Federal Railroad Administration
Office of Safety
Headquarters Assigned
Accident Investigation Report
HQ-2006-93

CSX Transportation
Baltimore, OH
November 30, 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-2006-93

1.Name of Railroad Operating Train #1 CSX Transportation [CSX]	1a. Alphabetic Code CSX	1b. Railroad Accident/Incident No. R000027246
2.Name of Railroad Operating Train #2 CSX Transportation [CSX]	2a. Alphabetic Code CSX	2b. Railroad Accident/Incident R000027246
3.Name of Railroad Responsible for Track Maintenance: CSX Transportation [CSX]	3a. Alphabetic Code CSX	3b. Railroad Accident/Incident No. R000027246
4. U.S. DOT_AAR Grade Crossing Identification Number	5. Date of Accident/Incident Month 11 / Day 30 / Year 2006	6. Time of Accident/Incident 12:19:00 ☐ 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) — **01**

8. Cars Carrying HAZMAT	9. HAZMAT Cars Damaged/Derailed	10. Cars Releasing HAZMAT	11. People Evacuated	12. Division
2	2	0	0	Great Lakes

13. Nearest City/Town	14. Milepost (to nearest tenth)	15. State Abbr	15. State Code	16. County
North Baltimore	50.62	N/A	OH	WOOD

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
50 F		2		3		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
Willard Main Track 2		4	120		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	26. Was Equipment Attended? 1. Yes 2. No	Code	27. Train Number/Symbol
	1	1. Yes	1	Q37529

28. Speed (recorded speed, if available) R - Recorded E - Estimated			Code	30. Method(s) of Operation (enter code(s) that apply)			30a. Remotely Controlled Locomotive?
E - Estimated	47	MPH	N/A	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)	0 = Not a remotely controlled 1 = Remote control portable 2 = Remote control tower 3 = Remote control transmitter - more than one remote control transmitter: 0

29. Trailing Tons (gross tonnage, excluding power units): 1834

Code(s): e | N/A | N/A | N/A | N/A

31. Principal Car/Unit	a. Initial and Number	b. Position in Train	c. Loaded (yes/no)
(1) First involved (derailed, struck, etc)	N/A	5	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	35. Cars	Loade a. Freight	Loade b. Pass.	Empty c. Freight	Empty d. Pass.	e. Caboose
(1) Total in Train	4	0	0	0	0	(1) Total in Equipment Consist	10	0	25	0	0
(2) Total Derailed	0	0	0	0	0	(2) Total Derailed	10	0	3	0	0

36. Equipment Damage This Consist	37. Track, Signal, Way, & Structure Damage	38. Primary Cause Code	39. Contributing Cause Code
147364	169316	M409	N/A

Number of Crew Members				Length of Time on Duty	
40. Engineer/ Operators	41. Firemen	42. Conductors	43. Brakemen	44. Engineer/Operator	45. Conductor
N/A	0	1	0	Hrs 4 Mi 19	Hrs 4 Mi 19

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

49. EOT Device? 1. Yes 2. No	50. Was EOT Device Properly Armed? 1. Yes 2. No
1	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	53. Was Equipment Attended? 1. Yes 2. No	Code	54. Train Number/Symbol
	1	1. Yes	1	U99429

55. Speed (recorded speed, if available) R - Recorded E - Estimated			Code	57. Method(s) of Operation (enter code(s) that apply)			57a. Remotely Controlled Locomotive?
E - Estimated	12	MPH	R	a. ATCS b. Auto train control	g. Automatic block h. Current of traffic	m.Special instructions n. Other than main track	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
16788			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)	BNSF65 1029	111	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	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	119	0	0	0	0
(2) Total Derailed	0	0	0	0	0	(2) Total Derailed	5	0	0	0	0

63. Equipment Damage This Consist	64. Track, Signal, Way, & Structure Damage	65. Primary Cause Code	66. Contributing Cause Code
173107	0	M409	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	0	1	0	Hrs 3 Mi 34	Hrs 3 Mi 34

