Federal Railroad Administration
Office of Railroad Safety
Accident and Analysis Branch

Accident Investigation Report
HQ-2014-1012

Union Pacific Railroad Company (UP)
White Castle, LA
October 12, 2014

Note that 49 U.S.C. §20903 provides that no part of an accident or incident report, including this one, 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.

U.S. Department of Transportation
Federal Railroad Administration

FRA FACTUAL RAILROAD ACCIDENT REPORT

FRA File #HQ-2014-12

TRAIN SUMMARY

1. Name of Railroad Operating Train #1	1a. Alphabetic Code	1b. Railroad Accident/Incident No.
Union Pacific Railroad Company	UP	1014LV004

GENERAL INFORMATION

1. Name of Railroad or Other Entity Responsible for Track Maintenance	1a. Alphabetic Code	1b. Railroad Accident/Incident No.
Union Pacific Railroad Company	UP	1014LV004
2. U.S. DOT Grade Crossing Identification Number	**3. Date of Accident/Incident**	**4. Time of Accident/Incident**
448951S	10/12/2014	1:35 AM

5. Type of Accident/Incident
Hwy-Rail Crossing

6. Cars Carrying HAZMAT	7. HAZMAT Cars Damaged/Derailed	8. Cars Releasing HAZMAT	9. People Evacuated	10. Subdivision
0	0	0	0	Livonia

11. Nearest City/Town	12. Milepost *(to nearest tenth)*	13. State Abbr.	14. County
WHITE CASTLE	75.2	LA	IBERVILLE

15. Temperature (F)	16. Visibility	17. Weather	18. Type of Track
76 °F	Dark	Clear	Main

19. Track Name/Number	20. FRA Track Class	21. Annual Track Density *(gross tons in millions)*	22. Time Table Direction
Livonia Subdivision	Freight Trains-60, Passenger Trains-80	41.3	North

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OPERATING TRAIN #1

1. Type of Equipment Consist:	2. Was Equipment Attended?	3. Train Number/Symbol
Freight Train	Yes	LLD66-11

4. Speed (recorded speed, if available) R - Recorded E - Estimated	Code	5. Trailing Tons (gross exluding power units)	6a. 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	Code
49 MPH	R	2882		0

6. Type of Territory

Signalization:

Signaled

Method of Operation/Authority for Movement:

Signal Indication

Supplemental/Adjunct Codes:

Q, N/A

7. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded (yes/no)	8. 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 1724	1	yes		0	0
(2) Causing *(if mechanical, cause reported)*	0	0	no	9. Was this consist transporting passengers?		No

10. Locomotive Units (Exclude EMU, DMU, and Cab Car Locomotives.)	a. Head End	Mid Train b. Manual	Mid Train c. Remote	Rear End d. Manual	Rear End e. Remote	11. Cars (Include EMU, DMU, and Cab Car Locomotives.)	Loaded a. Freight	Loaded b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Train	2	0	0	0	0	(1) Total in Equipment Consist	22	0	0	0	0
(2) Total Derailed	0	0	0	0	0	(2) Total Derailed	0	0	0	0	0

12. Equipment Damage This Consist	13. Track, Signal, Way & Structure Damage
1000	26200

14. Primary Cause Code

M308 - Highway user deliberately disregarded crossing warning devices

15. Contributing Cause Code

M301 - Highway user impairment because of drug or alcohol usage (as determined by local authorities, e.g., police)

Number of Crew Members				Length of Time on Duty	
16. Engineers/Operators	17. Firemen	18. Conductors	19. Brakemen	20. Engineer/Operator	21. Conductor
1	0	1	0	Hrs: 7 Mins: 35	Hrs: 7 Mins: 35

Casualties to:	22. Railroad Employees	23. Train Passengers	24. Others	25. EOT Device?	26. Was EOT Device Properly Armed?
				Yes	Yes
Fatal	0	0	3	27. Caboose Occupied by Crew?	
Nonfatal	0	0	0		N/A

