Federal Railroad Administration
Office of Safety
Headquarters Assigned
Accident Investigation Report
HQ-2006-38

Union Pacific (UP)
San Antonio, Texas
May 27, 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-2006-38

1.Name of Railroad Operating Train #1: Union Pacific RR Co. [UP]	1a. Alphabetic Code: UP	1b. Railroad Accident/Incident No.: 0506SA028
2.Name of Railroad Operating Train #2: Union Pacific RR Co. [UP]	2a. Alphabetic Code: UP	2b. Railroad Accident/Incident: 0506SA028
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	5. Date of Accident/Incident: Month 05 / Day 27 / Year 2006	6. Time of Accident/Incident: 06:04: ☐ 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): 02

8. Cars Carrying HAZMAT	9. HAZMAT Cars Damaged/Derailed	10. Cars Releasing HAZMAT	11. People Evacuated	12. Division
6	0	0	0	San Antonio

13. Nearest City/Town	14. Milepost (to nearest tenth)	15. State Abbr	15. State Code	16. County
San Antonio	220.1	N/A	TX	BEXAR

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		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	38.00		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: 1

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

27. Train Number/Symbol: AEGLI-26

28. Speed (recorded speed, if available) R - Recorded E - Estimated: 16 MPH; Code: R

29. Trailing Tons (gross tonnage, excluding power units): 5019

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	no
(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
(1) Total in Train	3	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	24	0	69	0	0
(2) Total Derailed	0	0	4	0	0

36. Equipment Damage This Consist	37. Track, Signal, Way, & Structure Damage	38. Primary Cause Code	39. Contributing Cause Code
209388	0	H605	N/A

Number of Crew Members

40. Engineer/ Operators	41. Firemen	42. Conductors	43. Brakemen
N/A	N/A	1	N/A

Length of Time on Duty

44. Engineer/Operator	45. Conductor
Hrs 3 Mi 15	Hrs 3 Mi 15

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: 2

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: 1

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

54. Train Number/Symbol: MEYM X27

55. Speed (recorded speed, if available) R - Recorded E - Estimated: 9 MPH; Code: R

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
7209			e N/A N/A N/A N/A	0

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)	UP 4285	1	no		N/A	N/A
(2) Causing (if mechanical cause reported)	0	N/A	N/A	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 c. Remote	62. Cars	Loade a. Freight	Loade b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Train	2	0	0	0	0	(1) Total in Equipment Consist	60	0	7	0	0
(2) Total Derailed	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
161351	31040	H605	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
1	N/A	1	N/A	Hrs 4 Mi 15	Hrs 4 Mi 15

Casualties to:	73. Railroad Employees	74. Train Passengers	75. Other
Fatal	0	0	0
Nonfatal	2	0	0

76. EOT Device? (1. Yes 2. No)	77. Was EOT Device Properly Armed? (1. Yes 2. No)	78. Caboose Occupied by Crew? (1. Yes 2. No)
1	1	2

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)	81. Direction geographical) 1.North 2.South 3.East 4.West	Code
N/A		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

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
0		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
	0	0