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 | 1

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

78. Caboose Occupied by Crew? 1. Yes 2. No | N/A

Highway User Involved

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

80. Vehicle Speed (est. MPH at impact): 0

81. Direction geographical) — Code: 1
1.North 2.South 3.East 4.West

82. Position — Code: 2
1.Stalled on Crossing 2.Stopped on Crossing 3.Moving Over Crossing
4. Trapped

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

Rail Equipment Involved

83. Equipment — Code: 1
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)

84. Position of Car Unit in Train: 5

85. Circumstance — Code: 1
1. Rail Equipment Struck Highway User
2. Rail Equipment Struck by Highway User

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

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

87. Type of Crossing Warning — Code(s): 01 N/A N/A N/A N/A N/A N/A
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: 01

89. Whistle Ban — Code: 2
1. Yes
2. No
3. Unknown

90. Location of Warning — Code: 1
1. Both Sides
2. Side of Vehicle Approach
3. Opposite Side of Vehicle Approach

91. Crossing Warning Interconnected with Highway Signals — Code: 2
1. Yes
2. No
3. Unknown

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

93. Driver's Age: 48

94. Driver's Gender — Code: 1
1. Male
2. Female

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

96. Driver — Code: 5
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)

97. Driver Passed Standing Highway Vehicle — Code: 2
1. Yes 2. No 3. Unknown

98. View of Track Obscured by (primary obstruction) — Code: 8
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

101. Casulties to Highway-Rail Crossing Users	Killed	Injured
	0	1

99. Driver Was — Code: 2
1. Killed 2.Injured 3. Uninjured

100. Was Driver in the Vehicle? — Code: 1
1. Yes 2. No

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

103. Total Number of Highway-Rail Crossing Users (include driver): 3

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

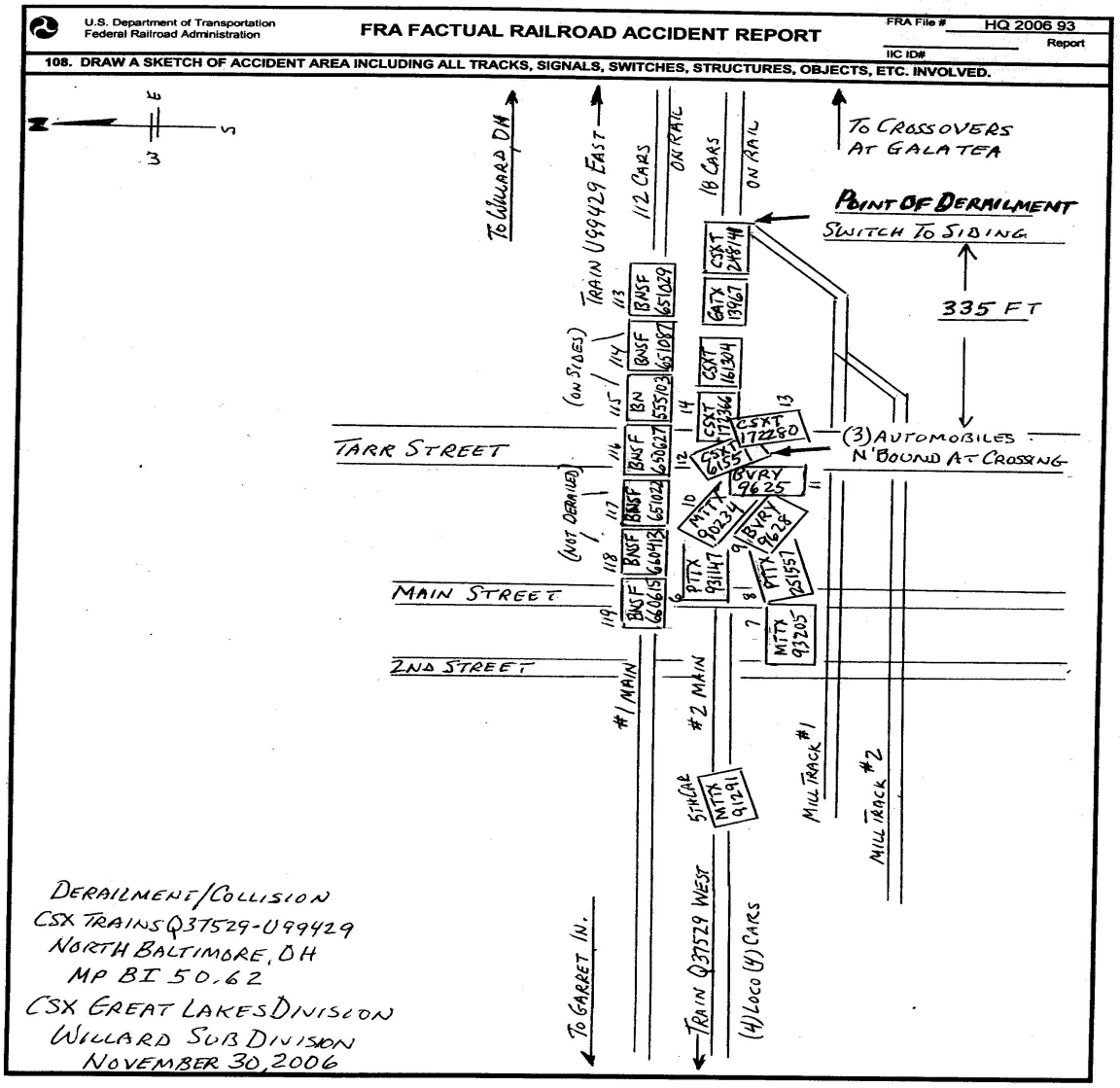
105. Locomotive Auxiliary Lights Operational? — Code: 1
1. Yes 2. No

