Federal Railroad Administration
Office of Safety
Headquarters Assigned
Accident Investigation Report
HQ-2006-55

Amtrak
Arcola, LA
June 26, 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-2006-55

1.Name of Railroad Operating Train #1: Amtrak [ATK]	1a. Alphabetic Code: ATK	1b. Railroad Accident/Incident No.: 101198
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: Amtrak [ATK]	3a. Alphabetic Code: ATK	3b. Railroad Accident/Incident No.: N/A
4. U.S. DOT_AAR Grade Crossing Identification Number	5. Date of Accident/Incident: Month 06 / Day 26 / Year 2006	6. Time of Accident/Incident: 03:25: ☐ 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): 13

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

13. Nearest City/Town	14. Milepost (to nearest tenth)	15. State Abbr	15. State Code	16. County
Arcola	840.2	N/A	LA	TANGIPAHOA

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
94 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 track		4	22		1

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: 2

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

27. Train Number/Symbol: 58

28. Speed (recorded speed, if available) R - Recorded E - Estimated: 62 MPH; Code: R

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

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	N/A	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): Y

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	1	0	0	0	0
(2) Total Derailed	0	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	0	7	0	0	0
(2) Total Derailed	0	0	0	0	0

36. Equipment Damage This Consist: 0

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

38. Primary Cause Code: T109

39. Contributing Cause Code: N/A

Number of Crew Members

40. Engineer/ Operators	41. Firemen	42. Conductors	43. Brakemen
N/A	N/A	2	N/A

Length of Time on Duty

44. Engineer/Operator: Hrs 3 Mi 55

45. Conductor: Hrs 3 Mi 55

Casualties to:	46. Railroad Employees	47. Train Passengers	48. Other
Fatal	0	0	0
Nonfatal	N/A	2	0

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

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

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) R - Recorded E - Estimated: N/A MPH; Code: 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)	N/A	N/A	N/A		N/A	N/A
(2) Causing (if mechanical cause reported)	N/A	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	62. Cars	Loade a. Freight	Loade 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

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

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

Casualties to:	73. Railroad Employees	74. Train Passengers	75. Other
Fatal	N/A	N/A	N/A
Nonfatal	N/A	N/A	N/A

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

Highway User Involved

79. Type 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
80. Vehicle Speed (est. MPH at impact)	N/A
81. Direction geographical) 1.North 2.South 3.East 4.West	Code N/A
82. Position 1.Stalled on Crossing 2.Stopped on Crossing 3.Moving Over Crossing 4. Trapped	Code 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 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
84. Position of Car Unit in Train	N/A
85. Circumstance 1. Rail Equipment Struck Highway User 2. Rail Equipment Struck by Highway User	Code 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	88. Signaled Crossing Warning (See instructions for codes) Code	89. 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

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
N/A		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

