June and July historically have been months of increased risk for Switching Fatalities… but all months have risk

182 Switching Fatalities
January 1, 1992 through June 20, 2010

Work Safely this Summer…and all career long

Three Switching Fatality in 2010 through June 20
April 23: Riverdale, IL
May 31: Kearny, NJ
June 10: Doswell, VA

Declines in SOFA-defined Severe Injuries
At a 13-year low in 2009… trend continues in first three months of 2010 pages 7-9

June, July, August Switching Fatality cases for review beginning on page 12

Switching Fatality and Severe Injury Update – 2010 Second Quarter

SOFA Working Group current through June 20, 2010
Three Switching Fatalities in 2010 through June 20
Preliminary Summary
(Information is not based on investigation)

1- April 23 – CSX – Riverdale, IL
An RCO Foreman had control of the RCL and stopped it clear of a switch. The Foreman aligned the switch, pitched control of the movement to her brakeman who was at the coupling 12 cars away, and began to walk. Shortly thereafter, the Foreman was struck and killed by the moving locomotive. (SSH & SOFA Findings 1-5)

2- May 31 – NJT – Kearny, NJ
A NJT Hostler was working on the locomotive fueling track and attempting to stop a slowly moving free rolling locomotive from the ground when he was caught and killed between the locomotive hand rail and a stairway railing. (SSH)

3- June 10 – CSX – Doswell, VA
A CSX conductor was doing an air brake test on his train to be ready to go South from a siding as soon as two Northward trains cleared his area. The conductor was struck and killed by the first Northward train coming by his location. (SSH)

182 Switching Fatalities, 1992 to 2009 full-year, and through June 20 for 2010

Work Safely this Summer…and all career long
Three Switching Fatalities in 2010 through June 20 (continued)

SOFA Switching Fatality History
There have been 3 Switching Fatality in 2010 in the calendar period, January 1 through June 20 (the release date of this Update). 84 Switching Fatalities have occurred in this calendar period, 1992 through 2010, 46.2 percent of the total 182 Fatalities occurring since January 1, 1992. It is not possible to predict how many Fatalities if any will occur in the remaining days and months of 2010. However, to Apply SOFA Findings...Recognize Special Switching Hazards is always good advice.

84 Switching Fatalities in the period January 1 through June 20, by year

Switching Fatalities for the period January 1 through June 20, and for full year (2010 is through June 20)
Classifying the 182 Switching Fatalities by SOFA Type

SOFA’s New Fatality Classification System

The SOFA Working Group (SWG) has developed a new classification system for Switching Fatalities. Under the old system, Switching Fatalities were classified either as a SOFA 1-5 (based on SWG findings), or a Special Switching Hazard (SSH). The new classification system recognizes that some Fatalities involve both types. Hence, now the classification of Fatalities is not necessarily mutually exclusive. The new system provides additional specificity to the events and hazards associated with Fatalities. And, hopefully, will better serve prevention efforts. Release of a new SOFA Report (in Fall 2010) will provide more detail about the new classification system. Information on SOFA 1-5 is contained in the 1999 and 2004 SOFA Reports. http://www.fra.dot.gov/Pages/1781.shtml [accessed June 20, 2010]

Shown below is a listing of SOFA 1-5, and Special Switching Hazards. Displays on subsequent pages, decompose the yearly and monthly Fatality counts into the three possible categories: ‘Special Switching Hazards only,’ ‘Special Switching Hazards and SOFA 1-5,’ and ‘SOFA 1-5 only.’

SOFA 1-5 (based on SWG findings)

| SOFA 1: Adjusting knuckles, adjusting drawbars, or installing EOT |
| SOFA 2: Struck by equipment other than their own on yard or industry track |
| SOFA 3: Lack of or inadequate job safety briefing |
| SOFA 4: Move controlled by a combination of hand and radio signals or specific distances were not given |
| SOFA 5: FE (Employee, Fatality) had 1.5 years of experience or less or had inadequate training |

15 Special Switching Hazards

| SSHCC: Close Clearance | SSHET: Employee Tripping | SSHMV: Struck by Motor Vehicle |
| SSHDA: Drugs and Alcohol | SSHEV: Environment | SSHST: Struck by Mainline Trains |
| SSHDR: Derailment | SSHFC: Failure to Confirm Route of Movement | SSHUC: Unsecured Cars |
| SSHED: Electronic Device | SSHFR: Free-Rolling Cars | SSHUM: Unexpected Movement of Railcars |
| SSHEQ: Equipment | SSJIH: Industrial Hazard | SSHMC: Miscellaneous |

