Federal Railroad Administration
Office of Safety
Headquarters Assigned
Accident Investigation Report
HQ-2005-68

Union Pacific (UP)
Heber, California
August 20, 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)

FRA FACTUAL RAILROAD ACCIDENT REPORT

FRA File # HQ-2005-68

1. Name of Railroad Operating Train #1	1a. Alphabetic Code	1b. Railroad Accident/Incident No.
Union Pacific RR Co. [UP]	UP	0805LA027
2. Name of Railroad Operating Train #2	**2a. Alphabetic Code**	**2b. Railroad Accident/Incident No.**
Union Pacific RR Co. [UP]	UP	0805LA027
3. Name of Railroad Responsible for Track Maintenance *(single entry)*	**3a. Alphabetic Code**	**3b. Railroad Accident/Incident No.**
Union Pacific RR Co. [UP]	UP	0805LA027

4. U. S. DOT-AAR Grade Crossing Identification Number	5. Date of Accident/Incident (month / day / year)	6. Time of Accident/Incident
N/A	08 / 21 / 2005	10:30: AM ☐ PM ☒

7. Type of Accident/Incident *(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: 12

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

13. Nearest City/Town	14. Milepost *(to nearest tenth)*	15. State Abbr.	15. State Code	16. County
Heber	704.0	CA		IMPERIAL

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
90 °F		4		1		3

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 2. South 3.East 4. West	Code
Heber Passing Track		1	.00		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	26. Was Equipment Attended? 1. Yes 2. No	Code	27. Train Number/Symbol
	6		2	LKE34-19

28. Speed *(recorded speed, if available)* R - Recorded E - Estimated	Code	29. Trailing Tons *(gross tonnage, excluding power units)*
0 MPH	R	3,505

30. Method(s) of Operation *(enter code(s) that apply)*: a. ATCS; b. Auto train control; c. Auto train stop; d. Cab signals; e. Traffic control; 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 rules; o. Positive train control; p. Other *(specify in narrative)*

Code(s)				
i	n	N/A	N/A	N/A

30a. Remotely Controlled Locomotive? 0= Not a remotely controlled operation; 1 = Remote control portable transmitter; 2 = Remote control tower operation; 3 = Remote control portable 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)*	CSXT475255	1	no
(2) Causing *(if mechanical cause reported)*	0	0	N/A

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

Alcohol	Drugs
0	0

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 e. Remote	35. Cars	Loaded a. Freight	Loaded b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Train	0	0	0	0	0	(1) Total in Equipment Consist	0	0	22	0	0
(2) Total Derailed	0	0	0	0	0	(2) Total Derailed	0	0	5	0	0

36. Equipment Damage This Consist	37. Track, Signal, Way, & Structure Damage	38. Primary Cause Code	39. Contributing Cause Code
$22,434.00	$0.00	H404	H402

Number of Crew Members / Length of Time on Duty

40. Engineers/ Operators	41. Firemen	42. Conductors	43. Brakemen	44. Engineer/Operator	45. Conductor
0	0	0	0	Hrs: 0 Mins: 0	Hrs: 0 Mins: 0

Casualties to:	46. Railroad Employees	47. Train Passengers	48. Other
Fatal	0	0	0
Nonfatal	0	0	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	53. Was Equipment Attended? 1. Yes 2. No	Code	54. Train Number/Symbol
	1		1	LKE35-21

55. Speed *(recorded speed, if available)* R - Recorded E - Estimated	Code	56. Trailing Tons *(gross tonnage, excluding power units)*
23 MPH	R	3,857

57. Method(s) of Operation *(enter code(s) that apply)*: a. ATCS; b. Auto train control; c. Auto train stop; d. Cab signals; e. Traffic control; 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 rules; o. Positive train control; p. Other *(specify in narrative)*

Code(s)				
j	n	N/A	N/A	N/A

57a. Remotely Controlled Locomotive? 0= Not a remotely controlled operation; 1 = Remote control portable transmitter; 2 = Remote control tower operation; 3 = Remote control portable transmitter - more than one remote control transmitter: 0

FORM FRA F 6180.39 (Revised July 2003)

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION (FRA)

FRA FACTUAL RAILROAD ACCIDENT REPORT

FRA File # HQ-2005-68

OPERATING TRAIN # 2 (CONTINUED)

58. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded (yes/no)
(1) First involved (derailed, struck, etc)	UP(SP)2658	1	N/A
(2) Causing (if mechanical cause reported)	0	0	N/A

