	0	0	0	0	(2) Total Derailed	0	0	0	0	0

36. Equipment Damage: This Consist 1500

37. Track, Signal, Way, & Structure Damage: 0

38. Primary Cause Code: M302

39. Contributing Cause Code: N/A

Number of Crew Members

40. Engineer/ Operators	41. Firemen	42. Conductors	43. Brakemen
N/A	N/A	N/A	N/A

Length of Time on Duty

44. Engineer/Operator: Hrs 3 Mi 29

45. Conductor: Hrs 3 Mi 29

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: N/A

OPERATING TRAIN #2

52. 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

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

54. Train Number/Symbol: N/A

55. Speed (recorded speed, if available) Code: R - Recorded; E - Estimated 0 MPH: N/A

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
N/A			N/A N/A N/A N/A N/A	N/A

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)	0	N/A	N/A		N/A	N/A
(2) Causing (if mechanical cause reported)	0	N/A	N/A	60. Was this consist transporting passengers? (Y/N)	N/A	

61. 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

62. Cars	Loade a. Freight	Loade 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

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

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

76. EOT Device?	77. Was EOT Device Properly Armed?	78. Caboose Occupied by Crew?
1. Yes 2. No N/A	1. Yes 2. No N/A	1. Yes 2. No N/A

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)	D

80. Vehicle Speed (est. MPH at impact)	81. Direction geographical) 1.North 2.South 3.East 4.West	Code
10		2

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

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

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)	1

84. Position of Car Unit in Train
1

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

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

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)	07	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	Code
1. Yes 2. No 3. Unknown	2

90. Location of Warning	Code
1. Both Sides 2. Side of Vehicle Approach 3. Opposite Side of Vehicle Approach	1

91. Crossing Warning Interconnected with Highway Signals	Code
1. Yes 2. No 3. Unknown	2

92. Crossing Illuminated by Street Lights or Special Lights	Code
1. Yes 2. No 3. Unknown	2

93. Driver's Age	94. Driver's Gender 1. Male 2. Female	Code
56		1

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

96. Driver	Code
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)	4

97. Driver Passed Standing Highway Vehicle	Code
1. Yes 2. No 3. Unknown	2

98. View of Track Obscured by (primary obstruction)	Code
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	8

101. Casulties to Highway-Rail Crossing Users	Killed	Injured
	4	0

99. Driver Was	Code
1. Killed 2.Injured 3. Uninjured	1

100. Was Driver in the Vehicle?	Code
1. Yes 2. No	1

102. Highway Vehicle Property Damage (est. dollar damage)	103. Total Number of Highway-Rail Crossing Users (include driver)
15000	4

104. Locomotive Auxiliary Lights?	Code
1. Yes 2. No	1

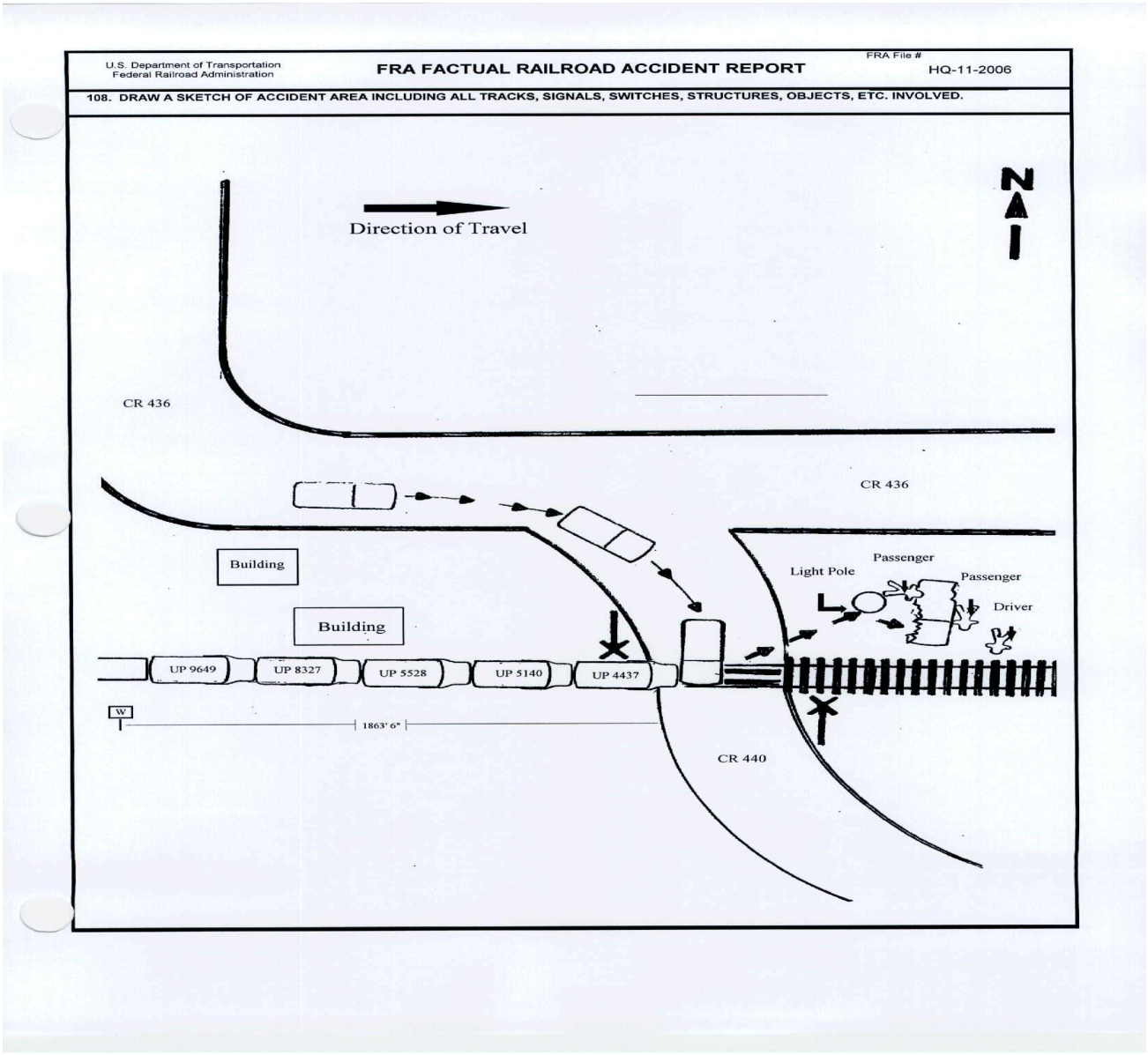
105. Locomotive Auxiliary Lights Operational?	Code
1. Yes 2. No	1

