
# *Federal Railroad Administration*
# *Office of Safety*
# *Headquarters Assigned*
# *Accident Investigation Report*
# *HQ-2006-67*

## *Union Pacific*
## *Champlin, UT*
## *July 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-2006-67

| | | |
|---|---|---|
| 1.Name of Railroad Operating Train #1: Union Pacific RR Co. [UP ] | 1a. Alphabetic Code: UP | 1b. Railroad Accident/Incident No.: 0706UT016 |
| 2.Name of Railroad Operating Train #2: Union Pacific RR Co. [UP ] | 2a. Alphabetic Code: UP | 2b. Railroad Accident/Incident: 0706UT016 |
| 3.Name of Railroad Responsible for Track Maintenance: Union Pacific RR Co. [UP ] | 3a. Alphabetic Code: UP | 3b. Railroad Accident/Incident No.: 0706UT016 |
| 4. U.S. DOT_AAR Grade Crossing Identification Number | 5. Date of Accident/Incident: Month 07 / Day 27 / Year 2006 | 6. Time of Accident/Incident: 12:45: ☑ 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): 04

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

| 13. Nearest City/Town | 14. Milepost (to nearest tenth) | 15. State Abbr | 15. State Code | 16. County |
|---|---|---|---|---|
| Champlin | 676.2 | N/A | UT | JUAB |

| 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 |
|---|---|---|---|---|---|---|
| 70 F | | 4 | | 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 | | 5 | 37.0 | | 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 Code: 1

27. Train Number/Symbol: ZLADV 26

28. Speed (recorded speed, if available) R - Recorded E - Estimated: 27 MPH Code: R

29. Trailing Tons (gross tonnage, excluding power units): 5229

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 | 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) | 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 |
|---|---|
| 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 | 4 | 0 | 0 | 0 | 0 |
| (2) Total Derailed | 2 | 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 | 75 | 0 | 0 | 0 | 0 |
| (2) Total Derailed | 0 | 0 | 0 | 0 | 0 |

| 36. Equipment Damage This Consist | 37. Track, Signal, Way, & Structure Damage | 38. Primary Cause Code | 39. Contributing Cause Code |
|---|---|---|---|
| 54334 | 49000 | H221 | H992 |

Number of Crew Members

| 40. Engineer/ Operators | 41. Firemen | 42. Conductors | 43. Brakemen |
|---|---|---|---|
| N/A | 0 | 1 | 0 |

Length of Time on Duty

| 44. Engineer/Operator | 45. Conductor |
|---|---|
| Hrs 2 Mi 10 | Hrs 2 Mi 10 |

| 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: 1

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

54. Train Number/Symbol: KG1LA 24

55. Speed (recorded speed, if available) R - Recorded E - Estimated: 0 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

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

# FRA FACTUAL RAILROAD ACCIDENT REPORT

FRA File # HQ-2006-67

| 56. Trailing Tons (gross tonnage, excluding power units) | c. Auto train stop<br>d. Cab<br>e. Traffic<br>f. Interlocking | i. Time table/train orders<br>j.Track warrant control<br>k. Direct traffic control<br>l.Yard limits | o. Positive train control<br>p. Other (Specify in narrative)<br>Code(s) | 2 = Remote control tower<br>3 = Remote control transmitter - more than one remote control transmitter |
|---|---|---|---|---|
| 6680 | | | e \| n \| 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) | DTTX0 54945 | 32 | yes | | N/A | N/A |
| (2) Causing (if mechanical cause reported) | 0 | 0 | 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 |
|---|---|---|---|---|---|
| (1) Total in Train | 5 | 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 | 112 | 0 | 0 | 0 | 0 |
| (2) Total Derailed | 3 | 0 | 0 | 0 | 0 |

| 63. Equipment Damage This Consist | 64. Track, Signal, Way, & Structure Damage | 65. Primary Cause Code | 66. Contributing Cause Code |
|---|---|---|---|
| 6888 | 0 | H221 | H992 |

| Number of Crew Members | | | | Length of Time on Duty | |
|---|---|---|---|---|---|
| 67. Engineer/ Operators | 68. Firemen | 69. Conductors | 70. Brakemen | 71. Engineer/Operator | 72. Conductor |
| 1 | 0 | 1 | 1 | Hrs 5 Mi 10 | Hrs 5 Mi 10 |

| Casualties to: | 73. Railroad Employees | 74. Train Passengers | 75. Other |
|---|---|---|---|
| Fatal | 0 | 0 | 0 |
| Nonfatal | 0 | 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 | 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) | N/A |

