
# *Federal Railroad Administration*
# *Office of Safety*
# *Headquarters Assigned*
# *Accident Investigation Report*
# *HQ-2005-55*

## *Union Pacific (UP)*
## *Ogallah, Kansas*
## *July 14, 2005*

DEPARTMENT OF TRANSPORTATION
FEDERAL RAILROAD ADMINISTRATION

# FRA FACTUAL RAILROAD ACCIDENT REPORT

FRA File # HQ-2005-55

| | | |
|---|---|---|
| 1.Name of Railroad Operating Train #1: Union Pacific RR Co. [UP ] | 1a. Alphabetic Code: UP | 1b. Railroad Accident/Incident No.: 0705DV015 |
| 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: Union Pacific RR Co. [UP ] | 3a. Alphabetic Code: UP | 3b. Railroad Accident/Incident No.: 0705DV015 |
| 4. U.S. DOT_AAR Grade Crossing Identification Number: 815131G | 5. Date of Accident/Incident: Month 07 / Day 13 / Year 2005 | 6. Time of Accident/Incident: 12:26: ☐ AM ☑ PM |

7. Type of Accident/Indicent (single entry in code box): 1. Derailment; 2. Head on collision; 3. Rear end collision; 4. Side collision; 5. Raking collision; 6. Broken Train collision; 7. Hwy-rail crossing; 8. RR grade crossing; 9. Obstruction; 10. Explosion-detonation; 11. Fire/violent rupture; 12. Other impacts; 13. Other (describe in narrative): 07

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

| 13. Nearest City/Town | 14. Milepost (to nearest tenth) | 15. State Abbr | 15. State Code | 16. County |
|---|---|---|---|---|
| Ogallah | 313.1 | N/A | KS | TREGO |

| 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 | | 4 | 23.00 | | 4 |

## 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: A

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

27. Train Number/Symbol: SPECM oWEQ

28. Speed (recorded speed, if available) R - Recorded E - Estimated: 15 MPH; Code: E

29. Trailing Tons (gross tonnage, excluding power units): 35

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): j; p; 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 | 0 | 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 | 0 | 1 | 0 | 0 |
| (2) Total Derailed | 0 | 0 | 0 | 0 | 0 |

36. Equipment Damage This Consist: 30000

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

38. Primary Cause Code: H402

39. Contributing Cause Code: M302

Number of Crew Members

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

Length of Time on Duty

44. Engineer/Operator: Hrs 5 Mi 0

45. Conductor: Hrs 0 Mi 0

| Casualties to: | 46. Railroad Employees | 47. Train Passengers | 48. Other |
|---|---|---|---|
| Fatal | 0 | 0 | 1 |
| Nonfatal | N/A | 0 | 1 |

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: 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: 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: 0 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<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 |
|---|---|---|---|---|
| 0 | | | N/A N/A N/A N/A N/A | N/A |

| 58. Principal Car/Unit | a. Initial and Number | b. Position in Train | c. Loaded (yes/no) | 59. If railroad employee(s) tested for drug/alcohol use, enter the number that were positive in the appropriate box. | Alcohol | Drugs |
|---|---|---|---|---|---|---|
| (1) First involved (derailed, struck, etc) | 0 | 0 | N/A | | N/A | N/A |
| (2) Causing (if mechanical cause reported) | 0 | 0 | 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 | 0 | 0 | 0 | 0 | 0 | (1) Total in Equipment Consist | 0 | 0 | 0 | 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 |
|---|---|---|---|
| 0 | 0 | N/A | N/A |

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

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

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

## Highway User Involved

| 79. Type | Code |
|---|---|
| A. Auto B. Truck C. Truck-Trailer. D. Pick-Up Truck E. Van F. Bus G. School Bus H. Motorcycle J. Other Motor Vehicle K. Pedestrian M. Other (spec. in narrative) | D |

| 80. Vehicle Speed (est. MPH at impact) | 81. Direction geographical) 1.North 2.South 3.East 4.West | Code |
|---|---|---|
| 15 | | 2 |

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

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

## 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) | 8 |

| 84. Position of Car Unit in Train |
|---|
| 1 |

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

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

86c. State here the name and quantity of the hazardous materials released, if any.
N/A

| 87. Type of Crossing Warning | 1.Gates | 2.Cantilever FLS | 3.Standard FLS | 4.Wig Wags | 5.Hwy. traffic signals | 6.Audible | 7.Crossbucks | 8.Stop signs | 9.Watchman | 10.Flagged by crew | 11.Other (spec. in narr.) | 12.None |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Code(s) | 07 | N/A | N/A | N/A | N/A | N/A | N/A | N/A | | | | |

| 88. Signaled Crossing Warning (See instructions for codes) | Code |
|---|---|
| | |

| 89. Whistle Ban | Code |
|---|---|
| 1. Yes 2. No 3. Unknown | 2 |

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

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

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

| 93. Driver's Age | 94. Driver's Gender 1. Male 2. Female | Code |
|---|---|---|
| 12 | | 1 |