28. Latitude	29. Longitude
30.000000000	-91.000000000

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CROSSING INFORMATION

Highway User Involved		Rail Equipment Involved
1. Type: Auto		5. Equipment: Train (Units Pulling)
2. Vehicle Speed *(est. mph at impact)*: 15	3. Direction *(geographical)*: East	6. Position of Car Unit in Train: 1
4. Position of Involved Highway User: Moved over Crossing		7. Circumstance: Rail Equipment Struck Highway User
8a. Was the highway user and/or rail equipment involved in the impact transporting hazardous materials?: Neither		8b. Was there a hazardous materials release by: Neither

8c. State here the name and quantity of the hazardous material released, if any.: N/A

9. Type of Crossing Warning	10. Signaled Crossing Warning	11. Roadway Conditions
1. Gates 4. Wig wags 7. Crossbucks 10. Flagged by crew 2. Cantilever FLS 5. Hwy. traffic signals 8. Stop signs 11. Other *(spec. in narr.)* 3. Standard FLS 6. Audible 9. Watchman 12. None 1, 2, 3, 6, 7	1, 1, 1, 1	Dry

12. Location of Warning	13. Crossing Warning Interconnected with Highway Signals	14. Crossing Illuminated by Street Lights or Special Lights
Both Sides	No	Yes

15. Highway User's Age	16. Highway User's Gender	17. Highway User Went Behind or in Front of Train and Struck or was Struck by Second Train	18. Highway User
37	Male	No	Went around the gate

19. Driver Passed Standing Highway Vehicle	20. View of Track Obscured by *(primary obstruction)*
No	Permanent Structure

Casualties to:	Killed	Injured	21. Driver was	22. Was Driver in the Vehicle?
			Killed	Yes
23. Highway-Rail Crossing Users	3	0	24. Highway Vehicle Property Damage *(est. dollar damage)*: 4000	25. Total Number of Vehicle Occupants *(including driver)*: 3

26. Locomotive Auxiliary Lights?	27. Locomotive Auxiliary Lights Operational?
Yes	Yes
28. Locomotive Headlight Illuminated?	29. Locomotive Audible Warning Sounded?
Yes	Yes

10. Signaled Crossing Warning

1 - Provided minimum 20-second warning
2 - Alleged warning time greater than 60 seconds
3 - Alleged warning time less than 20 seconds
4 - Alleged no warning
5 - Confirmed warning time greater than 60 seconds
6 - Confirmed warning time less than 20 seconds
7 - Confirmed no warning
N/A - N/A

Explanation Code

A - Insulated rail vehicle
B - Storm/lightning damage
C - Vandalism
D - No power/batteries dead
E - Devices down for repair
F - Devices out of service
G - Warning time greater than 60 seconds attributed to accident-involved train stopping short of the crossing, but within track circuit limits, while warning devices remain continuously active with no other in-motion train present
H - Warning time greater than 60 seconds attributed to track circuit failure (e.g., insulated rail joint or rail bonding failure, track or ballast fouled)
J - Warning time greater than 60 seconds attributed to other train/equipment within track circuit limits
K - Warning time less than 20 seconds attributed to signals timing out before train's arrival at the crossing/ island circuit
L - Warning time less than 20 seconds attributed to train operating counter to track circuit design direction
M - Warning time less than 20 seconds attributed to train speed in excess of track circuit's design speed
N - Warning time less than 20 seconds attributed to signal system's failure to detect train approach
O - Warning time less than 20 seconds attributed to violation of special train operating instructions
P - No warning attributed to signal systems failure to detect the train
R - Other cause(s). Explain in Narrative Description

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SYNOPSIS

Synopsis

A northbound Union Pacific Railroad (UP) freight train collided with an automobile traveling eastbound at a highway-rail grade crossing on October 12, 2014, at 1:35 a.m., CST. The accident occurred in White Castle, Louisiana, at UP Milepost 75.2, on the UP Livonia Subdivision. The motor vehicle driver and both passengers were killed. The automobile was completely destroyed. There were no injuries to the train crew. The leading locomotive sustained minor damage of about $1,000 and about $26,200 damage to the track signal equipment occurred. No cars or locomotives derailed.