| 80. Vehicle Speed (est. MPH at impact) | 81. Direction geographical) 1.North 2.South 3.East 4.West | Code |
|---|---|---|
| 0 | | N/A |

| 82. Position | Code |
|---|---|
| 1.Stalled on Crossing 2.Stopped on Crossing 3.Moving Over Crossing 4. Trapped | 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 | 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) | N/A |

| 84. Position of Car Unit in Train |
|---|
| 0 |

| 85. Circumstance | Code |
|---|---|
| 1. Rail Equipment Struck Highway User 2. Rail Equipment Struck by Highway User | 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 | 91. Crossing Warning Interconnected with Highway Signals (1. Yes 2. No 3. Unknown) | Code | 92. Crossing Illuminated by Street Lights or Special Lights (1. Yes 2. No 3. Unknown) | Code |
|---|---|---|---|---|---|
| | N/A | | N/A | | N/A |

| 93. Driver's Age | 94. Driver's Gender (1. Male 2. Female) | Code | 95. Driver Drove Behind or in Front of Train and Struck or was Struck by Second Train (1. Yes 2. No 3. Unknown) | Code | 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 |
|---|---|---|---|---|---|---|
| 0 | | N/A | | N/A | | N/A |

| 97. Driver Passed Standing Highway Vehicle (1. Yes 2. No 3. Unknown) | Code | 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 | | N/A |

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

| 99. Driver Was (1. Killed 2.Injured 3. Uninjured) | Code | 100. Was Driver in the Vehicle? (1. Yes 2. No) | Code |
|---|---|---|---|
| | N/A | | N/A |

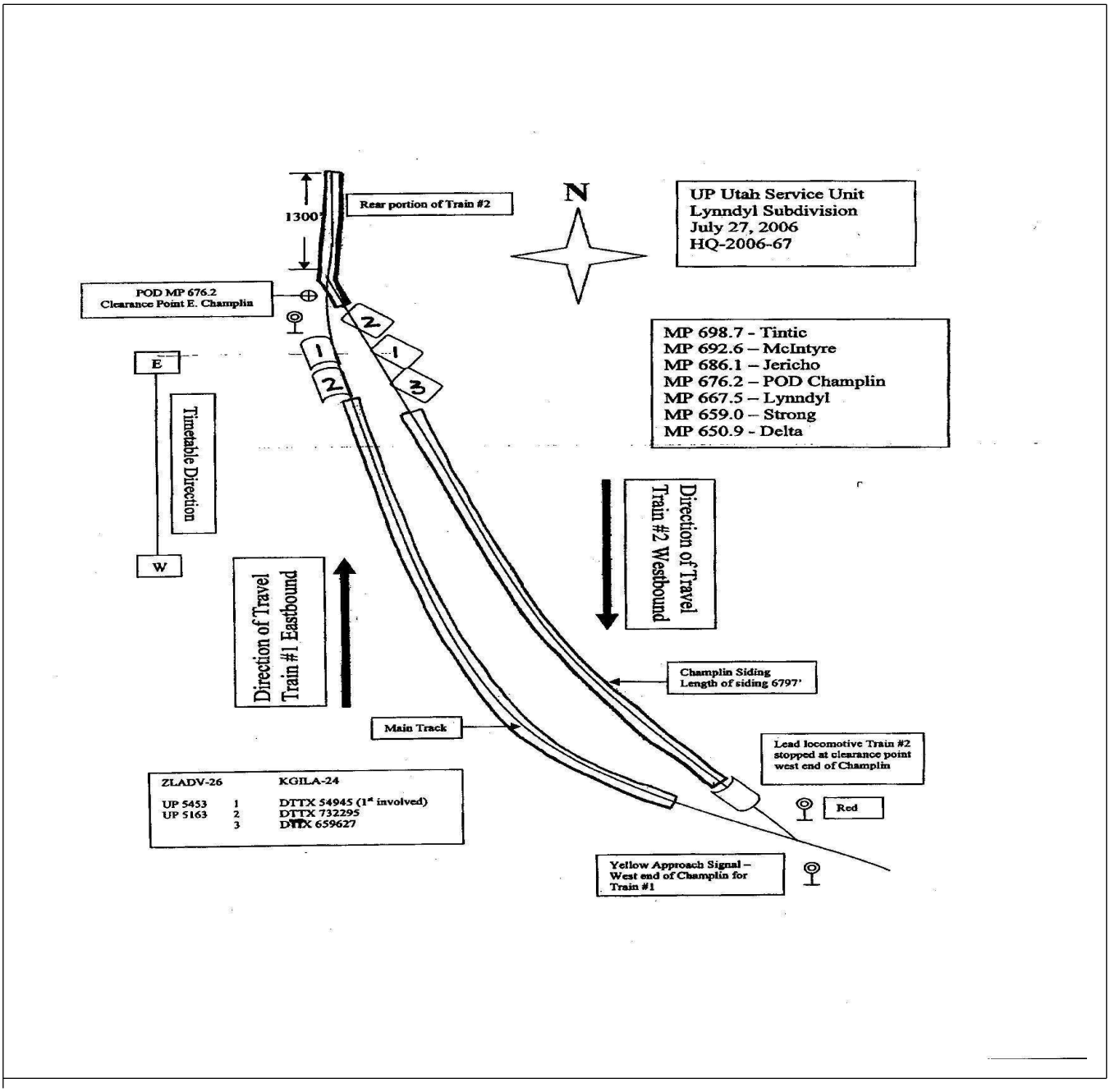
| 102. Highway Vehicle Property Damage (est. dollar damage) | 103. Total Number of Highway-Rail Crossing Users (include driver) |
|---|---|
| 0 | 0 |