99. Driver Was 1. Killed 2.Injured 3. Uninjured	Code
	N/A

102. Highway Vehicle Property Damage (est. dollar damage)
0

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

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

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

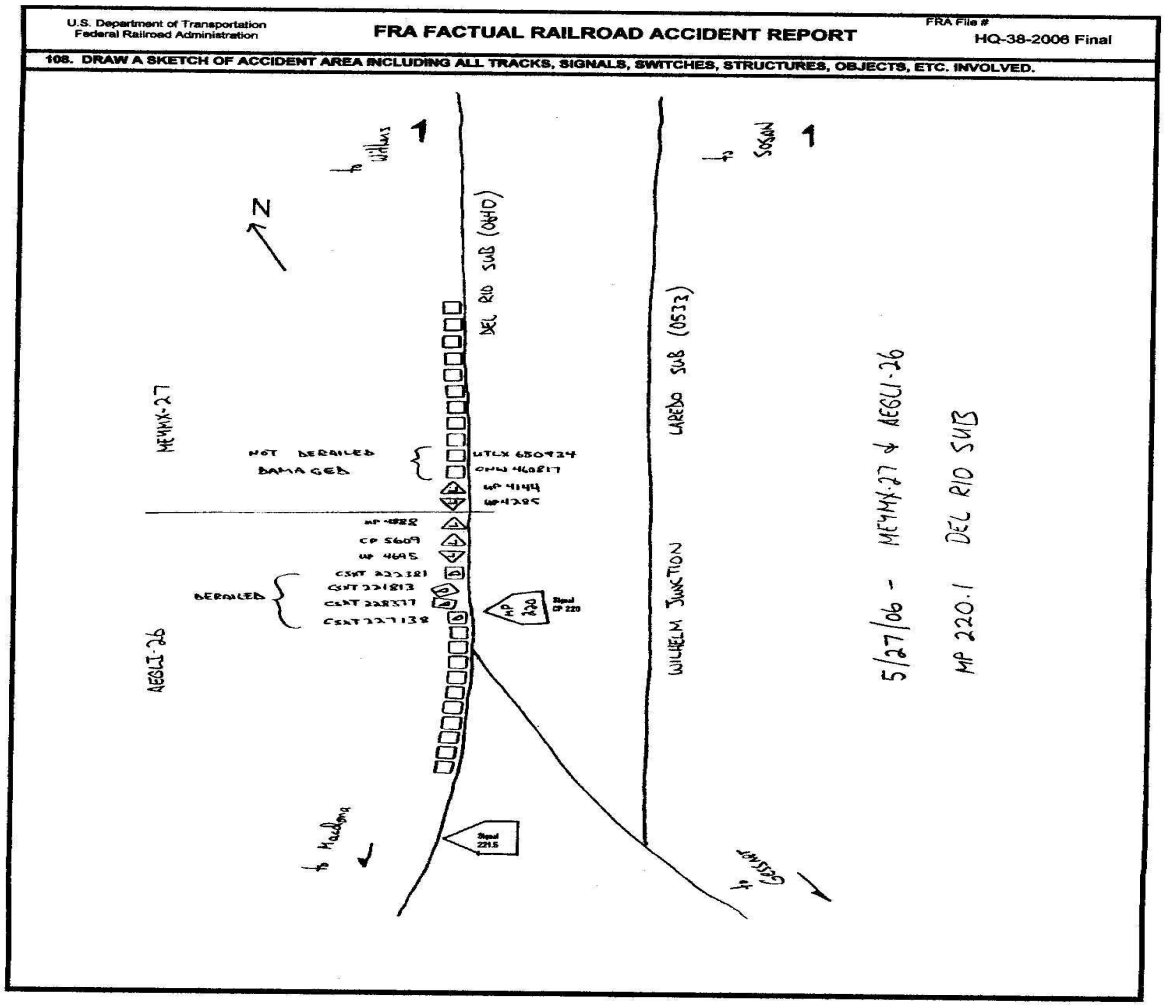
105. Locomotive Auxiliary Lights Operational? 1. Yes 2. No	Code
	N/A

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.

HQ-38-2006.jpg



109. SYNOPSIS OF THE ACCIDENT

May 27, 2006, at approximately 6:04 p.m. (CDT), an eastbound Union Pacific freight train struck a westbound Union Pacific freight train in a head on collision. The accident occurred in south San Antonio, Texas on the Del Rio Subdivision main track, milepost (MP) 219.7.

The collision derailed five sand cars on the striking train and one empty tank car on the struck train. Damage to the derailed cars totaled $55,487. Damage to the locomotives totaled $315,252; track, signal, way and structure $31,040.