At the time of the accident, it was dark with clear weather conditions. The temperature was 76 degrees Fahrenheit, with no noticeable wind.

The accident was caused by failure of the motor vehicle driver to yield to the train. According to the White Castle Police Chief's report, the driver was in violation of disregarding traffic control while moving prior to crash. A contributing factor in this accident was the impairment of the driver as determined by the results of an autopsy.

NARRATIVE

Circumstances Prior to the Accident:

The crew of Train UP LLD66-11 included a locomotive engineer and conductor. As normal, they went on duty at Union Pacific Railroad (UP) yard, Donaldsonville, Louisiana, at Milepost (MP) 65 at 6:00 p.m., CST. This was the home terminal for each crewmember. Each employee received more that the statutory off duty period prior to reporting for duty.

After a job briefing and receiving required train documentation, the crew traveled with locomotives only with Locomotive UP 1724 in the lead, short nose forward, and Locomotive UP 1719 in the trailing position traveling south to CF industry at MP 54. Once at CF Industry, the crew put their train together and conducted a Class 1 air brake test and attached an armed-end of train device CN 71717, at approximately 8:20 p.m. The train make up consisted of 2 locomotives, 22 loads, 0 empties, with 2,882 gross tons, and train length of 1,131 feet. The crew departed at approximately 10:00 p.m. north towards Livonia.

As the northbound train approached the accident area, the Locomotive Engineer was seated at the controls on the east side of the leading locomotive. The Conductor was seated on the west side of the leading locomotive in the conductor's seat.

The railroad timetable direction of this train was north. The geographic direction was northwest. Timetable directions are used throughout this report.

Highway vehicle:

The automobile was traveling west to east on Bowie Street, in downtown White Castle. The vehicle involved in the accident was a 2000 Pontiac Firebird with two passengers traveling east. According to the Conductor, the driver drove around the gate turned south towards the train, as if to avoid the gates on the east-end of the crossing, and was struck by the train. According to the White Castle Police Department, the estimated speed of the vehicle was not listed in the report. Crew reported the estimated speed to be around 15 mph. The speed limit on Bowie Street at this location is 30 mph.

The Accident:

Train UP LLD66-11 North

The train was being operated at a recorded speed of 49 mph approaching the accident area. The train crew's view of the crossing was obstructed by a building on the west side of the tracks. The Conductor said he became aware of the impeding collision about two car-lengths prior to the collision. Seconds prior to the collision, the Conductor said he stood up and said something to the effect "we are going to get them." The Engineer's view of the approaching vehicle was blocked by the building, and then by the hood of the engine. He never saw the approaching vehicle until impact. After impact, the Engineer placed the throttle into the idle position, made a full application, and then placed the train into emergency from front to rear. The train began to immediately slow after the collision occurred. The train's speed was recorded by the event recorder of the controlling locomotive. The maximum authorized speed for this train was 60 mph, as designated in the current UP Timetable Number 5.

The train struck the right-front, and right side of the automobile. The automobile was thrust to the front right side of the train, coming to a rest around the crossing gate pole on the east side of the crossing. The vehicle was a white Pontiac Firebird which was completely destroyed as a result of the collision.

While in emergency, the train continued to travel north for approximately 2,761 feet before coming to a complete stop just past U.S. DOT Crossing Number 448951S. After the train came to a stop, the conductor stayed on the locomotive and announced EMERGENCY three times, STOP ALL TRAIN TRAFFIC over the radio. He also attempted to contact the dispatcher using the 911 feature. He was unable to contact the dispatcher using this function, and then toned the dispatcher. Shortly afterward the dispatcher answered the radio, and the Conductor reported the accident and requested EMS to be dispatched to the scene. The Engineer got off of the engine to tie handbrakes and inspect the locomotive for damage and fuel leaks. While inspecting the front of the locomotive, he noticed remnants of the victims and a cell phone in a pink case. He was unable to continue with his inspection at this point, and both crew members starting walking back to the scene of the accident.