Work Safely this Summer…and all career long
While cluttered, this display decomposes total yearly Fatality counts into three groups based on the new SWG classification system. At least two facts are apparent: (1) Special Switching Hazards (darker-colored bars) are involved in a large number of Fatalities; and (2) in more recent years fewer Fatalities involved SOFA 1-5 (white-colored bars).
Classifying the 182 Switching Fatalities by SOFA Type (continued)
by Month: January 1, 1992 through June 20, 2010

In the three months with the largest number of Switching Fatalities – January, July, and December – there were high numbers of Fatalities involving Special Switching Hazards.
In 2002, SOFA-defined Severe Injuries began to decline. By 2009, these Injuries were at a 13-year low. The decline appears to have stages. For the years, 1997 through 2001 Severe Injuries averaged 138.0 per year. For 2002 through 2007, an average of 115.3 per year occurred. In 2008, there were 87 Injuries. Then in 2009 Injuries declined to 53. The decline since 2002 has not been consistent year-to-year. For the first three months of 2010 compared to the corresponding months of 2009, Severe Injuries counts were the same 15 in each year (page 10). Obviously, it would be premature to make any prediction about the number of these Injuries that will occur in 2010, full-year.

**SOFA-defined Severe Injuries by year, 1997 through 2009**

(1997 is the first year these injuries can be defined based on the interests of the SWG)

<table>
<thead>
<tr>
<th>Year</th>
<th>Severe Injuries</th>
</tr>
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<tbody>
<tr>
<td>1997</td>
<td>139</td>
</tr>
<tr>
<td>1998</td>
<td>137</td>
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<tr>
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<tr>
<td>2007</td>
<td>110</td>
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<tr>
<td>2008</td>
<td>87</td>
</tr>
<tr>
<td>2009</td>
<td>53</td>
</tr>
</tbody>
</table>

**Importance of SOFA-defined Severe Injuries:** Since 1997, there have been 1,537 of these Injuries 202 of which were amputations. (1997 is the first year these Injuries to train and engine service employees can be determined as defined by the interest of the SOFA Working Group.) While in recent years these Injuries have declined, the continuing existence of these Injuries some of which were major trauma indicates the importance of safety efforts devoted towards complete elimination.
Declines in SOFA-defined Severe Injuries (continued)

A similar decline although the timing pattern is somewhat different is evident in the larger reportable casualty series (not including deaths) involving train and engine service employees of which SOFA-defined Severe Injuries are a subset.
Declines in SOFA-defined Severe Injuries (continued)

From January 1997 to March 2010, SOFA-defined Severe Injuries have averaged 3.9 percent of the larger casualty series (but not deaths) to train and engine service employees. About this average, there is annual variation, with a low of 2.8 percent in 2009; and high of 4.4 percent in 2007. For the first three months of 2010, the percent is 3.3 percent.

SOFA-defined Severe Injuries as Percent of All Reportable Casualty (but not deaths) to Train and Engine Service Employees, 1997 through 2009, and including January and March of 2010*

<table>
<thead>
<tr>
<th>Year</th>
<th>SOFA-defined Severe Injuries</th>
<th>All Reportable Casualty</th>
<th>Percent</th>
</tr>
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<tbody>
<tr>
<td>1997</td>
<td>139</td>
<td>3,468</td>
<td>4.01%</td>
</tr>
<tr>
<td>1998</td>
<td>137</td>
<td>3,626</td>
<td>3.78%</td>
</tr>
<tr>
<td>1999</td>
<td>135</td>
<td>3,814</td>
<td>3.54%</td>
</tr>
<tr>
<td>2000</td>
<td>139</td>
<td>3,878</td>
<td>3.58%</td>
</tr>
<tr>
<td>2001</td>
<td>140</td>
<td>3,547</td>
<td>3.95%</td>
</tr>
<tr>
<td>2002</td>
<td>123</td>
<td>3,013</td>
<td>4.08%</td>
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<tr>
<td>2003</td>
<td>114</td>
<td>2,923</td>
<td>3.90%</td>
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<tr>
<td>2004</td>
<td>123</td>
<td>2,890</td>
<td>4.26%</td>
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<tr>
<td>2005</td>
<td>122</td>
<td>2,800</td>
<td>4.36%</td>
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<tr>
<td>2006</td>
<td>100</td>
<td>2,474</td>
<td>4.04%</td>
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<td>2007</td>
<td>110</td>
<td>2,506</td>
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<tr>
<td>2008</td>
<td>87</td>
<td>2,188</td>
<td>3.98%</td>
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<tr>
<td>2009</td>
<td>53</td>
<td>1,912</td>
<td>2.77%</td>
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<tr>
<td>2010*</td>
<td>13*</td>
<td>454*</td>
<td>3.30%*</td>
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<tr>
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<td>1,537</td>
<td>39,493</td>
<td>3.89%</td>
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SOFA-defined Severe Injuries, by month and year
January 1997 through March 2010
(Note: Among SOFA Updates, counts previously presented may change based on revisions to FRA data)