106. Locomotive Headlight Illuminated?	Code
1. Yes 2. No	1

107. Locomotive Audible Warning Sounded?	Code
1. Yes 2. No	1

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

HQ-11-2006.jpg



109. SYNOPSIS OF THE ACCIDENT

Eastbound UP freight train ZLAMN3-15 struck an extended cab pickup truck at a highway-rail grade crossing, on February 16, 2006, at 1:29 pm. The accident occurred in Olden, Texas, UP Milepost 347.3, on the Baird Subdivision.

The pick-up truck driver and all three passengers were killed. The Pick-up truck was completely destroyed. There were no injuries to the train crew. The lead locomotive UP 4437 sustained minor front end damage totaling about $1500, and no derailment occurred.

At the time of the accident it was daylight and clear, the temperature was 87°F.

The accident was caused by the driver's failure to yield the right of way to the train.
Per Texas §545.251(c).

110. NARRATIVE

Circumstances Prior to the Accident

The crew of train ZLAMN3-15 included a locomotive engineer, and a conductor. They first went on duty at 10:00 a.m., CST, February 16, 2006, at the UP Sweetwater Siding in Sweetwater, Texas. This was a crew change terminal for all crew members, and all received more than the statutory off duty period, prior to reporting for duty.

Their assigned freight train consisted of five locomotives, 40 loaded, and 0 empty cars made up of various articulated and non-articulated type cars that consisted of 88 loaded units. It was 6,376 feet long, and weighed 4,121 tons. The train was scheduled to travel to Marion, Arkansas, with no cars to be added or removed en route. No train air brake test was required at the location where the crew went on duty.

As the eastbound train approached the accident area, the locomotive engineer was seated at the controls on the south side of the leading locomotive. The conductor was seated on the north side of the leading locomotive.

In this area of the railroad it is tangent for about 6864 feet to the point of the accident, and a 1 degree curve to the left 528 feet beyond. There is a .33 percent descending grade to level track approaching the point of the accident. In this area county road (CR) 436 runs north and south. From the north there is a curve to the left of about 600 feet prior to the crossing, followed by a second sweeping curve to the right about 125 feet to the crossing.

Traveling north to south on CR 436 the grade is nearly level with a slight descending grade on the south side of the crossing.

The railroad timetable direction of the train was east. The geographic direction was northeast.

Timetable directions are used throughout this report.

The Accident

Train ZLAMN3-15 East:
The train was being operated at 55 mph approaching the accident area. The train crew's view of the crossing was unobstructed. The engineer and conductor said they became aware of the impending collision and braced themselves for impact. The engineer simultaneously initiated an emergency train air brake application. The train had slowed to 54 mph when the collision occurred. Both speeds were recorded by the event recorder of the controlling locomotive. The maximum authorized speed for this train was 55 mph, as designated in the current UP Timetable.

The lead locomotive was equipped with a camera pack that recorded the events leading up to and during the impact.