At approximately 1:45 a.m., the White Castle Police Department, local EMS, and Fire Department officials arrived at the scene. UP's Manager of Yard Operations (MYO) arrived at approximately 2:00 a.m. At 2:10 a.m., the Louisiana State Police arrived on the scene. At some point, local citizens were voicing their frustration with the train crew members as the local citizens felt the train crew caused the fatalities; as a result, local authorities transported the crewmembers back to the head-end of the train for their own safety. UP's MYO ascertained that the train crew members needed no medical attention. The White Castle Police Department interviewed the crewmembers.

UP's MYO from UP's Addis yard was immediately dispatched to the collision location. He arrived at approximately 2:00 a.m. He was soon thereafter joined by the Manager of Operating Practices (MOP), Claims Representative, Track Inspector, and Signal Maintainer. According to UP's signal inspection report, all crossing warning devices were operating as designed at the time of the collision. The MOP downloaded the locomotive download information once on-scene.

At approximately 2:00 a.m., the Iberville Parish Coroner arrived on the scene and pronounced the driver and two passengers in the vehicle deceased.

Analysis and Conclusions:

Analysis –Toxicological Testing: The Plaquemine Coroner's Office ordered toxicological testing of the driver. The results indicate the driver's blood showed 0.140 gm% (140 mg/dl) COCAINE 0.095 MICROGRAMS/ML, COCAINE METABOLITE (BENZOYLECGONINE) 0.03 MICROGRAMS/ML, COCAINE METABOLITE (METHYLECGONINE 0.13 MICROGRAMS/ML. His urine showed COCAETHYLENE 0.054 MICROGRAMS/ML, and ETHANOL 0.142 gm% (142 mg/dl). This accident does not meet the criteria of Title 49 Code of Federal Regulations (CFR) Part 219, Subpart C, Post Accident Toxicological Testing, for crewmembers. UP did not test this crew under railroad reasonable cause authority.

Conclusion: St. Louis University Toxicology Laboratory Report TOX # 2014-67002 showed the driver was under the influence of alcohol and cocaine at the time of the accident.

Analysis- Locomotive engineer performance, LLD66-11: The Engineer was a certified locomotive engineer with a certification date of October 4, 2013, an expiration date of October 4, 2016, and a last annual train ride on July 23, 2014. He has been a qualified engineer for 2 years, with previous experience as a qualified conductor. His last rules exam was June 26, 2014. FRA reviewed this engineer's operational testing records and found no exceptions.

Conclusion: The Engineer was properly trained in compliance with Federal regulations and familiar with this territory.

Analysis of the event recorder from train UP LLD66-11: Download was conducted by UP MOP Avondale at 3:46 a.m., on October 12, 2014. Coming into White Castle, passing U.S. DOT Crossing 448952Y (crossing before accident), was 50 mph, with 18 seconds of whistle blowing. Speed at the time of the accident, at U.S. DOT Crossing 448951S, MP 75.2, was 49 mph. Whistle blow at U.S. DOT Crossing 448951S was 24 seconds, with two long, followed by one short, followed by one long through U.S. DOT Crossing 448951S. A full service brake application began just prior to impact. The train traveled an additional 284 feet prior to placing the train into emergency brake application. The train traveled 2,761 feet before coming to a complete stop just past U.S. DOT Crossing 448951S.

Conclusion: The Engineer complied with UP air brake and train handling rules and train handling was not a factor in this crossing accident.