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

| 96. Driver | Code |
|---|---|
| 1. Drove around or thru the Gate 2. Stopped and then Proceeded 3. Did not Stop 4. Stopped on Crossing 5. Other (specify in narrative) | 3 |

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

| 98. View of Track Obscured by (primary obstruction) | Code |
|---|---|
| 1. Permanent Structure 2. Standing Railroad Equipment 3. Passing Train 4. Topography 5. Vegetation 6. Highway Vehicle 7. Other (specify in narrative) 8. Not obstructed | 8 |

| 101. Casulties to Highway-Rail Crossing Users | Killed | Injured |
|---|---|---|
| | 1 | 1 |

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

| 102. Highway Vehicle Property Damage (est. dollar damage) |
|---|
| 4000 |

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

| 103. Total Number of Highway-Rail Crossing Users (include driver) |
|---|
| 2 |

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

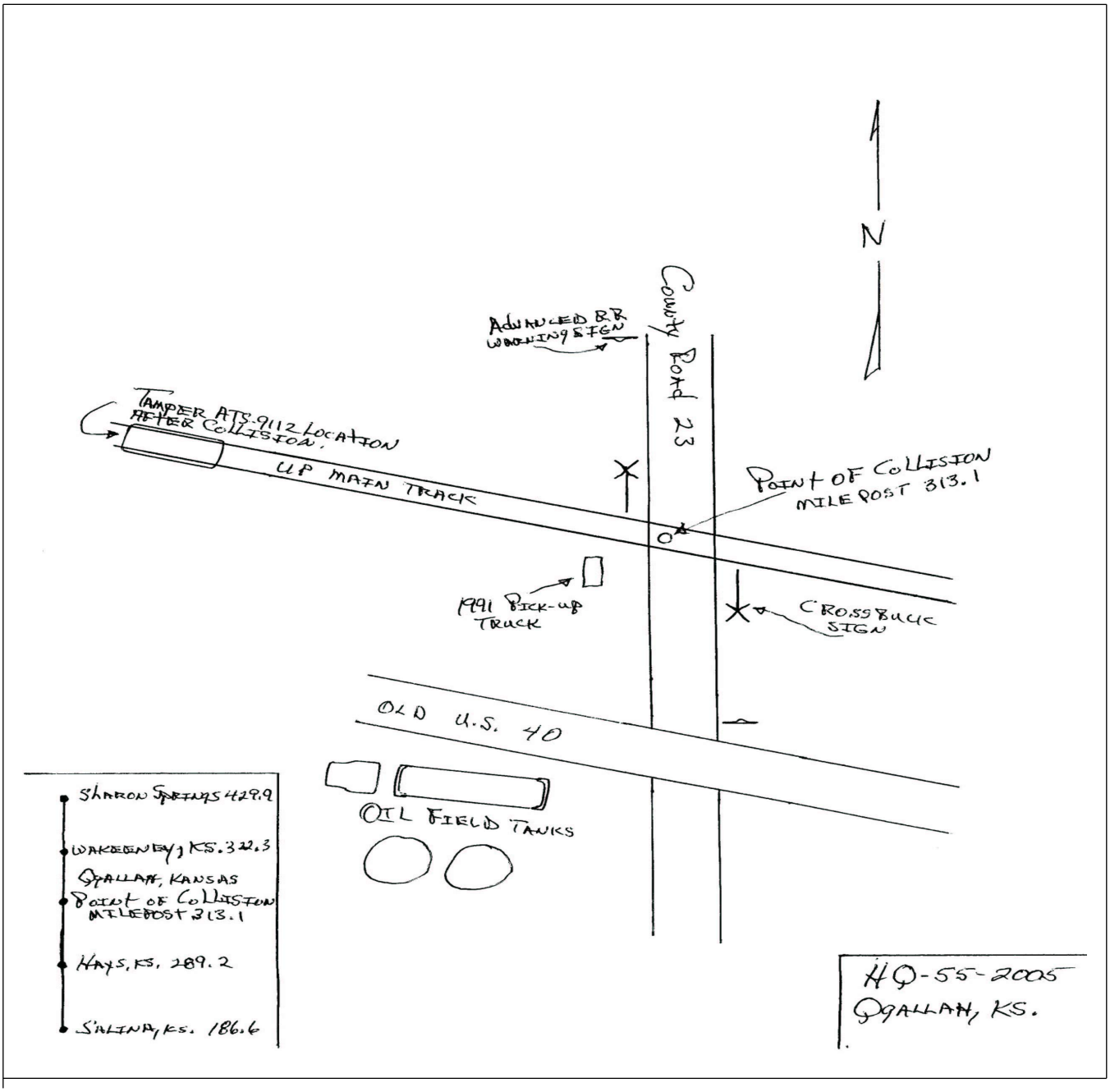
| 105. Locomotive Auxiliary Lights Operational? | Code |
|---|---|
| 1. Yes 2. No | N/A |