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

Alcohol	Drugs
0	0

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 e. Remote
(1) Total in Train	1	0	0	0	0
(2) Total Derailed	0	0	0	0	0

62. Cars	Loaded a. Freight	Loaded b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Equipment Consist	30	0	9	0	0
(2) Total Derailed	2	0	1	0	0

63. Equipment Damage This Consist	64. Track, Signal, Way, & Structure Damage	65. Primary Cause Code	66. Contributing Cause Code
$8,946	$4,000	H404	H402

Number of Crew Members

67. Engineers/ Operators	68. Firemen	69. Conductors	70. Brakemen
1	0	1	1

Length of Time on Duty

71. Engineer/Operator	72. Conductor
Hrs: 2 Mins: 30	Hrs: 2 Mins: 30

Casualties to:	73. Railroad Employees	74. Train Passengers	75. Other
Fatal	0	0	0
Nonfatal	3	0	0

76. EOT Device? 1. Yes 2. No 1

77. Was EOT Device Properly Armed? 1. Yes 2. No 1

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 Loco(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

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

88. Signaled Crossing Warning (See instructions for codes) Code: N/A

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: 0

94. Driver's Gender — 1. Male 2. Female — Code: 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 Vehicles 7. Other (specify in narrative) 8. Not obstructed — Code: N/A

Casualties to:	Killed	Injured
101. Highway-Rail Crossing Users	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): $0

103. Total Number of Highway-Rail Crossing Users (include driver): 0

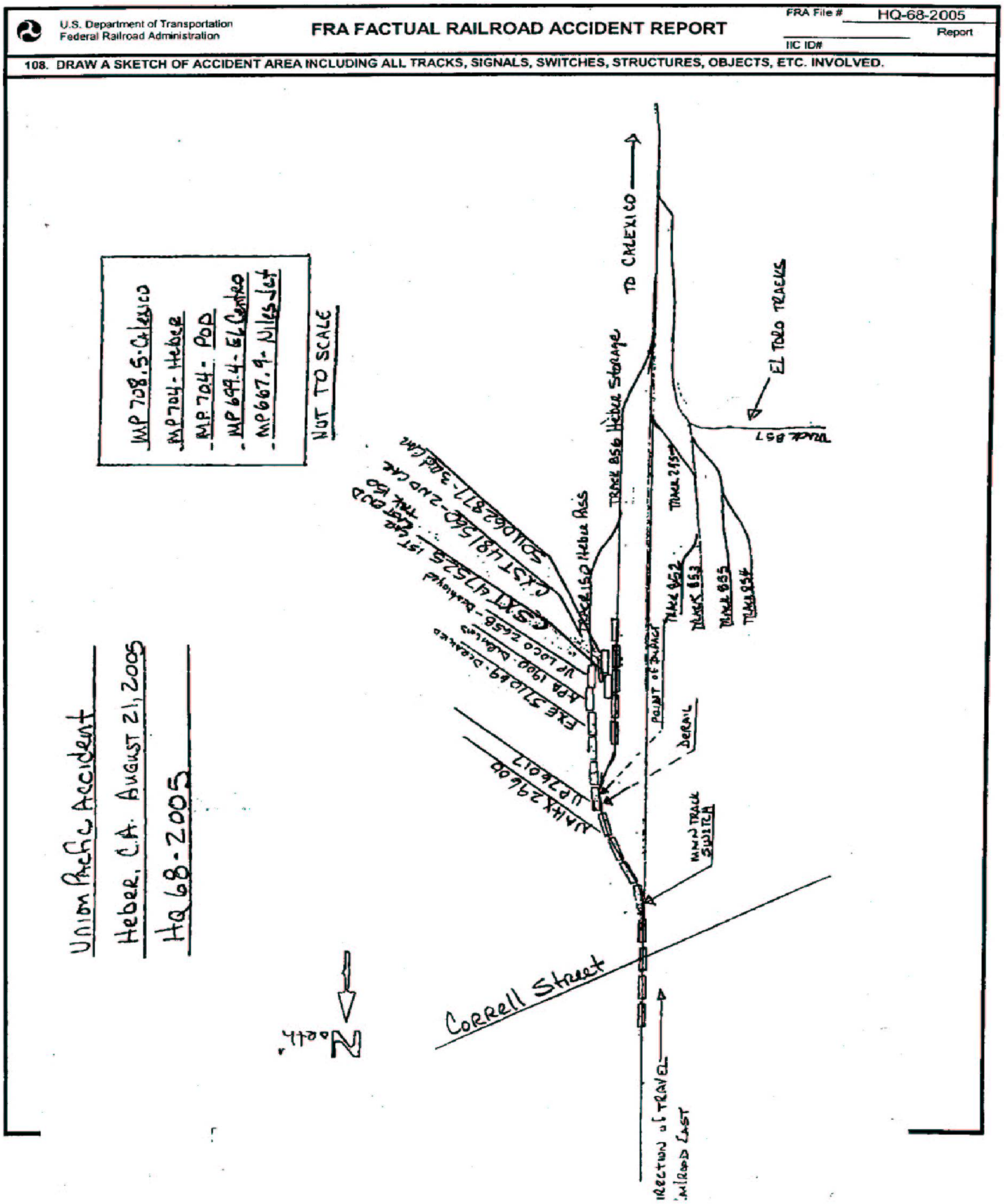
104. Locomotive Auxiliary Lights? 1. Yes 2. No — Code: N/A