| 104. Locomotive Auxiliary Lights? (1. Yes 2. No) | Code | 105. Locomotive Auxiliary Lights Operational? (1. Yes 2. No) | Code |
|---|---|---|---|
| | N/A | | N/A |

| 106. Locomotive Headlight Illuminated? (1. Yes 2. No) | Code | 107. Locomotive Audible Warning Sounded? (1. Yes 2. No) | Code |
|---|---|---|---|
| | N/A | | N/A |

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

Champlin Accident.jpg



109. SYNOPSIS OF THE ACCIDENT

At approximately 12:45 a.m. MDT, July 27, 2006, an eastbound Union Pacific (UP) freight train ZLADV-26 (Train #1), traveling on main track, struck westbound UP train KG1LA-24 (Train #2) that was stopped at a siding. The accident occurred at the Champlin (Utah) Siding, milepost 676.2, Lynndyl Subdivision. Champlin is located approximately 10 miles north (timetable east) of Lynndyl, Utah.

For the purpose of this report all directions are established by the time table in effect.

Train #1, consisting of four locomotives, 75 loads, no empties, 6617 feet long and 5229 trailing tons, was traveling on the main track between west and east Champlin to meet westbound Train #2 when it failed to stop for a red control signal at East Champlin. Westbound Train #2, consisting of five locomotives, 112 loads, no empties, 8007 feet long with 6680 trailing tons, was stopped through the switch at the East Champlin Siding and the rear of the train was standing on the main track. Train #1 passed the stop signal at East Champlin and struck Train #2, derailing two locomotives of its train and three cars on Train #2. Speed at the point of impact was recorded as 27 mph.. There were no injuries and no hazardous materials involved.

The investigation revealed that the engineer of Train #1 was not qualified to operate a locomotive over the territory.

Damages were reported as: equipment, $61,222; track, signal and structures, $49,000.

At the time of the accident, it was dark and clear, temperature was 70 degrees Fahrenheit.

The probable cause of the accident was the failure of the engineer on Train #1 to stop short of a controlled signal displaying a stop indication. A contributing cause is operation of a locomotive by uncertified/unqualified person.

110. NARRATIVE

Circumstances Prior to the Accident

Train #1 (UP ZLADV-26 East)

The crew of Train #1 included a locomotive engineer and a conductor. They went on duty in Milford, Utah, on July 26, 2006 at 10:35 p.m. MDT. This is their “away from home” terminal; their home terminal is Salt Lake City, Utah. The engineer and conductor received more than the required statutory off-duty time before reporting to duty.

Train #1 consisted of four locomotives, 75 loads, no empties, was 6617 feet long with 5229 trailing tons. The train crew was scheduled to travel from Milford to Salt Lake City, a distance of approximately 205 miles. The train crew performed a required job and safety briefing, discussed their train and determined it to be a “good” train on paper. No negative issues were found concerning track bulletins, entrainment restrictions, or consist information. After performing the UP standard operating procedure departure test, they departed around 11:00 p.m.

As the train proceeded in an eastward direction, the locomotive engineer was seated at the controls on the right side of the locomotive. The conductor was seated on the left side of the locomotive observing signal indications.