Analysis of the Event Recorder, Lead Locomotive UP 1724: FRA reviewed the onboard forward facing camera and heard the horn blowing for the crossing. The event recorder validated the train crew properly blow the whistle in proper sequence prior to the accident in accordance with Federal regulations.

Conclusion: In relation to the operation of the train's Lead Locomotive UP 1724, the engineer operated the train in accordance with railroad operating and proper train handling.

Analysis-Conductor performance, train LLD66-11: The Conductor was last certified on July 11, 2012, with an expiration date of November 2, 2016. He was last tested on July 29, 2014, on 49 CFR Part 218, Subpart F, and his last rules exam was May 21, 2013. The Conductor had made multiple runs on this territory and it was his regularly

July 29, 2014, on 49 CFR Part 218, Subpart F, and his last rules exam was May 21, 2013. The Conductor had made multiple runs on this territory and it was his regularly assigned job. FRA reviewed this Conductor's operational testing records and found no exceptions.

Conclusion: Conductor was properly trained in compliance with Federal regulations and familiar with this territory.

Analysis – Mechanical: FRA and Union Pacific's Mechanical Department inspected locomotive and cars for damages. Records indicate the UP verified that all safety equipment; lights, horns, and bells were operating properly prior to time of the collision.

Conclusion: FRA concluded no mechanical cause contributed to this accident and all locomotive components were operating properly in accordance with Federal regulations and Railroad Operating Rules.

Analysis – Highway-Rail Grade Crossing: UP signal inspection records of the crossing signals at U.S. DOT Crossing 448951S showed the last monthly inspection on September 15, 2014, the last quarterly inspection took place on September 17, 2014, and the last annual inspection took place on January 20, 2014. These tests were performed in accordance with Federal regulations. Both crewmembers reported the crossing protection was working as designed. In addition, a review of the TIR forward-facing camera showed the crossing protection to be operating as designed.

Conclusion: The data log, tests, inspections, and observations all indicated that the U.S. DOT Crossing 448951S at Bowie Street warning system operated in compliance with the Federal regulations governing Highway/Rail Grade Crossing warning systems.

Analysis-TIR: FRA reviewed the TIR forward-facing camera of lead locomotive (UP 1724) of LLD 66-11.

Conclusion: Upon review, the crossing protection showed to be operating as designed in that the gates were down and lights were operating prior to and at the time of the accident. The Locomotive Engineer gave proper warning by the use of the locomotive horn in accordance with 49 CFR Part § 222.21.

Fatigue Analysis: FRA uses an overall effectiveness rate of 77.5 percent as the baseline for fatigue analysis, which is equivalent to blood alcohol content (BAC) of 0.05. At or above this baseline, we do not consider fatigue as probable for any employee. Software sleep settings vary according to information obtained from each employee. If an employee does not provide sleep information, FRA uses the default software settings.

FRA obtained fatigue-related information, including a 10-day work history, for each employee involved from the train crew who was involved in this grade crossing accident involving three fatalities; including the Engineer and Conductor of the LLD 66-11.

Information for these employees follows:

Fatigue Conclusions:

1. Engineer assigned to: LLD66-11
Sleep setting – Good
Chronic Sleep Debt = 6.24
Hours of Continuous Wakefulness =13.78
Time of Day= 01:42
BAC Equivalent =<0.05
Finding: Fatigue was not probable for this employee.

2. Conductor assigned to: LLD66-11
Sleep setting – Good
Chronic Sleep Debt =6.23
Hours of Continuous Wakefulness =13.78
Time of Day= 01:42
BAC Equivalent =<0.05
Finding: Fatigue was not probable for this employee.

Overall Conclusions:

The collision was caused by the highway user driving around the gates and colliding with the train, M308.

Probable Cause and Contributing Factors:

The collision was cause by the highway user driving around the gates and colliding with the train, accident code M308, "highway user deliberately disregarded crossing warning devices." Contributing factor in this accident is accident code M301, "the vehicle operator's impairment of efficiency or judgment because of drugs and/or alcohol."