106. Locomotive Headlight Illuminated? — Code: 1
1. Yes 2. No

107. Locomotive Audible Warning Sounded? — Code: 1
1. Yes 2. No

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

HQ-2006-93 SKETCH.jpg



109. SYNOPSIS OF THE ACCIDENT

On November 30, 2006, 12:19 pm, CSX westbound freight train Q-37529 derailed while operating westward on Main Track # 2 at North Baltimore, OH, Milepost BI-50.62, CSX Great Lakes Division, Willard Subdivision.

The derailment of this westbound train Q-37529 resulted in a collision with, and derailment of, CSX Train U-99429 which was a loaded coal train operating eastward on Main Track # 1, MP BI-50.62.

There were no injuries sustained by any crew members of either train; however, there were injuries reported by three citizens who were in their vehicles positioned on the south side of Main Track # 2 and struck by cars of Train Q-37529 at the time of the derailment. All three vehicles were damaged.

The total equipment derailed was ten (10) loaded, three (3) empty on train Q-37529 and five (5) loaded on train U-99429. Total damages were estimated at $ 320,471 Equipment, $ 175,000 Track, and $ 44,316 Signal.

There was no release of hazardous materials as a result of this derailment/collision accident and the weather at the time of the accident was raining, and 50 degrees.

The probable cause was a loose load-binding chain attached to, and dragging from, the south side (B end) of car MMTX 91291 on train Q-37529 which became entangled with the operating lever of a hand throw, New Century 51-A switch stand positioned on the south side of Main Track # 2. This chain ripped the switch operating lever and latch (which was locked) from the timber and opened the switch under movement derailing the train.

The contributing factor to this accident was the improper securement of this chain and the positioning the switch stand (in deviation of CSX maintenance practices) which allowed the chain to become entangled with the switch operating lever and open the switch under movement.

110. NARRATIVE

Circumstances Prior to the Accident

Train CSX Q-37529 West (Train # 1)

The crew on CSX Train Q-37529 included an Engineer and Conductor. Both reported for duty at 8:00 am at Lima, OH and were transported by taxi to Willard, OH where they boarded their train at 9:50 am. Both had received the statutory 8.0 hours off-duty period prior to reporting to duty. They left Willard at 11:15 am and were on duty for 4 hours - 19 minutes prior to the accident.

The train consisted of four locomotives (2 lead locomotives were operating, 2 rear units were dead in tow) handling 10 loads, 25 empties with a total load of 1,834 trailing tons and a length of 2,627 feet.

The normal operation for this train, which originates at Cumberland, MD, is to set off the Cincinnati cars and pick up a Nashville block of cars upon arrival at Willard, OH.

Train Q-37529 departed Willard, OH on Main Track # 1 and, on the approach to North Baltimore, OH, the crew received a signal indication to traverse from Main Track # 1 to Main Track # 2 via the crossover at Galatea, OH (MP BI-49.1) in order to proceed south on the Toledo Subdivision toward Cincinnati, OH.