The engineer and conductor, on both trains, jumped prior to impact. The engineer of the striking train was taken to Wilford Hall Hospital, at Lackland AFB, in San Antonio, Texas. The engineer and conductor of the struck train and the conductor of the striking train, were taken to Southwest General Hospital in San Antonio, Texas. All four crew members were treated and released.

There were no hazardous materials involved, no evacuation, and no other injuries. The weather was clear, visibility day, with a temperature of 90 °F.

The accident was caused by the striking train engineer's inattentiveness due to him being engaged in a cell phone conversation and distracted from his duty. A significant contributing factor was the striking train conductor's failure to supervise the safe operation of his train, while in a Cab Red Zone.

110. NARRATIVE

Circumstances Prior to the Accident

(Striking Train)
The AEGLI-26 departed Eagle Pass, Texas and picked up 10 loaded and 50 empty cars at Spofford, Texas. The train originated in UP yard at Eagle Pass and was destined to Livonia, Louisiana. The train received a class I initial terminal air brake test at Eagle Pass yard. The Eagle Pass crew continued to the siding at McDona, Texas and secured their train, before reaching their maximum hours of service.

Train AEGLI-26 (striking train) consisted of three diesel electric locomotives (UP 4888, lead locomotive, CP 5609 and UP 4695) with 24 loaded and 69 empty cars, weighing 5019 trailing tons, with a train length of 6029 feet.

(Striking Train Crew)
TSE (Traveling Switch Engine) job YEY 64 is a regular job at UP's Kirby Yard in Kirby, Texas, a suburb of San Antonio. The YEY 64 crew consisting of an engineer and conductor were called to duty at 3:00 p.m., May 27. The conductor was regular on this job and reported for duty with more than the minimum prior statutory off duty time. The engineer was called for this job from the extra board, receiving his call on his minimum statutory off duty time. Kirby yard is their assigned terminal.

After reporting for duty, the crew was briefed on a four-car switch move at the West end of the yard. The YEY64 performed a job briefing, completed the four car moves and returned to the yard office. The yardmaster then briefed the crew to go to McDona siding and bring train AEGLI-26 to Kirby Yard.

The YEY 64 conductor obtained paperwork and completed a job briefing with the engineer, while waiting for a limousine to dead-head them to McDona siding. The engineer and conductor departed Kirby yard at approximately 4:50 p.m., arriving at their train at 5:20 p.m. The engineer put both crewman's grips on the lead locomotive and was advised of a Red Zone by the conductor, while the conductor released the train's hand brakes. The engineer acknowledged the conductor's request and confirmed the locomotive brakes were set and the reverser was centered. The engineer left the hand brakes applied on the locomotives and conducted his engine inspection, while waiting for the conductor to return to the lead locomotive.

After the conductor returned, the engineer called the dispatcher and advised him that the AEGLI-26 was ready to depart McDona siding. The dispatcher responded that they would be delayed but to watch for the signal.

(Struck Train)
The engineer and conductor of the MEYMX-27 train went on duty at 2:00 p.m., May 27 at UP Kirby yard in San Antonio, Texas. Prior to this call to duty, they both had in excess of the required time off duty. Kirby yard is their assigned terminal.

Train MEYMX-27 consisted of two diesel electric locomotives, UP 4285 and UP 4144. The train consisted of 60 loaded and seven empty cars, weighing 7182 tons with a length of 4152 feet. The train originated in San Antonio's East Yard and was destined to Mexico via Laredo, Texas. The train received a class I initial terminal air brake test at UP's East Yard.

The engineer and conductor departed Kirby Yard via company taxi, arriving in East Yard at approximately 2:45 p.m., to take charge of their train. After checking the train, the conductor called the dispatcher and informed him they were ready to depart. The dispatcher advised the engineer they would be delayed about two hours.

A Class I brake test-initial terminal inspection was performed on Train MEYMX-27 at East yard in San Antonio, Texas.