The video revealed that UP train ZLAMN3-15 was traveling eastward approaching Olden, TX. The surrounding area was were unobstructed and provided a clear line of sight in all directions. As the train approached the crossing the crew sounded the train horn as required by the whistle board. Looking to the left you could see what appeared to be a vehicle traveling southward on CR 436, a dirt road that runs north and south. As the train moved closer to the crossing it became apparent that the vehicle was a pickup truck traveling southward and was not making any attempt to stop for the oncoming train. The pickup truck entered the crossing then stopped with the front tires in the center of the crossing approximately 4 to 5 seconds prior to impact.

Highway Vehicle:

The pick-up truck was traveling north to south on CR 436. According to the locomotive engineer and conductor, the driver made no attempt to stop prior to entering the crossing. A report, filed by Texas DPS officer Orsini, indicated that the driver had been drinking and also had a medical condition that constricted his ability to turn his head from side to side. The posted speed limit on CR436 is 60 mph.

The train struck the right side of the pick-up truck about midpoint of the right front fender. The pick-up truck was carried east, along the track, for about 75 feet striking a light pole before coming to rest about 85 feet east of the impact point on the northeast side of the track. The driver and two of the three passengers were not wearing seat belts and were ejected from the pick up truck. The train came to a stop about 2,050 feet east of this point.

After the train stopped, the locomotive engineer stayed on the locomotive and made radio contact with the train dispatcher. The conductor disembarked the train and began walking the north side of the train to determine if the accident had caused the train to derail.

An Eastland County, Texas, State Trooper (DPS) and EMS, Medic 1 (ambulance) were notified and dispatched at 1:35 p.m. and arrived on scene at 1:40 p.m. Harris Hospital, Fort Worth, Texas, air Medivac unit was dispatched at 1:38 and arrived on scene at 2:30 p.m. After they coordinated the emergency response, Medic 1 members began medical response for the passengers of the pick-up truck and assessment of the train crew members. It was determined by EMS personnel that the train crew was not in need of medical attention.

All train crew members were interview by Eastland DPS officer Orsini.

Bob Hestes, Manager of Operating Practices (MOP), Union Pacific Railroad Company, was dispatched to the scene from Fort Worth and arrived about 3:15 p.m. He assessed the condition of the train and track structure. There was no hazardous materials involvement and only minor structural damage to the lead locomotive. The train and crew were released and continued the trip to Fort Worth.

The driver and 1 passenger in the pick-up truck were pronounced dead on scene, one passenger was transported to Eastland Memorial Hospital where he was pronounced dead on arrival the forth passenger was transported via air Medivac unit to Harris Hospital, Fort Worth and died several hours after arrival.

Analysis and Conclusions

Analysis
The driver was a 56 year old male. The other three passengers of the pick-up truck were adult males ages 46, 54 and 63. The Eastland County, Texas, Coroner performed toxicological testing on the remains of the driver, and the results were a blood alcohol concentration (BAC) of .05. As per Texas penal code 49.01(2)(A) intoxication is defined as: " not having the normal use of mental or physical facilities by reason of introduction of alcohol, a controlled substance, a drug, a dangerous drug, a combination of two or more of these substances, or any other substance into the body" or (B) "having an alcohol concentration of .08 or more."

The highway-rail crossing at grade is equipped with crossbucks only.

There is an advance warning sign posted about 200 feet from the crossing.

The railroad has a whistle post in place about 1,863 feet 6 inches west of the crossing. Both the engineer and conductor stated that the locomotive whistle was sounded when the train neared this post.

This was later validated by analysis of the event recorder data as well as the video camera pack.

The leading locomotive was equipped with a headlight, the auxiliary lights, and the audible warning device required by Federal regulations.

The devices were tested at Fort Worth, Diesel shop at 1:47 p.m., on the follow day, in the presence of this FRA motive power and equipment inspector. The devices were in full compliance with Federal requirements.

The locomotive was also equipped with a speed indicator, and an event recorder as required as well as a video recording device (camera pack). The relevant event recorder data was downloaded by Mr. Hestes, MOP, at the accident site, and analyzed at Fort Worth as well as UP headquarters in Omaha, NE. The analysis disclosed that the locomotive engineer was in compliance with all applicable railroad operating and train handling requirements. FRA reviewed the results of this analysis, and concurred with the conclusions.

Conclusions

The railroad was in full compliance with their own, and all applicable Federal standards. The train crew members were the only witnesses to the accident, and they had no information that could be used to determine why the pick-up truck failed to stop at the crossing. The driver was a disabled veteran that had a medical condition that constricted his ability to turn his head from side to side; he had also been consuming alcohol as indicated by the results of the BAC. Based on the evidence available, DPS officer, Orsini surmised that the drivers failure to yield to the train in combination with his medical condition and consumption of alcohol were predominant factors.

Probable Cause & Contributing Factors

The accident occurred because the driver of the pick-up truck failed to stop at the highway-rail crossing at grade, as required by Texas §545.251(c). Driver's medical condition and consumption of alcohol may have been a contributing factor.