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<td>110</td>
<td>87</td>
<td>53</td>
<td></td>
<td>1,537</td>
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</table>

*Severe Injuries* are defined by the SOFA Working Group as (1) potentially life threatening; (2) having a high likelihood of permanent loss of function, permanent occupational limitation, or other permanent disability; (3) likely to result in significant work restrictions; and (4) resulting from a high-energy impact to the human body. ‘Severe Injuries’ include amputation, dislocation of the neck, loss of eye, electric shock or burn, and fracture to any bone except the lower arm, fingers, foot, and toes, See *Severe Injuries to Train and Engine Service Employees: Data Description and Injury Characteristics*. July 2001. [http://www.fra.dot.gov/Pages/1781.shtml](http://www.fra.dot.gov/Pages/1781.shtml) [accessed June 20, 2010]
Amputations, by month and year
January 1997 through March 2010
(Note: Among SOFA Updates, counts previously presented may change based on revisions to FRA data)

A type of SOFA-defined Severe Injury, Amputations are displayed separately because of the extreme trauma to employees engaged in switching, and the likelihood of permanent occupational and lifestyle limitations.

<table>
<thead>
<tr>
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<td>1</td>
<td>3</td>
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<td>0</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>23</td>
</tr>
</tbody>
</table>

subtotals | 4  | 5  | 5  | 4  | 1  | 3  | 6  | 5  | 4  | 3  | 2  | 2  | 2  | 1    | 3.6    |

| APR   | 1    | 2    | 0    | 1    | 2    | 0    | 1    | 1    | 2    | 2    | 3    | 3    | 1    | 18    | 1.5    |
| MAY   | 1    | 2    | 3    | 0    | 2    | 2    | 2    | 0    | 0    | 1    | 1    | 0    | 0     | 14     | 1.1    |
| JUN   | 2    | 1    | 1    | 0    | 1    | 0    | 0    | 1    | 0    | 0    | 1    | 1    | 0     | 8      | 0.6    |
| JUL   | 1    | 5    | 1    | 0    | 4    | 0    | 1    | 2    | 1    | 2    | 2    | 0    | 1     | 20     | 1.5    |
| AUG   | 1    | 0    | 1    | 4    | 0    | 1    | 0    | 2    | 2    | 0    | 3    | 0    | 1     | 15     | 1.2    |
| SEP   | 2    | 4    | 3    | 2    | 5    | 4    | 0    | 0    | 3    | 1    | 1    | 2    | 0     | 27     | 2.1    |
| OCT   | 2    | 5    | 2    | 2    | 0    | 0    | 2    | 2    | 0    | 0    | 2    | 0    | 0     | 17     | 1.3    |
| NOV   | 2    | 2    | 2    | 2    | 3    | 0    | 1    | 1    | 2    | 3    | 1    | 0    | 0     | 19     | 1.5    |
| DEC   | 4    | 1    | 0    | 4    | 1    | 1    | 2    | 1    | 1    | 0    | 0    | 0    | 1     | 16     | 1.2    |

totals | 20  | 27  | 18  | 19  | 19  | 11  | 15  | 15  | 15  | 12  | 16  | 8    | 6     | 202    |
SOFA Switching Fatality Review Section
June, July, and August, January 1, 1992 through June 20, 2010

This section contains Switching Fatality cases for review:
The Switching Fatality narrative summaries are from *Findings and Recommendations of the SOFA Working Group: August 2004 Update*. All other information for each Fatality is taken from the *SOFA Matrix*, the SOFA Working Group’s electronic database.