| 106. Locomotive Headlight Illuminated? | Code |
|---|---|
| 1. Yes 2. No | N/A |

| 107. Locomotive Audible Warning Sounded? | Code |
|---|---|
| 1. Yes 2. No | N/A |

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

HQ-55-
2005
Sketch.jpg



109. SYNOPSIS OF THE ACCIDENT

On July 13, 2005, at 12:26 pm, a westbound Union Pacific Railroad Company (UP) Tamper, ATS-9112, operating at an estimated speed of 15 mph collided with a southbound pick-up truck operating at an estimated speed of 15 mph at a passive highway-rail grade crossing intersection equipped with crossbucks only. The collision occurred in Ogallah, Kansas, at UP Milepost 313.1 on the Denver Division, Sharon Springs Subdivision.

The motor vehicle contained two occupants. The driver sustained minor injuries and the passenger was fatally injured. The pick-up truck damages were $4,000.00.

The Maintenance-of-way on-track equipment Tamper Operator was not injured. The estimated monetary damages were $30, 000.00 to the Tamper. The Tamper did not derail.

The weather at the time of the collision was daylight, clear, and 94 °Fahrenheit.

A contributing cause was the 12-year-old motor vehicle driver did not comply with Kansas State Statute 8-235, requiring a valid driver's license. The primary cause of the collision was the failure of the Tamper Operator to comply with railroad operating rule requiring on-track equipment to approach all grade crossings prepared to stop and must yield right-of-way to vehicular traffic.

110. NARRATIVE

The following information was obtained from an investigation that was conducted by the Federal Railroad Administration.

Circumstances Prior to the Accident

The 35-ton 1991 Pandrol Jackson 6700 tamper, identified by the UP as ATS-9112, was assigned to a UP Tamper Operator headquartered in WaKeeney, Kansas.

On the day of the collision, the Tamper Operator went on duty at 7:30 a.m., in WaKeeney, at the west end of the auxiliary track. The Tamper Operator conducted tamper machine preventive maintenance until approximately 9:15 a.m, when the Foreman arrived. The Foreman performed a "job briefing" and then contacted the train dispatcher so as to request track-and-time for two on-track machines, the tamper and regulator, to occupy the main track between mileposts 308 and 320. The two on-track machines were to conduct on-track maintenance-of-way activities east of WaKeeney. The Foreman instructed the Tamper Operator to tamp at milepost 311.5 and then proceed west to milepost 313.75 so as to install a yellow board for eastbound train movements through their designated work area. The Tamper Operator completed his work at milepost 311.5 and then proceeded westbound at approximately 15 mph destined to install the yellow board at milepost 313.75. The highway-rail grade crossing collision at milepost 313.1, County Road 23, occurred during this movement.

The 1991 Dodge pick-up truck had two occupants, a 12-year-old male driver and an elderly female passenger. The pick-up truck was traveling southbound on County Road 23 approaching the grade crossing intersection at approximately 15 mph. Information on the driver's attentiveness and activities prior to the collision are not available. As a result of the head injuries sustained in the collision, the 12-year-old male driver could not remember events prior to the collision or the collision itself.

The railroad through the area is a tangent single main track with a 0.25% ascending westbound grade. County Road 23 intersects the UP single main track at an approximate 60 degree angle. The elevation of the highway-rail grade crossing intersection is slightly elevated with predominantly level agriculture terrain surrounding the intersection.

The railroad timetable direction is east to west and the geographical direction is the same. The geographical direction of County Road 23 is north to south.

FRA Factual Railroad Accident Report Box 30, The Method(s) of Operation for the Tamper Machine: p.(other) Track and Time.