As they made this crossover move, the crew saw that there was an eastbound train traveling just west of of Galeta and that crew informed them that their train "looked good by Galeta".

The Engineer was sounding his horn for the approach to the Tarr Street road crossing, noticing that there were automobiles on the south side of the track heading north on Tarr Street. Just after crossing Tarr Street, the Engineer stated he felt like the train was experiencing a wheel slip and then it went into an emergency brake application.

Train CSX U-99429 East (Train # 2)

The crew on CSX Train U-99429 included an Engineer and Conductor. Both reported for duty at 8:45 am at Garret, IN and both had received the statutory 8.0 hours off-duty period prior to reporting for duty. They were on duty 3 hours - 34 minutes prior to the accident.

As the train was traveling east on Main Track # 1 through the town of North Baltimore, OH they were operating on an "approach" signal indication and the dispatcher had informed the crew they were going to meet a westbound train at Galeta. In anticipation of this, the train had slowed down to approximately 10 mph using the trains dynamic brake.

The crew stated they saw Train Q-37529 after it crossed over from Main Track # 1 to Main Track # 2 and did not notice anything out of the ordinary. (The chain that was dragging was on the opposite side of the train from their position).

After Train Q-37529 crossed over from # 1 track to # 2 track, the crew of Train U-99429 observed their signal indication at Galeta change from "stop" to a "clear" indication. With this, they started to increase their speed and shortly afterward their train went into an emergency brake application. They got on the radio to inform the dispatcher of this and at the same time heard the crew of Train Q-37529 informing the dispatcher that they had derailed.

The Accident

Trains CSX Q-37529 West / Train CSX U-99429 East

As CSX Train Q-37529 operated westward on Main Track # 2 at an approximate speed of 47 mph, CSX coal train U-99429, which had reduced speed pending the clearing of
Q-37529 through the crossover at Galatea, was operating at an approximate speed of 12 mph eastbound on Main Track # 1. Both of these speeds were recorded on the event recorders of the lead locomotives of the respective trains.

As the trains passed each other in downtown North Baltimore, OH the fifth head-car (MTTX 91291) in Train Q-37529, which was an empty flat car positioned as an idler, derailed at the point of switch of an industry siding at MP BI-50.62. The derailment of car MTTX 91291 resulted in the derailment of thirteen other cars (5th through 17th head-cars) on westbound train Q-37529.

The derailment of Q-37529 resulted in a collision with, and subsequent derailment of, five loaded coal cars (113th through 116th and 119th head-cars) on eastbound Train U-99429. Also, there were two coal cars (117th & 118th) in Train U-99429 that were damaged, but not derailed. The crew on Train U-99429 reported experiencing an emergency brake application immediately after receiving a clear signal at Galatea, MP BI-49.9.

In addition to the re-railing contractors R. J. Corman and Hulcher, local police and fire department personnel, CSX personnel and FRA Inspectors responded to the derailment.

Investigation

The on ground investigation revealed that the point of derailment of the 5th head-car in Train Q-37529 (MTTX 91291) occurred at the point of switch of an industry siding (North Baltimore House Track) located 335 feet east of the Tarr Street road crossing on Main Track # 2.

Further investigation determined there was an unused 40-foot load-binding chain attached to, and dragging from, the south side ("B"-end) of MTTX 91291. This chain became entangled with the ball of the operating lever of a New Century 51-A, hand throw switch stand.

This switch stand was positioned on the south rail of Main Track # 2 and it was determined
that, with the switch aligned and locked for the normal (Main Track) move, the operating lever of the switch pointed away from the frog (pointing eastward toward the facing movement of the westbound train) prior to the accident.

There was marked evidence on the U-shaped portion of the ball of the switch operating lever which indicated that the chain made contact and that the continued westward movement of Train Q-37529 resulted in the chain pulling the operating lever (which was still locked in the east switch latch) up and over from the east-side head block tie moving it in a westward direction coming to rest on top of the west switch latch.

This movement of the switch operating lever resulted in the opening of the switch under the train and the 6th head-car in Q-37529 (PTTX 931147) started into the industry siding causing the train to go into an emergency brake application. The next five cars in Train
Q-37529: (MTTX 93205, PTTX 251557, BVRY 9628, MTTX 90234 and BVRY 9625) continued to the to the south side of Main Track # 2. The next three cars after that: (CSXT 161551, CSXT 172366 and CSXT 172280) jackknifed into a general pileup and collided with and derailed the 111th head-car (BNSF 651029) and four other cars in Train U-99429.