**Note:**
The ‘SOFA type of event’ is based on the older system of classifying Switching Fatalities. Future cases for review will be updated with the findings from the SOFA Working Group effort currently underway.

**In respect:**
Intent is that review will prove preventive. In reviewing, please be mindful that these employees lost their lives in railroad service, an activity essential to economic growth.

**Where to find more information:**
*SOFA Reports*, including a complete discussion of findings, are available at:

[http://www.fra.dot.gov/Pages/1781.shtml](http://www.fra.dot.gov/Pages/1781.shtml)
[accessed June 20, 2010]

*Work Safely this Summer…and all career long*
## 18 June Switching Fatalities

<table>
<thead>
<tr>
<th>#</th>
<th>Date</th>
<th>RR</th>
<th>Location</th>
<th>Age</th>
<th>Service (yrs)</th>
<th>Employee’s Job</th>
<th>Employee Act</th>
<th>Employee Location</th>
<th>Fatal Event</th>
<th>SOFA Finding</th>
<th>Special Switching Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>06/01/92</td>
<td>ATSF</td>
<td>Escondido, CA</td>
<td>58</td>
<td>29</td>
<td>road conductor</td>
<td>climbing</td>
<td>between cars/loc</td>
<td>sudden/unexpected movement of on-track equipment</td>
<td>4</td>
<td>Employee Tripping and Unsecured Cars</td>
</tr>
<tr>
<td>2</td>
<td>06/01/92</td>
<td>BN</td>
<td>Seattle, WA</td>
<td>42</td>
<td>22</td>
<td>yard brakeman</td>
<td>riding</td>
<td>on end of car</td>
<td>collision between on-track equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>06/02/92</td>
<td>IHRC</td>
<td>Henderson, KY</td>
<td>52</td>
<td>23</td>
<td>road conductor</td>
<td>running</td>
<td>on track</td>
<td>struck by on-track equipment</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>06/20/92</td>
<td>CNW</td>
<td>Northlake, IL</td>
<td>42</td>
<td>15</td>
<td>yard conductor</td>
<td>adjusting coupler</td>
<td>on track</td>
<td>defective/malfunctioning equipment</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>06/04/93</td>
<td>SEPTA</td>
<td>Devon, PA</td>
<td>29</td>
<td>6</td>
<td>road pass engineer</td>
<td>standing</td>
<td>in/on loc</td>
<td>lost balance</td>
<td></td>
<td>Miscellaneous (falling)</td>
</tr>
<tr>
<td>6</td>
<td>06/07/93</td>
<td>IC</td>
<td>Fulton, KY</td>
<td>49</td>
<td>20</td>
<td>yard brakeman</td>
<td>standing</td>
<td>on track</td>
<td>sudden/unexpected movement of on-track equipment</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>06/15/96</td>
<td>CSX</td>
<td>Charlotte, NC</td>
<td>36</td>
<td>1</td>
<td>yard brakeman</td>
<td>standing</td>
<td>near on-track equip-on ground</td>
<td>pushed/shoved into/against</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>06/06/97</td>
<td>CMRC</td>
<td>Bay City, MI</td>
<td>50</td>
<td>7</td>
<td>road conductor</td>
<td>riding</td>
<td>on end of car</td>
<td>collision between on-track equipment</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>06/24/97</td>
<td>UP</td>
<td>Portland, OR</td>
<td>53</td>
<td>28</td>
<td>yard conductor</td>
<td>walking</td>
<td>near on-track equip-on ground</td>
<td>struck by on-track equipment</td>
<td></td>
<td>Employee Tripping</td>
</tr>
<tr>
<td>10</td>
<td>06/24/97</td>
<td>NS</td>
<td>Rowesville, SC</td>
<td>21</td>
<td>2.5</td>
<td>road conductor</td>
<td>walking</td>
<td>on track</td>
<td>struck by on-track equipment</td>
<td></td>
<td>Unexpected Movement of Railcars</td>
</tr>
<tr>
<td>11</td>
<td>06/01/98</td>
<td>BNSF</td>
<td>Lubbock, TX</td>
<td>24</td>
<td>0.83</td>
<td>yard conductor</td>
<td>riding</td>
<td>other location on loc</td>
<td>collision between on-track equipment</td>
<td>2, 5</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>06/05/98</td>
<td>NS</td>
<td>Hapeville, GA</td>
<td>48</td>
<td>27</td>
<td>yard conductor</td>
<td>adjusting coupler</td>
<td>between tracks</td>
<td>collision between on-track equipment</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>06/23/99</td>
<td>UP</td>
<td>Redding, CA</td>
<td>57</td>
<td>35</td>
<td>road conductor</td>
<td>standing</td>
<td>on track</td>
<td>struck by on-track equipment</td>
<td>1, 4</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>06/16/02</td>
<td>BNSF</td>
<td>Memphis, TN</td>
<td>20</td>
<td>1.5</td>
<td>yard conductor</td>
<td>handbrakes, applying</td>
<td>between cars/loc</td>
<td>struck by on-track equipment</td>
<td>1, 3, 5</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>06/06/03</td>
<td>CSXT</td>
<td>Kingsport, TN</td>
<td>35</td>
<td>3</td>
<td>road brakemen</td>
<td>riding</td>
<td>on side of car</td>
<td>collision/impact-auto, truck, bus, van, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>06/08/08</td>
<td>UP</td>
<td>Houston, TX</td>
<td>n/a</td>
<td>n/a</td>
<td>brakemen</td>
<td></td>
<td></td>
<td>(based on preliminary information)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>06/24/09</td>
<td>ATR</td>
<td>Albertville, AL</td>
<td>n/a</td>
<td>n/a</td>
<td>conductor</td>
<td></td>
<td></td>
<td>(based on preliminary information)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>06/10/10</td>
<td>CSX</td>
<td>Doswell, VA</td>
<td>n/a</td>
<td>n/a</td>
<td>conductor</td>
<td></td>
<td></td>
<td>(based on preliminary information)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
18 June Switching Fatalities