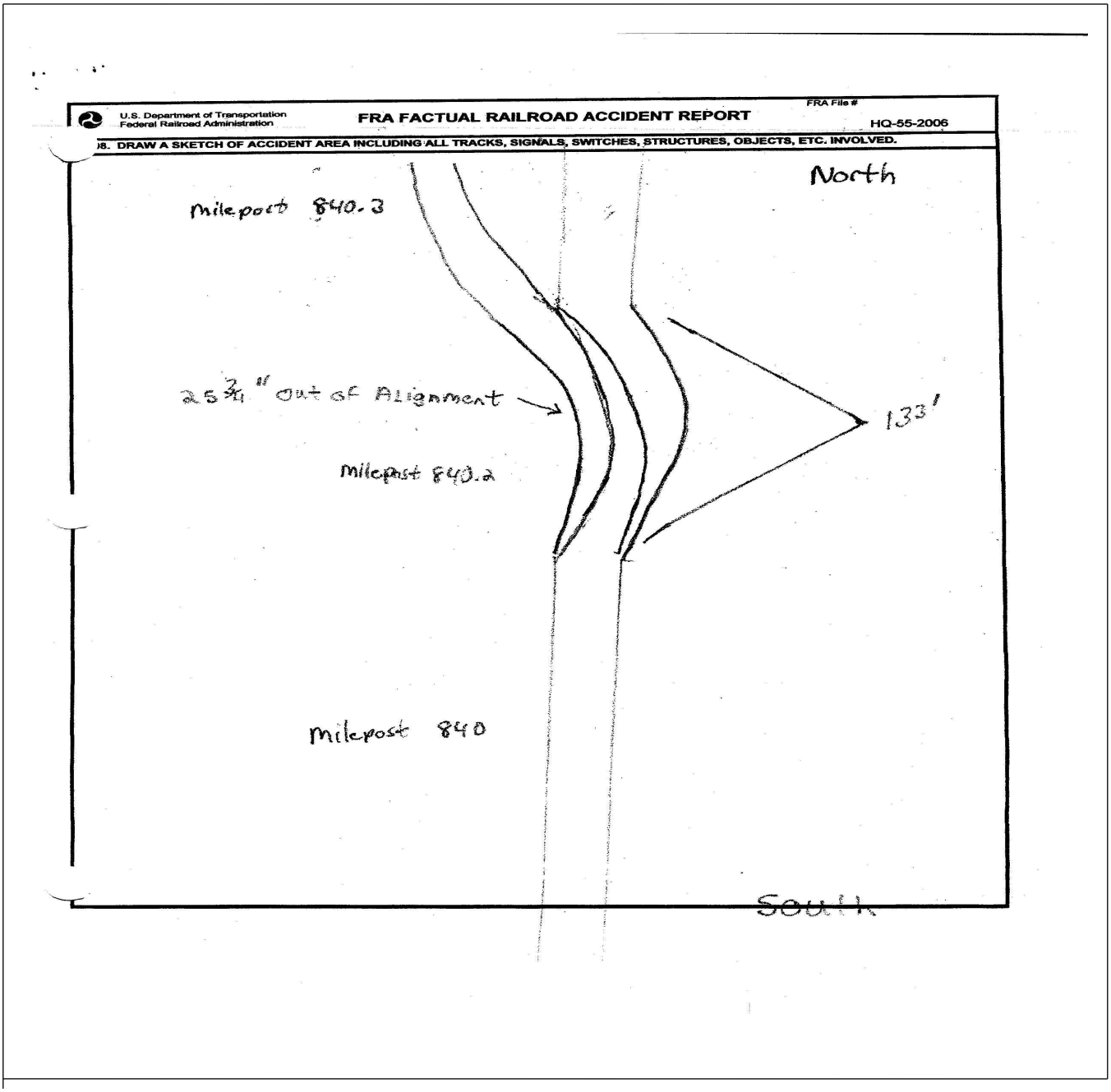
101. Casulties to Highway-Rail Crossing Users	Killed	Injured
	N/A	N/A

99. Driver Was 1. Killed 2.Injured 3. Uninjured	Code N/A
102. Highway Vehicle Property Damage (est. dollar damage)	N/A
100. Was Driver in the Vehicle? 1. Yes 2. No	Code N/A
103. Total Number of Highway-Rail Crossing Users (include driver)	N/A

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.

HQ-55-2006.jpg



109. SYNOPSIS OF THE ACCIDENT

On June 26, 2006, at about 3:25 p.m. a northbound Amtrak passenger train encountered a section of track that was out of alignment on the Canadian National's main track at milepost 840.2. As a result of the train traveling over this rough section of track two passengers received moderate injuries and several others received minor injuries.

The accident occurred near the town of Arcola in Tangiphoa Parish Louisiana. At the time of the accident the weather was clear and the temperature was 94 degrees. No equipment was derailed or received significant damage.

An investigation by the FRA and Canadian National concluded that the accident was caused by a track buckle induced by thermal stress.