The Accident

The accident occurred on single main track on Union Pacific's Del Rio Subdivision which extends from MP 201.4 to MP 379.4, a distance of 178 miles. The method of operation is by Traffic Control Authority. UP Timetable No. 3, effective at 0:01 a.m. (CDT), December 18, 2005 authorizes 50 mph maximum speeds for freight trains, in the accident area.

Approaching the accident area from the south there is a left-hand curve and hill crest at CP 220.1 where a .91-percent descending grade begins. The grade decreases to .76-percent at the point of impact. The track transitions from the left hand curve to a tangent and then to a right-hand curve, at the point of impact.

(Striking Train)
The AEGLI-26 engineer received a flashing yellow (Advance Approach) departure signal at McDona siding, just before 6:00 p.m. After clearing the siding, the engineer gradually increased train speed to 25 mph. He maintained that approximate speed reaching the yellow (Approach) signal, MP 221.5, just prior to the red (Stop) signal at CP 220.1. The train crew's view of the CP 220 signal is partially obstructed by vegetation due to a left-hand curve of the track, approaching the signal.

At 6:00 p.m., the AEGLI-26 passed that Approach signal at 25 mph. After passing the signal, the conductor stated he announced the signal to the engineer and recorded the signal Aspect, speed and time, in his conductor's log. The AEGLI-26 engineer nodded his head toward the conductor, maintained the throttle in position 8 and continued to accelerate the train to 42 mph.

After finishing that task, the conductor stated the engineer asked what the authorized speed of their train was. The conductor stated he replied 50 mph but began looking through his track warrants and track bulletins. The conductor stated he confirmed the speed after reviewing his paperwork, but was concerned about a possible holiday speed restriction.

The conductor said he continued to look through the previous train crew's track warrants and bulletins. The conductor stated that as he was searching for additional information, the engineer asked him "what signal are we running on?" The conductor called out "Approach, Yellow"!

The conductor stated he immediately had a bad feeling and stood up looking. He stated he observed the switch was lined against their train and that the signal was red. Seeing the red signal, the conductor yelled "Red", just moments after that he saw the other train's head lights and knew the trains were going to collide.

The conductor exited the locomotive cab through the rear exit door behind the engineer control stand, ran to the rear steps on the engineer's side of the lead locomotive and climbed down the steps, before jumping.

The AEGLI-26 engineer stated he thought he observed a flashing yellow (Advance Approach) signal at MP 221.5 After passing that signal the engineer stated he asked the conductor what signal are we running on. The engineer said that as the conductor exclaimed to him and stood up, he became aware that the signal was red and the switch was lined against his train. The engineer stated at this point, he placed the locomotive controls in emergency position and immediately exited the locomotive cab behind the conductor.

The striking train had slowed to 16 mph when the collision occurred. The speed was recorded by the event recorder of the controlling locomotive.

After the emergency application, the engineer followed the conductor, running down the engineer side platform, through the crossover platform from the lead locomotive to the second locomotive, climbed down the side steps on the lead end of that locomotive and jumped. The engineer landed on his left chest, side and arm, on the web of a CWR rail. The rail was laying on its side, just beyond the main track ballast.

(Struck Train)

The MEYMX-27 departed East Yard on an Approach signal, about 5.30 p.m. As the train was departing, the dispatcher advised the crew that they would need to hold their train at the Alamo Dome. The dispatcher later advised the crew he had changed his plan and would continue moving their train by diverting it to #1 main track.

The MEYMX-27 continued on yellow (Approach) signals past MP 216 and MP 219, utilizing Cab Red Zone procedure. After passing the Approach signal at MP 219, the engineer set six pounds of automatic brake reduction in anticipation of a required stop. While doing so, he observed another train coming in on the Laredo Subdivision, confirming that he would have to stop. The engineer increased automatic brake reduction to ten pounds, further slowing his train. He later released the automatic brake as his train continued to slow approaching the stop signal.