In this part of the railroad, operations are conducted under Centralized Traffic Control (CTC) by a dispatcher in Omaha, Nebraska. The maximum authorized speed for freight trains is 70 mph for freight trains and 79 mph for passenger trains according to the UP Time Table # 2.

The crew on Train #1 proceeded from Milford, Utah, to the advance approach signal nearing Champlin, Utah, without incident.

Train #2 (UP KG1LA-24 West)

The crew of Train #2 included a locomotive engineer, a conductor and a brakeman. They went on duty in Salt Lake City, Utah, on July 26, 2006, at about 7:35 p.m. MDT. Their home terminal is in Salt Lake City, Utah. The engineer, conductor and the brakeman received 24 hours rest time before reporting to duty. The crew was scheduled to travel from Salt Lake City to Las Vegas, Nevada, and they departed about 9:35 p.m. They performed the UP standard operating procedure departure test before leaving on their trip.

Train #2 consisted of five locomotives, 112 loads, no empties, was 8007 feet long with 6680 trailing tons. Train #2 had pulled westward into and occupied the entire length of Champlin siding, which measured 6797 feet. However, the rear of the train was standing on the main track by approximately 1,300 feet. Its controlling locomotive was properly stopped short of the controlled signal displaying a stop indication at the west end of Champlin siding. The locomotive engineer was seated at the controls on the right side of the locomotive. The conductor was seated on the left side of the locomotive observing signal indications and the brakeman was seated in the fold-up seat in the middle of the locomotive behind the engineer and the conductor.

The Accident

Train #1

Train #1, a mixed freight train, was being slowed to 30 mph as it approached the controlled signal at East Champlin.
According to the conductor, he called Train #2 (KG1LA-24) to ask him if he would dim his head light. According to Train #1's engineer, he asked his conductor if he

saw a red signal at East Champlin. The conductor said no because the signal was blocked by Train #2, which was sitting on the siding. The engineer stated he was confused and that he thought he was at a different location where the track was about 3000 feet longer. The controlled signals at East Champlin are at the end of a long sweeping right-hand curve and neither the engineer nor conductor saw the red signal until their train was approximately five cars from impact with Train #2. Train #1 struck Train #2 thirty- two cars back of the lead locomotive at 27 mph, as recorded by the lead locomotive's event recorder.

At approximately 12:25 a.m. MDT, Train #1 received an advance approach indication (flashing yellow) at the block signal preceding the control signal at the west end of Champlin Station. An advance approach signal required Train #1 to reduce his speed and prepare to stop at the second signal in advance. Upon passing the advance approach signal, Train #1 was required by rule to reduce his speed immediately to 40 mph, which was reasonably accomplished.

The next signal the crew of Train #1 was capable of being seen under normal conditions from about two miles away. However, due to Train #2 entering the siding at Champlin from the main track, it had not turned its headlight from the bright position to the dim position as required (GCOR rule 5.9-not clear of main track) once stopped in the siding. Train #1 could not recognize the signal at the west end of Champlin until the conductor called Train #2 and asked them to dim their headlight so they (Train #1) could see the upcoming signal aspect. Train #2 complied with the request and dimmed their headlight per rule. However, Train #2 did not advise Train #1 the headlight was still on dim because they had not cleared the main track at the east end of Champlin. Train #1 did not question why Train #2 did not turn off their headlight completely. .

After Train #2 dimmed its headlight, the crew of Train #1 noted and called the signal at the west end of Champlin. Train #1's conductor called the signal to the engineer as an approach indication (yellow aspect). The indication of a yellow aspect requires the train to prepare to stop before any part of the train or engine passes the next signal and reduce speed immediately to 30 mph past the approach signal. Train #1 reduced its speed as required and passed the approach signal properly.

Prior to Train #1 passing the approach signal at the west end of Champlin and due to the aspect of the approach signal, the conductor advised the engineer that they were going to hold the main track. The engineer then asked the conductor, "how long is the siding at Jericho?" It was then the conductor of Train #1 became confused as to where they were. It was obvious the engineer thought they were at Station Jericho, which was one station east of their present location. The conductor did not advise the engineer his thoughts and said in interview, "the dispatcher never meets the Z trains at Champlin because the siding is too short and therefore, the engineer must be right, we are at Jericho rather than Champlin." The conductor then told the engineer that the siding at Jericho was 9700 feet long (actually 9709 feet, clearance to clearance).