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.



109. SYNOPSIS OF THE ACCIDENT

On August 21, 2005, at 10:30 p.m. PDT, an eastbound Union Pacific (UP) freight train LKE35-21 (Train # 2) operating on main line track and consisting of a single locomotive with 39 cars impacted an unattended standing cut of cars on the Heber passing track (MP704.0) at a recorded speed of 23 mph. The collision derailed three cars of Train # 2 and five of 22 cars set out by UP freight train LKE34-19 (Train #1) to derail. The three crew members of Train # 2 were transported by ambulance to a hospital where they were treated for multiple lacerations of their heads, arms and chests. There was no release of hazardous materials and no evacuation ordered.

UP's Calexico Subdivision operates in a timetable east-west direction between Niland Junction, MP 667.9 and Calexico, MP 708.5 in Imperial County, California. The method of operation is Track Warrant Authority (TWC), non-signaled territory. The dispatcher is located in San Bernardino, California. The subdivision is single main track with sidings and yard tracks. The maximum timetable speed at the point of impact is 10 mph, while main track speed is 40mph.

Damage was listed as follows: equipment, $31,380, track, $4,000.

At the time of the accident it was dark but clear and the temperature was 90 degrees F.

The accident was caused by the failure of Train #1's crew to re-line a switch back to the main track after completing switching operations on the Heber passing track and failure to comply with Timetable Special Instructions, Conductor's Report Form, TT/SSi Rule 1.47, Duties of Crew Members.

110. NARRATIVE

Circumstances prior to the accident:

UP Train # 1 (LKE34-19)

On August 19, 2005, a crew consisting of an engineer and brakeman went on duty at 8:00 a.m. PDT at the El Centro (CA) Yard. The conductor received a late call and was on duty at 8:45 a.m. All three crew members received the statutory time off duty prior to reporting for duty.

At approximately 9:15 a.m., the crew received the required job briefing and paperwork and was instructed to run lite locomotives to Calexico, pick up interchange and industry cars in El Toro and switch at Heber, CA. The crew departed El Centro at 10:00 a.m., railroad west. In Calexico, they made some switching moves to assemble their train, made an air test, and departed Calexico with 68 cars, 12 loads and 56 empties for their return to Heber. Train #1operated railroad east from Calexico to Heber.

Geographically, El Centro is approximately 14.6 miles north of Heber and Calexico is approximately 4.5 miles south of Heber. All directions used in this report are UP timetable directions. Approaching the accident site, the track is tangent for over one-half mile and 0.35% descending grade. The area is rural.

During the trip to Heber, the engineer was at the controls of the locomotive and the other crew members were seated on the opposite side of the cab. The crew discussed the switching moves while en route. Upon arrival, the train stopped at the east end of Heber on the main track and cut the El Centro cars away from the locomotives. The brakeman got off the train, uncoupled the locomotives and applied hand brakes. The engineer, accompanied by the conductor, operated the lite locomotives on the main track west to the west end of Heber. The brakeman then lined and locked the switches at the east end of the passing track for the main track. The train would back up later to couple onto the cars left on the main track.

Following various switching moves, 22 cars were set on the Heber passing track. During the switching, the brakeman contacted the conductor, advised him that a crew van had arrived and asked if he needed any help applying the hand brakes on the cars on the passing and storage tracks. The conductor said he did not need help so the brakeman waited in the van for the conductor. After applying hand brakes on the cars, the conductor joined the brakeman in the van where they discussed the next switching moves and were taken to the head end of the train. After completing the work at Heber, the crew departed by train to do other industry work between Heber and El Centrol.