No. 1 of 18: June 01, 1992 – ATSF – Escondido, CA
Brakeman had control of the move and told the engineer, by radio, to back up six cars to a coupling. The brakeman assumed that the conductor would “pick-up” the move when it came into his (the conductor’s) view. The movement continued until it struck sitting cars on the track which, when moved, killed the conductor who was in between them.

SOFA Finding (s):
4
Possible Contributing Factor: Radio communication, failure to comply
Possible Contributing Factor: Shoving movement, absence of a man on or at leading end of movement
Possible Contributing Factor: Poor intra-crew communication about work in progress
Day of Week: Monday
Time of Fatal Event: 1:05 PM
Time on Duty (hours: minutes): 6:05
Direction of Movement: free-running
couple to car
Death Result of Train Movement? yes
Other Movements Nearby? no
Track Type: industrial
Hit by Own Equipment? yes
Striking Train Within Rules? no
Speed of Equipment (mph): 5
Deceased Regular Job? yes
Crew Size: 3
Drugs Present? no
Drugs a Factor? no
Emergency Response Procedures Followed? yes

No. 2 of 18: June 01, 1992 – BN – Seattle, WA
A four-person crew (engineer, switch foreman, 2 switchmen) had 3 cars with them when they coupled onto 56 cars standing on a yard track. They were told to pull the head 16 cars and leave the remaining 40 there. They were also told that the 16 had been separated from the remaining 40. The crew pulled the 19 cars out of the track and per radio instructions from the switchman, began a shove into another track. As the movement entered the track it was struck by the 40 car cut that had been left on the first track. The switchman died falling from the cars while getting on and off the free rolling cut to set hand brakes in an attempt to stop them.

Special Switching Hazard(s):
Employee Tripping and Unsecured Cars
Possible Contributing Factor: Failure to properly secure hand brake on car(s) railroad employee
Possible Contributing Factor: Failure to communicate unsafe condition
External Circumstances:
Poor operating practices
Day of Week: Monday
Time of Fatal Event: 4:15 PM
Time on Duty (hours: minutes): 0:45
Temperature (Fahrenheit): 66
Direction of Movement: free-running
shove to clear
Crew’s Next Move:
Death Result of Train Movement? yes
Other Movements Nearby? no
Track Type: yard/classification
Hit by Own Equipment? yes
Speed of Equipment (mph): 5
Crew Size: 4
Drugs Present? no
Drugs a Factor? no
Emergency Response Procedures Followed? yes
A two-person crew was switching an industry. The conductor had 11 months service with the railroad and, as the last move of the night, was to pull one car and set another in its place. As he set out the car and separated it from the car to go into the spot location, it began to roll away. He chased after it, tried to mount the end of the car with the handbrake and was killed when he slipped and fell under the car.