The crew on Q-37529, as well as several CSX engineering employees, were questioned concerning their knowledge of subject 40-foot chain. The crew on Q-37529 reported that
they passed the dragging equipment detector at Bascom (MP BI 31.1) without any warning of dragging equipment.

A CSX engineering employee reported he inspected Train Q-37529 as it passed Godsend (MP BI-39.2) and took no exceptions and a CSX Engineering Supervisor and Inspector also reported inspecting Train Q-37529 just west of Godsend and they took no exceptions.

Following the accident, the CSX engineering supervisor reported seeing markings on a road crossing at MP BI-40.6 indicating the chain was dragging along the roadbed at that point.

Track / Road Crossing

The accident occurred in TCS (Traffic Control System) double track territory on tangent track. Timetable speed on both tracks on this segment of track is 60 mph. Approximately 75 trains pass through North Baltimore, OH in a 24 hour period (1 switcher each day, 30 trains daytime and 44 trains each night). There are no Amtrak operations on the Willard Subdivision.

Tarr Street is a two-lane brick paved road up to the main tracks where the grade crossing is asphalt paved. The street is 28 feet wide and is perpendicular to the main tracks approaching the grade crossing in both north/south directions. This crossing is protected by gates with flashing lights and bells. There are no obstructions in the proximity of Tarr Street crossing and the sight distance looking both east and west is excellent.

Principle Car - MTTX 91291

MTTX 91291 is a 64 ft. wood-deck flat car built August 1965. Train movement files
revealed this car was loaded on the Union Pacific on October 6, 2006; handled on the UP to Proviso on Train Q-7503 and unloaded at Salt Lake City, UT for customer Steelco, LLC.
Records reflect MTTX 91291 was received on October 22, 2006 at 4:15 am on Q-39022 and was switched to storage on October 23, 2006 at 2:31 pm in Cleveland, OH. On November 16, 2006, MTTX 91291 was removed from storage at 12:05 pm and moved to Cumberland, OH to become an idler (spacer) car for loaded steel plates.

MTTX 91291 was mechanically inspected at Cumberland, OH and placed in Train
Q-37529 as an idler (spacer) car. Train Q-37529 arrived at Willard, OH at 9:40 am on November 30, 2006 and departed Willard, OH on November 30, 2006 at 11:12 am. Car MTTX 91291 was one of several empty flats on Train Q-37529 positioned on the head end as idler cars for flat cars that were loaded with steel plates (three plates each - 1 inch thick, 11 feet wide and 92 feet 5 inches in length).

In the aftermath of the derailment, it is believed that one or more of the steel plates landed on top of one of the three vehicles (1994 Pontiac Grand Prix) stopped at the Tarr Street
road crossing on the south side of Main Track # 2 waiting for the trains to clear both main tracks.

At the derailment site, flat car MTTX 91291 was found with a set of chains with one single section of chain stretched across the deck and secured to the right and left

side lading strap anchors and the remaining length of chain was piled near the north side edge of the deck above the "A"-end truck.

There was evidence indicating that the dragging chain on the opposite lead-end of car MTTX 91291 was arranged and stored in the same manner. This probable arrangement and storage of the chain could have allowed a section of the chain on the south side deck of flat car MTTX 91291, above the "B"-end truck, to fall off and eventually become entangled with the switch operating lever that reversed the main track switch points.

New Century 51-A Type Switch Stand

According to CSX Maintenance of Way personnel, the 51-A type switch stand was installed in 1998. Track notes taken following the accident revealed no exceptions taken per FRA minimum safety standards.

Previously, the CSX Maintenance of Way Field Manual section for "Operating Lever Position" page 62, paragraph 135.2.p stated: "Hand throw switch stands on main tracks should have operating lever pointing towards frog when locked in normal position". As a result of subject derailment, this instruction has been changed from "should" to "MUST"

Also, subsequent to the accident, CSX issued system-wide instructions to locate all hand-throw switch stands with operating levers that are facing away from the frog for facing movements in the normal directions. Such switches are to be modified so that the operating lever is facing toward the frog for facing movements in the normal direction.