The Accident

ATS-9112 Tamper

The Tamper Operator was operating the tamper westbound with the tamper header facing west as he approached County Road 23 at approximately 15 mph. There is no speedometer in the ATS-9112 Tamper so the speed was estimated by the Tamper Operator. The Tamper Operator approached the subject highway-rail grade crossing observing County Road 23 north and south of the intersection, operating the tamper's on-board horn and headlights illuminated. He did not see any roadway vehicles as he proceeded to the intersection with the Tamper control lever in forward position. The sight quadrants were not obstructed, although his field of vision was restricted by a "tunnel vision" affect of the tamper's long nose tamping heads and light buggy facing the forward movement of the tamper. As the Tamper entered the intersection, the Tamper Operator indicated he noticed a pick-up truck for a "split second". He felt the tamper impact the vehicle and noticed debris from the tamper's front light buggy impacting the cab of the tamper. He immediately placed the tamper control lever in neutral and applied the air brakes. The tamper did not derail and stopped approximately 500 feet west of the point of impact.

The Tamper Operator tried to contact his foreman via the on-board, two-way radio with negative response. He disembarked the tamper and utilized his personal cell phone to contact "911" emergency response as he proceeded east to County Road 23 intersection. When he arrived at the point of impact, he noticed a young male individual who appeared to be disoriented with blood on his face. The young male indicated he was the driver of the pick-up truck that was struck at County Road 23 intersection. The Tamper Operator also observed two male individuals at the intersection whom were oil field truck drivers from the nearby oil field tank battery storage facility. They had not witnessed the collision, although they were located approximately 300 feet south of the intersection. They were pump loading their semi trucks with oil from a tank battery facility. They were contacted by the pick-up truck driver and requested to contact "911" emergency response as he had been in a collision at the grade crossing.

The UP Maintenance-of-way section gang was monitoring the railroad radio communications of the Tamper Operator trying to contact the Foreman. The section gang was able to contact the Foreman via on-board radio communications and indicated that the Tamper Operator was involved in a grade crossing collision at Ogallah. The Foreman contacted his Manager of Track Maintenance. The two UP officials conducted an on scene investigation of the collision. The Tamper Operator was not injured. He was transported from the collision scene to his residence in WaKeeney by his mother.

The ATS-9112 Tamper was operating with no known defective conditions prior to the collision. The Tamper Operator was wearing a seatbelt at the time of the collision.

1991 Dodge Pick-up Truck

The pick-up truck was traveling south on the 2-lane sand surfaced County Road 23, at approximately 15 mph and did not stop for the on-track tamper equipment. The tamper impacted the pick-up truck behind the driver's door. The pick-up truck came to a rest on its top in the ditch facing northwest in the southwest quadrant of the grade crossing intersection. The female occupant was thrown from the pick-up truck and was fatally injured. The family of the 12-year-old male driver, confirmed that he did not have a valid driver's license. They also confirmed that the passenger was a 75-year-old female and the Grandmother of the driver.

The Kansas Highway Patrol Trooper arrived on scene at 12:38 p.m. The Trego County EMS squad arrived on scene at 12:42 p.m. They coordinated emergency response efforts at the scene. The driver of the pick-up truck was treated for head injuries, lacerations, and bruises. He was taken by ambulance to Trego County-Lemke Memorial Hospital in WaKeeney. The 75-year-old female passenger was thrown from the vehicle and was crushed as the pick-up rested on her.

Analysis

The Tamper Operator had railroad authority to operate the on-track tamper through the subject area; however, UP's On-track Operating Rule 42.6 requires the operator of on-track equipment to stop and yield right-of-way to vehicular traffic at all highway-rail grade crossing intersections. The Kansas Highway Patrol Trooper indicated that the motor vehicle driver's failure to be attentive, look, and listen before entering the highway-rail grade crossing, contributed to the collision.
Conclusions

The Tamper Operator failed to comply with UP On-track Operating Rule 42.6 which requires on-track equipment to stop and yield right-of-way to vehicular traffic at all highway-rail grade crossing intersections.

Based on the evidence available, the Kansas Highway Patrol Trooper surmised the pick-up truck driver's lack of proper driver's training, experience, and a valid driver's license were predominant factors that contributed to the collision. However, the 12-year-old motor vehicle driver was not cited for violation of Kansas State Statute 8-235, requiring a valid driver's license.

Probable Cause & Contributing Factors

A contributing cause was the 12-year-old motor vehicle driver did not comply with Kansas State Statute 8-235, requiring a valid driver's license. The primary cause of the collision was the failure of the Tamper Operator to comply with railroad operating rule requiring on-track equipment to approach all grade crossings prepared to stop and must yield right-of-way to vehicular traffic. The FRA concurs with the findings.