Approaching Champlin from the west, as is the case approaching Jericho from the west, there is a two to four mile stretch of tangent track running to the west of both stations at approximately .27 % descending grade for Train #1. At the west end of both stations, the sidings separate from the main track in an eastwardly direction and have a sweeping right-hand, 1-degree curve nearly the entire length of the station sidings. In this case, Train #2 was occupying the siding at Champlin and blocking the view of the signal at the east end of the siding at that station for an eastbound train (Train #1).

The conductor of Train #1 had noted in his Conductor Report Form 20849, as required by UP rule for signals other than CLEAR, that his train had passed an advance approach signal at MP 672.8. He had also noted in his report form that his train had passed an approach signal at MP 674, and that at that point, Train #1 was in a Cab Red Zone Area (SSI Rule 1.47 item C). The conductor's form does not note the station name "Champlin" as a location on the form and is not required. It is noted from information gathered from the engineer of Train #2 that Train #1 turned his headlight off when passing Train #2 at the west end of Champlin which is in non-compliance with GCOR Rule 5.9.4. With the headlight and ditch lights off, Train #1 did not notice the sign on the signal box at the west end of Champlin, which displayed the words "CP 675 CHAMPLIN" in large black lettering with silver background.

After passing the approach sign at west Champlin, Train #1's engineer asked his conductor the length of the siding at Jericho. The conductor said in his interview, he "felt in his gut they were at Champlin" and stood up from his seat and leaned toward the engineer and asked him if he had his counter on. The counter is an electrical device which, when activated, counts the number of feet the locomotive travels after it is activated, i.e., if the train was 6600 feet long the counter would advise you when the train had traveled that far and thereby advising you when you would be clear of a siding or train. When the conductor saw the counter, it read 5400 feet. Shortly thereafter and without saying anything to the engineer about his thoughts, the conductor looked up and saw the control signal at the east end of Champlin displaying a RED stop indication. The conductor then pulled the emergency train line lever on his side of the locomotive at about the same time the engineer placed the train line into emergency from the locomotive control stand. Train #1 was about five car lengths away from the stop signal and traveling about 27 MPH when it was placed in emergency. Train #1 passed by the red stop signal at the east end of Champlin which subsequently caused a side collision derailment when it struck Train #2.

Train #1 struck the west side of Train #2 standing to foul both the siding and the main track at the east clearance point of Champlin at about 12:45 a.m. The side collision was in a glancing blow between the lead locomotive of Train #1 (UP 5453) and line 32 car DTTX 54945 of Train #2. After train #1 came to rest, both crewmen escaped from the cab of the lead locomotive. The lead locomotive was derailed and upright and listing to the west at about 15 degrees; the second locomotive was derailed and upright with little to no degree of list.

Train #2

Train #2 traveled under normal operating conditions with no outstanding delay and without incident from Salt Lake City to the clearance point at the west end of the siding at Station Champlin. The purpose of Train #2 taking the siding at Champlin was to complete a meet with Train #1. Train #2 was unable to clear in the siding at Champlin due to the length available for clearance; which was 6797 feet clearance point (west) to clearance point (east). When Train #2 stopped at the west end of the siding at Champlin, approximately 1300 feet of the rear portion of the train extended past the clearance point at the east end of the siding and out onto the single main track. Train #2's crew were all properly positioned and seated on the lead locomotive standing at the clearance point at the west end of Champlin siding. Three cars of Train #2 were damaged and derailed due to the collision.

There were no injuries and no hazardous materials release involved with either Train #1 or Train #2.

Post-Accident Investigation

Emergency responders arrived soon after the accident. The local police department set up traffic control on both sides of the accident. The accident area was released to UP after company response employees arrived and the police determined it was not necessary to investigate the accident.

There were no injuries to either train crew, no release of hazardous materials and no evacuation ordered. Train crews were drug and alcohol tested and the results were negative.

UP signal personnel performed post-accident signal tests. There were no exceptions noted and the signal system functioned as intended. FRA inspected and reviewed UP Rules, Standards and Instructions (RS&I) test and trouble history records and no exceptions were taken.

FRA reviewed UP track inspection records for the 30 days prior to the accident and no exceptions were taken.

FRA Motive Power & Equipment personnel reviewed equipment inspection records and no exceptions were taken.

Based on the analysis of available records, reports and data, there were no signal, track or equipment conditions that were contributing factors in the accident.