The position of a switch operating lever is a maintenance/construction practice only, and is not an FRA Part 213 (Track Safety Standard) requirement.

Injuries

The operators of three motor vehicles were stopped at the Tarr Street road crossing on the south side of Main Track # 2 waiting for westbound Train Q-37529 and eastbound Train U-99429 to clear the crossing on Main Track # 1 and Main Track # 2 respectively.

Based on reports from local police personnel, the first vehicle, a 1994 Pontiac Grand Prix (blue/green in color) was closest to Main Track # 2. The second, a 2002 Chevrolet Malibu (white in color) was positioned immediately behind the 1994 Pontiac and the third vehicle was a 2004 Saturn Wagon (white in color) that was positioned behind the Chevrolet Malibu. There was one occupant in each of the aforementioned vehicles - all males, ranging in age from 25-48 years.

The 48-year old male, who was operating the 1994 Pontiac, had to be removed from his vehicle with a jaws-of-life device. This individual was admitted to Medical University of Ohio Hospital, Toledo, OH where he was treated for a broken shoulder and collarbone, and a cut to his face. The Pontiac was completed demolished with the top crushed down below the height of the door handles. It appeared that the derailed equipment and/or lading (steel plates) landed on top of the this vehicle.

The 2002 Chevrolet Malibu, which was operated by a 37 year old male driver, sustained extensive damage to the front end of the vehicle and the impact of the derailing equipment and/or lading was sufficient enough to reposition the vehicle approximately 35 feet south of its previous location prior to derailment. The driver was treated at the scene but he later complained of neck and head pain and was accompanied to a medial facility by family members.

The 25 year old driver, who was operating the 2004 Saturn Wagon, was treated at the scene and damage to his vehicle was minimal.

Damage

The following damages were assessed as a result of the derailment/collision:

Equipment damage-$ 320,471 (Total for both trains)
Track damage-$ 125,000 ($ 25, 000 CSX - $ 100,000 Private Industry)
Signal damage-$ 44,316
Total-$ 489,787

Rerailing and track restoration

Two divisions from R. J. Corman were dispatched out of Toledo, OH and one division from Hulcher was dispatched from Toledo, OH.; both arriving at approximately 3:30 pm.

The last car was re-railed at 10:30 pm, November 30, 2006. The first train over Main Track # 2 was at 2:00 am on December 1, 2006 and the first train over Main Track # 1 was at 3:30 am on December 1, 2006.

Analysis and Conclusions

There are no FRA regulations governing securement of chains, removal of scrap wood, steel strapping or any other type of dunnage on any type of freight cars.

The CSX Mechanical Department discussed the particulars of this derailment and the entire loose dunnage issue with their Management Team, who were instructed to ensure that each car inspector is made aware and, in turn, instructed to remove all loose dunnage or tie down chains not properly secured while conducting pre-departure mechanical inspections.

Additionally there are no FRA regulations per Part 213 Track Safety Standards governing the placement of operating levers on hand throw switches.

However, the CSX Engineering Department (MW) revised their maintenance practices concerning the placement of hand throw switch stands. Previous to the derailment the CSX Maintenance of Way Field Manual section for "Operating Lever Position" page 62, paragraph 135.2.p stated: "Hand throw switch stands on main tracks should have operating lever pointing towards frog when locked in normal position". As a result of this derailment, this instruction has been changed from "should" to "MUST"

Also, subsequent to the derailment, CSX issued system-wide instructions to locate all hand throw switch stands with operating levers that are facing away from the frog for facing movements in the normal direction. Such switches are to be modified so that the operating lever is facing toward the frog for facing movements in the normal direction.

Probable Cause and Contributing Factors

The Federal Railroad Administration found that the contributing cause of this accident was the improper securement of this chain and the positioning of the switch stand (in deviation of CSX maintenance practices) which allowed

the chain to be entangled with the switch lever and open the switch under movement.

The FRA determined the probable cause to be a loose load-binding chain attached to, and dragging from, the south side (B end) of car MMTX 91291 on train Q-37529 which became entangled with the handle of a hand-throw, New Century 51-A switch stand positioned on the south side of Main Track # 2. This chain ripped the switch handle and latch (which was locked) from the timber and opened the switch under movement derailing the train.