110. NARRATIVE

Circumstances prior to the accident

The crew of Amtrak train #58 consisted of an engineer and two conductors. The crew went on duty at 11:30 a.m., central time, on June 26, 2006, at the Union Passenger terminal in New Orleans, LA. All crew members received the required off duty time prior to reporting for duty.

The train consisted of one locomotive and seven passenger cars. Train #58 goes from New Orleans, LA. to Chicago, IL. There is a crew change at Jackson, MS. The train departed New Orleans on time at 1:45 p.m. after receiving an initial terminal brake test. Time table direction for this train is north and the actual direction the train was traveling immediately before the accident is also north.

As the train approached the accident site the engineer was alone in the lead locomotive at the controls on the east side. The two conductors were located in the train.

The track south of the accident site is tangent for about 4500' and the grade is flat. The track north of the accident site is tangent for several miles and the grade is flat.

The Accident

As the train approached milepost 840.1 the engineer noticed the track ahead seemed to be out of alignment by about two feet. He immediately took actions to try to bring the train to a controlled stop. He did not initiate an emergency brake application. As the train passed over the area where the track was out of alignment he was tossed side to side, but was able to remain in his seat and was able to stay in control of the locomotive. The recorded speed as the train traversed the accident site was 62 mph. The train stopped about 1000' north of the accident site. No equipment was derailed.

Several passengers on the train were injured due to the rough ride as the train passed over the misalignment. Two passengers were transported to a local hospital with broken bones. Nine other passengers were given first aid at the scene and continued on when the train departed several hours later. Many others declined treatment.

Analysis

On April 12, 2006, the CN installed a new turnout at milepost 840.2. This was a #10 switch with pandrol fasteners. The turnout was installed in one piece about 124' long. This was done by cutting out 124' of the existing track and replacing it with the switch. According to the information written on the side of the rails the rail temperature was 55 degrees when they started and 72 degrees when they finished. The reference marks on the rail indicate that no additional rail was added when the job was completed.

On May 24, 2006, it was reported to the CN's Track Supervisor that there was an alignment problem near the turnout at milepost 840.2. When he arrived he found that the track was out of alignment by about 1 ½" just south of the switch.

The CN's Track Supervisor then instructed his welders to de-stress the rail. About 880' south of the switch they removed 1 ½" from each rail. When they de-stressed this area they removed all of the rail anchors from just ahead of the turnout to the point where they cut the rail and removed anchors for about 400' south of where

the rail was cut.

On May 29, 2006, the Track Supervisor received a report that the track was out of alignment again at the same location. On May 30, 2006, the rail was de-stressed again at the same location about 880' south of the switch. This time they removed an additional 1" from each rail.

On May 30 and 31 the rail was also de-stressed about 250' north of the switch. This time 1 ½" of rail was removed from the west rail and 1 7/8" from the east. Rail anchors were removed from just north of the switch going north for about 500'.

When the accident happened at milepost 840.2 on June 26, 2006, the only portion of track that had moved out of alignment was the switch. At the worst part the difference in alignment was 25 3/4". The track was lined back that afternoon without de-stressing any rail. The next day the rail was de-stressed again north of the switch at the previous de-stressing location. This time the anchors and Pandrol clips were removed throughout the switch and approximately 2" of rail was removed.

The CN had operated its automated track geometry vehicle over this track on June 5, 2006, and no exceptions were taken. The CN's Track Inspector inspects the track at least twice per week and his reports show that no exceptions were found in the area.

A southbound freight train passed over the accident site about an hour earlier and reported seeing nothing unusual. A review of the event recorder showed that no adverse train handling had occurred in this area.

Conclusion

The railroad was found to be in compliance of Federal Regulations and their own procedures concerning continuous welded rail. Interviews with the railroad employees involved in installing the turnout and de-stressing the rail revealed that they have been trained and have knowledge in the installation and maintenance of welded rail. The railroad and FRA agree that if the railroad had de-stressed the rail in the switch the accident may not have occurred. As a result of this accident the railroad in considering a change in their procedures concerning the maintenance of welded rail.

The FRA determined that the probable cause was an irregular track alignment.