**SOFA Finding (s):**

Possible Contributing Factor: Failure to properly secure hand brake on car(s) railroad employee
Possible Contributing Factor: Employee on or fouling track

**Day of Week:** Tuesday
**Time of Fatal Event:** 5:55 AM
**Time on Duty (hours: minutes):** 10:25
**Direction of Movement:** free-running
**Crew’s Next Move:** spot car
**Death Result of Train Movement?** yes
**Other Movements Nearby?** no
**Track Type:** industrial/outside
**Hit by Own Equipment?** yes
**Speed of Equipment (mph):** 1
**Crew Size:** 2
**Drugs Present?** no
**Drugs a Factor?** no
**Emergency Response Procedures Followed?** yes

---

Crew was in the process of coupling cars together in a class track. Standing equipment was not properly secured before conductor fouled the track to adjust couplers and the equipment rolled back in and coupled him up.

**SOFA Finding (s):**

Possible Contributing Factor: Failure to provide adequate space between equipment
Possible Contributing Factor: Failure to couple
Possible Contributing Factor: Passed couplers

**External Circumstances:** Close or no clearance

**Day of Week:** Saturday
**Time of Fatal Event:** 11:45 AM
**Time on Duty (hours: minutes):** 7:45
**Temperature (Fahrenheit):** 54
**Direction of Movement:** free-running
**Crew’s Next Move:** couple track
**Death Result of Train Movement?** yes
**Track Type:** hump/classification
**Hit by Own Equipment?** yes
**Striking Train Within Rules?** yes
**Speed of Equipment (mph):** 1
**Deceased Regular Job?** yes
**Crew Size:** 3
**Drugs Present?** no
**Drugs a Factor?** no
**Emergency Response Procedures Followed?** yes
A commuter train locomotive engineer fell from the operating compartment of the train he was operating while it was moving. Two minutes before he fell speed had been reduced from 61 to 51 MPH.

Special Switching Hazard(s):  Miscellaneous (falling)
Possible Contributing Factor:  Possible electric door control system

Day of Week:  Friday
Time of Fatal Event:  11:25 PM
Time on Duty (hours: minutes):  8:10
Temperature (Fahrenheit):  70
Direction of Movement:  pulled
Crew’s Next Move:  stop at station
Death Result of Train Movement?:  yes
Track Type:  main
Hit by Own Equipment?:  no
Speed of Equipment (mph):  51
Deceased Regular Job?:  yes
Crew Size:  2
Drugs Present?:  no
Drugs a Factor?:  no
Emergency Response Procedures Followed?:  yes

Crew performing switching duties in class yard failed to have a clear understanding of movements being made. Results were that the rear brakeman was run over by moving equipment. There were no witnesses, but a hand brake was applied. It was thought that the brakeman had gone between the equipment on the ground to release the low hand brake.

SOFA Finding(s):
Possible Contributing Factor:  Employee on or fouling track
Possible Contributing Factor:  Poor intra-crew communication about work in progress
External Circumstances:  X-car/-list chng

Day of Week:  Monday
Time of Fatal Event:  11:55 AM
Time on Duty (hours: minutes):  4:25
Temperature (Fahrenheit):  87
Direction of Movement:  free-running
Crew’s Next Move:  switch cars
Death Result of Train Movement?:  yes
Other Movements Nearby?:  yes
Track Type:  yard/classification
Hit by Own Equipment?:  yes
Striking Train Within Rules?:  yes
Speed of Equipment (mph):  1
Crew Size:  4
Drugs Present?:  no
Drugs a Factor?:  no
Emergency Response Procedures Followed?:  yes
No. 7 of 18: June 15, 1996 – CSX – Charlotte, NC

Yard crew, engineer, conductor and switchman, switching at an industry. While crew was shoving two cars to a spot inside an industry building, FE (switchman) was rolled between lead box car and unloading platform. Platform or building was not marked with any type of ‘no-clearance’ or ‘close clearance’ signage. FE was last seen by the conductor on the ground next to movement in a ‘cut-out’ space in the unloading platform. The conductor reported that there is enough room for a man to clear the movement in this ‘cut-out’. After hearing a strange noise the conductor instructed engineer to stop the movement. FE was rolled for 21 feet between boxcar and platform. FE had one year of experience.