During post-accident interviews, the conductor stated that the engineer, prior to their departure from Milford, said to the conductor, "I am not a very good engineer." The conductor, who hired out as a brakeman in May, 2004 and was promoted to conductor in September, 2004, did not question the statement made by the engineer but did say in a later interview he felt the engineer should have had more experience and perhaps should have had more qualifying trips over the territory. The conductor did not overtly question or challenge the engineer on any action the engineer took until the conductor advised the engineer of a possible problem with a signal indication when approaching Station Champlin. The engineer did explain his statement to the conductor by saying "I should have a pilot but was unable to

contact CMS to get one, so I will go ahead and take the train." No further meaningful discussion took place between them concerning the engineer's qualification over the territory about to be traversed.

The engineer of Train #1 hired out as a trainman in January 1999, was promoted to conductor in April 1999, and promoted to engineer in February 2005. He had completed three piloted trips on the Lynndyl Subdivision, none of which was accompanied by a Manager of Operating Practices/Designated Supervisor of Locomotive Engineers (MOP/DSLE). The engineer had deadheaded from Salt Lake City to Milford, Utah, unaccompanied by a pilot, in order to be placed on an outbound train back to Salt Lake City after receiving proper rest. The engineer of Train #1, knowing he was not qualified over the Lynndyl Subdivision, accepted a computerized call (commonly known as RoboCall) which advised him he was called as the engineer of Train #1. Because the automated call system does not allow you to talk back or in any way question the call, one has to hang up the phone and redial a commonly known number in order to reach an actual person. In this case, the engineer did try to re-dial the actual crew dispatcher for his specific calling area. The engineer was unable to reach the crew dispatcher despite being placed on hold twice, and subsequently decided to take the train without a pilot. The engineer did not advise either the MOP or the crew dispatcher upon receipt of either call from Salt Lake City or from Milford, that he would require a pilot to perform duties as an engineer from Milford back to Salt Lake City. The engineer had qualified on other territories out of the Salt Lake City crew base hub but had not been qualified on the Lynndyl Subdivision.

Current instructions, which the engineer knew but did not comply with, required the engineer to call his crew dispatcher and supervisor if he were to be called for any assignment he had not been officially qualified for (System Special Instructions for UP
dated June 11, 2006 and CFR Part 240.231).

The conductor, who had been a regular conductor on the Lynndyl Subdivision for at least two years, also had a responsibility to insure the engineer was qualified (SSI for UP) and took no action to provide himself, the engineer, other crews, and his train a safe environment.

The automated calling system has been reconfigured to provide the crew dispatchers with information concerning the qualifications of engineers over a particular section of trackage. It is called CMTS and lists engineers' qualifications from one point to another. Should the engineer not show qualified from one point to another, it calls a pilot with the engineer. Also, engineers are still required to call their supervising Manager of Operating Practices (MOP) should the computer try to call them in error.

Through investigation and interviews, it can be determined the engineer of Train #1did not know his train was at Champlin (MP 674.8) but thought he was at Station Jericho (MP 684.1). The conductor was relatively sure his train was at Champlin but was easily convinced to question himself when the engineer simply asked a question about the "length of Jericho siding." Considering Train #1's current circumstances, i.e., the approach signal, not being able to see the next signal, inexperience, turning off the headlight when passing the CP 675 Champlin station sign, etc., the question relating to the length of Jericho siding caused the inexperienced conductor to believe and trust the more senior engineer, as is normally the case.

The confusion should have been diffused by both employees on Train #1 by complying with the "Cab Red Zone Rule" (SSI rule 1.47 A through C), which requires a job briefing upon the approach to a restrictive signal or, in this case, the advance approach. There was no discussion between the crew members of Train #1 concerning their location as they approached Champlin.

Confusion could also have been reduced if the "Conductors Report Form" would have required a station name and mile post under the column heading "location". Previous UP SSI's have required it, but the most recent one in effect at the time of the accident did not.

Regardless of the various mistakes and rule violations committed by Train #1's crew, both knew exactly what the signal aspect "yellow" meant. If they could not see the next signal; they would have still been required to stop prior to passing it. Passing a controlled stop signal is generally a rules violation.

Efficiency testing records of the two employees on Train #1 were retrieved. Also, records were pulled on all testing officers required to test in the Salt Lake City and Lynndyl Subdivision areas. A review of the records of the two employees involved in the accident indicates the number and kinds of tests completed were sufficient. The tests completed by the officers in the area complied with their program requirements.

Damage estimates were reported as: equipment, $366,000; track, signal and structures, $49,000.

Probable Cause

An investigation by the FRA found a contributing cause; the operation of a locomotive by uncertified/unqualified person.

The FRA investigation concluded that the probable cause of the accident was the failure of the engineer on Train #1 to stop short of a controlled signal displaying a stop indication.