The MEYMX-27 was decelerating when the engineer saw headlights of an oncoming train. The engineer instantly realized the trains were going to collide. He placed the automatic brake valve handle into emergency position, applied the locomotive dynamic brakes and exited the locomotive cab behind the conductor. Both crew members jumped from the locomotive walkway on the engineer side of the locomotive.

The struck train had slowed to 9 mph when the collision occurred. The speed was recorded by the event recorder of the controlling locomotive.

A Class I brake test-initial terminal inspection was performed on Train MEYMX-27 at East yard in San Antonio, Texas.

Analysis

Post accident event recorder information was taken from the locomotive of the striking train, UP 4888 and the locomotive of the struck train, UP 4285. An explanation of train event sequences follows:

According to the event recorder of striking locomotive, UP 4888, the train departed McDona siding at 5:54 P.M. The time is consistent with the engineer and conductor's statement and supported by entries in the Conductor Delay Log.

After the rear of the striking train cleared the siding, the engineer gradually increased throttle to position eight, increasing the train speed to 23-25 mph.

At 5:59:59 P.M., the UP 4888 passed the yellow (Approach) signal at MP 221.5 in throttle position eight, at a speed of 25 mph.

For the next three minutes the UP 4888 continued to accelerate to 42 mph. No changes occurred in locomotive control input.

At 6:03:00 P.M., 653 feet prior to the red (Stop) signal at CP 220.1, the striking engineer made an automatic brake pipe reduction of six pounds and reduced throttle to position two. It is highly probable this event may have occurred milliseconds after the crew discussed what signal they were running on and the conductor stood up and observing the red signal. It may be the likely time which the engineer believed he placed the train in emergency.

At 6:03:19 P.M., 554 feet past the Stop signal, the striking engineer actually placed the automatic brake valve handle into emergency position, the locomotive independent brake in the full-on position and the traction motors in dynamic brake application.

Twenty four seconds later, at 6:03:43 P.M., the lead locomotive of Train AEGLI-26 (UP 4888) struck the lead locomotive of Train MEYMX-27 (UP 4285), at 16 mph. The struck train UP 4285, impacted the striking train at a recorded speed of 9 mph. The point of impact occurred 1652 feet past the Stop signal, at CP 220.1. The collision occurred three tenths of a mile East of Alamo Junction.

The unobstructed sight distance from the locomotive crew positions to the red signal at CP 220.1, is 2200 feet.

The force of the collision derailed the second through fifth car of the AEGLI-26 train. All four cars of the AEGLI-26 derailed in a zig zag fashion when the equipment came to rest. Simultaneously, the second car, of Train MEYMX-27 was derailed. The empty nonhazardous tank car on Train MEYMX-27 buckled but remained coupled at both ends.

Conclusions

The engineer of the striking train, AEGLI-26, stated to the FRA Investigator-In-Charge, that he was talking on a headset connected cell phone in an intense conversation, before the train departed McDona siding, until the collision.

Summarizing the event recorder information, the striking train engineer passed the yellow signal at 25 mph in throttle position eight, admittedly still on the cell phone, continued to accelerate the train with no control input or change until 653 feet prior to the red Stop signal where he applied a minimum automatic brake and reduced throttle. The striking engineer did not place the train controls in emergency position until 554 feet past the red Stop Signal which was 1098 feet from impact.

Finding:
GCOR rule 1.47, Duties of Crew Members paragraph C. (1) Cab Red Zone. States:
To ensure the train is operated safely and rules are observed, all crew members must act responsibly to prevent accidents or rule violations...During “CRZ” an environment must be created in the control compartment that focuses exclusively on controlling the train and complying with the rules...Cab communication is restricted to immediate responsibilities for train operation...use of cell pones is prohibited unless train operations require their use...If proper action is not being taken, crew members must remind each other of the “CRZ” condition.