UP Train # 2 (LKE35-21)

On August 21, 2005, the crew consisting of an engineer, conductor and a brakeman, went on duty at 8:00 p.m. PDT at the El Centro Yard. All three crew members received the statutory time off prior to reporting for duty. At approximately 8:15 p.m., they received their required paper work and a job briefing from the manager on duty. They were instructed to perform switching operations in the El Centro Yard and proceed to Calexico to set out the interchange cars.

Train # 2 departed El Centro at approximately 10:00 p.m with a single locomotive and 39 cars. The train was operated railroad east with the engineer at the controls of the locomotive and the other crew members seated on the opposite side of the cab. As the train approached Heber, the locomotive engineer sounded the whistle at the quarter-mile whistle board for the Correll Road Crossing (MP 703.47) at a speed of 30 mph. While in the middle of Correll Road, the engineer asked the conductor if the switch at the west end of Heber was lined for the siding. Both the engineer and the conductor noticed that the switch was lined from the main to the siding. The engineer placed the train air brake controls in emergency.

The conductor yelled to the crew, “We’re going to go into the siding and strike the cars! Lay down on the floor with your feet toward the front of the locomotive!” As the train was slowing down, it left the main track, entered the Heber passing track and collided with the cut of cars set out earlier by Train #1.

The Accident:

At 10:30 p.m. PDT, August 21, 2005, Train #2 collided with an unattended standing cut of cars on the Heber passing track (MP704.0) at a recorded speed of 23 mph. The collision derailed three cars of Train # 2 and five cars of Train # 1. All three crew members of Train # 2 were injured.

At impact, the engineer was laying down on the right side of the cab floor, the conductor was laying down in the middle and the brakeman was laying on the left side of the cab. After the collision, the conductor contacted the train dispatcher via radio and informed him of the accident. The crew helped each other out of the locomotive.

Paramedics from Heber and El Centro Fire Departments and Union Pacific managers arrived a short time later. After the crew members were examined by paramedics, they were transported to Pioneer Memorial Hospital in Brawley, California.

Post Accident Investigation:

On August 23, 2005, at 9:30 a.m. PDT, a California Public Utilities Commission (CPUC) Operating Practices Inspector interviewed the conductor and brakeman of Train # 1. In the interview the conductor stated he was sure he had lined the main track switch and derail for main line movement at Heber. The railroad did not conduct reasonable cause testing on the crew of Train #1.

The investigation revealed the conductor of Train # 1 failed to release his Track Warrant at the end of his shift. It was not released until Sunday, August 21, 2005, at 7:04 a.m.

The railroad held a disciplinary investigation on Train #1's conductor and brakeman for General Code of Operating Rules violations for failure to comply with order/track warrant/track bulletin/timetable and motor car or on-track equipment rules. The conductor was allowed to take remedial (CORE) training and the brakeman received an admonishment. UP found the engineer was not to blame and did not conduct a discipline hearing on him.

Train #2's engineer was working light duty as of October 3, 2005 and returned to full duty on January 23, 2006. The conductor was working light duty as of November 1, 2005, received physical therapy and was released to full duty on February 17, 2006. The brakeman was expected to return to full duty on March 1, 2006.

After the accident, UP managers conducted an around-the-clock Safety Blitz to inform all Train, Yard and Engine (TY&E) personnel of the Revised System Special Instructions (TT/SSI). Throughout the week of September 6, 2005, CPUC and FRA Operating Practices Inspectors and UP managers conducted unannounced testing on TY&E crews on trains and in job briefings in the El Centro area.

Track Damage: $4,000
Equipment Damage Estimate: $31,380.

Operating Practices Follow-up: During the week of January 9, 2006, FRA and CPUC inspectors conducted an Emergency Order 24 and Operating Rules audit with UP operating officers in the El Centro area. Testing was conducted for specific rules that contributed to the accident, including general orders, general bulletins and circulars, use of switches and track warrant control. The audit disclosed employees were in compliance with EO 24 and UP General Code of Operating Rules.

Probable Cause:

The accident was caused by the failure of Train #1's crew to re-line a switch back to the main track after completing switching operations on the Heber passing track and failure to comply with Timetable Special Instructions, Conductor’s Report Form, TT/SSi Rule 1.47, Duties of Crew Members.