GCOR rule 1.47, Duties of Crew Members Paragraph 4. Proper Action. States:
If engineer and/or conductor fail to comply with a signal indication or take proper action to comply with a restriction or rule, crew members must immediately take action to ensure safety, using the emergency brake valve to stop the train, if necessary.

Concern:
According to the engineer’s statement obtained during the interview, the engineer said he believed the signal at MP 221.5 was a flashing yellow (Advance Approach). He stated he did not hear the conductor announce the signal Aspect.

Concern:
According to both the engineer and conductors statements obtained during the interview, after passing the signal at MP 221.5, both men acknowledged that the engineer asked the conductor “what signal he was running on?” If the engineer stated he believed he was operating on an Advance Approach signal, why would he later ask the conductor what signal he was operating on?

Finding:
The railroad and an FRA S&TC Inspector conducted a complete inspection of the signal system involved in this accident. Post accident testing verified recordings of the aspects and indications at the time of the accident. These aspects were confirmed and the signal system was working properly, at the time of the accident.

The area involved is a Traffic Control System (TCS) controlled by a dispatcher in Spring, TX. It is equipped with US&S H-2 searchlight signals, Color Light Signals and M-23A switch machines controlled by electronically generated D.C. coded track circuits (Electro code). Tests performed verified recordings of the aspects and indications at the time of the accident. The recording shows that the east bound striking train received a flashing yellow signal aspect at the east end of McDona CPSA 224. The intermediate signal in approach to Alamo Junction, MP 221.5, displayed a yellow aspect. At the west end of Alamo Junction, CP 220, the signal displayed a red aspect. The struck train would have received a red over green aspect if the striking train had not entered the OS track section.

Finding:
The engineer failed to communicate known conditions and required actions to the conductor after passing the yellow signal at mile post 221.5. The engineer failed to take corrective action or adjust his train’s condition to respond to the requirement of the signal indication.

Finding:
According to Union Pacific Employee Quality Management System information, the striking train engineer was first certified as an engineer, February 2005. He had experience as a locomotive engineer, 1 year, 3 months prior to this accident.

Finding:
According to the conductor’s statement obtained during the interview, he announced the approach signal to the engineer. He said he recorded the signal Aspect, train speed and time in his conductors delay log, passing the signal. A copy of the striking conductor’s log confirms the information was written as stated.

Finding:
Information recorded in the conductor’s delay log confirms the conductor wrote down CRZ meaning Cab Red Zone. According to the conductor’s statement obtained during the interview, the conductor said he understood that after passing the yellow signal he was operating in a Cab Red Zone environment and must perform his duty according to the GCOR rule.

Concern:
The Conductor of the striking train, AEGLI-26, stated to the FRA Investigator-In-Charge, that after passing the Approach signal at MP 221.5, he was distracted while looking for the train speed in the train orders. He stated he was unaware of the increase of train speed and condition.

Finding:
The conductor failed to communicate known conditions and required actions to the engineer after passing the yellow signal at mile post 221.5. The conductor failed to take corrective action after observing the engineer fail to respond verbally to his signal call out or adjust his train’s condition to the requirement of the signal indication.

Finding:
According to Union Pacific Employee Quality Management System information, the conductor has over 32 years of railroad experience on both through-freight and yard assignments.

Finding:
FRA Post-Accident Forensic Toxicology Result Reports indicates that the employees involved in this event tested negative test results.

Cause

The Union pacific railroad reported the cause as code H 605, Failure to comply with restricted speed in connection with the restrictive indication of a block signal.

The underlying cause that significantly contributed to this collision was the engineer’s distraction from work duties resulting from the use of his cell phone. As a result of the engineer’s cell phone use, and the nature and intensity of that conversation, the engineer failed to recognize certain changes to the condition in his work environment, his train and the dynamic of the situation. The mental lapse prevented the engineer from taking corrective action or adjusting his train’s condition to the requirement of the situation.