SOFA Finding (s):
Possible Contributing Factor: Failure to remain clear of moving equipment
Possible Contributing Factor: Close or no clearance
Possible Contributing Factor: Design and location of dock ladder

Day of Week: Wednesday
Time of Fatal Event: 8:30 AM
Time on Duty (hours: minutes): 8:30
Temperature (Fahrenheit): 50
Direction of Movement: shoved
Crew’s Next Move: spot car
Death Result of Train Movement? yes
Other Movements Nearby? no
Track Type: inside
Hit by Own Equipment? yes
Striking Train Within Rules? no
Speed of Equipment (mph): 3
Deceased Regular Job? yes
Crew Size: 3
Drugs Present? no
Drugs a Factor? no
Emergency Response Procedures Followed? yes

No. 8 of 18: June 06, 1997 – CMRC – Bay City, MI

Conductor began a move using radio communication to shove a cut of cars approximately twenty-five car lengths to a coupling. After the move had begun the engineer didn’t hear another radio transmission from his conductor. The shove move eventually collided with the cars that were to be coupled to. The conductor was crushed in the collision and it was later determined that the portable radio being used by the conductor may have lost enough of its charge to effect the transmission.

SOFA Finding (s):
Possible Contributing Factor: Radio communication, failure to comply
Possible Contributing Factor: Radio communication, equipment failure
External Circumstances: Radio failure

Day of Week: Friday
Time of Fatal Event: 9:35 PM
Temperature (Fahrenheit): 76
Direction of Movement: shoved
Crew’s Next Move: coupling
Death Result of Train Movement? yes
Other Movements Nearby? no
Track Type: yard/flat/classification
Hit by Own Equipment? yes
Striking Train Within Rules? no
Speed of Equipment (mph): 7
Crew Size: 2
Drugs Present? no
Drugs a Factor? no
**No. 9 of 18: June 24, 1997 – UP – Portland, OR**

A three-person yard switching crew was in the process of pulling a five car articulated cut of cars from out of one track with the intent of moving them to another. The yard foreman was killed when he was run over by the leading wheels of the trailing car. It appears that the foreman tried to release a hand brake at the trailing end of the second to the last car and while attempting to do so, stumbled, fell and was run over by the trailing car.

**Special Switching Hazard(s):**

<table>
<thead>
<tr>
<th>Possible Contributing Factor:</th>
<th>Employee Tripping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day of Week:</td>
<td>Tuesday</td>
</tr>
<tr>
<td>Time of Fatal Event:</td>
<td>4:30 AM</td>
</tr>
<tr>
<td>Time on Duty (hours: minutes):</td>
<td>4:31</td>
</tr>
<tr>
<td>Temperature (Fahrenheit):</td>
<td>52</td>
</tr>
<tr>
<td>Direction of Movement:</td>
<td>pulled</td>
</tr>
<tr>
<td>Crew’s Next Move:</td>
<td>back to coupling</td>
</tr>
<tr>
<td>Death Result of Train Movement?</td>
<td>yes</td>
</tr>
<tr>
<td>Track Type:</td>
<td>yard/flat/lead</td>
</tr>
<tr>
<td>Hit by Own Equipment?</td>
<td>yes</td>
</tr>
<tr>
<td>Striking Train Within Rules?</td>
<td>yes</td>
</tr>
<tr>
<td>Speed of Equipment (mph):</td>
<td>5</td>
</tr>
<tr>
<td>Had Deceased Worked There Before?</td>
<td>yes</td>
</tr>
<tr>
<td>Crew Size:</td>
<td>3</td>
</tr>
<tr>
<td>Drugs Present?</td>
<td>no</td>
</tr>
<tr>
<td>Drugs a Factor?</td>
<td>no</td>
</tr>
<tr>
<td>Emergency Response Procedures Followed?</td>
<td>yes</td>
</tr>
</tbody>
</table>

**No. 10 of 18: June 24, 1997 – NS – Rowesville, SC**

The engineer and conductor of a local road switcher were reassembling their train at a siding halfway through their work assignment. After running around the inbound cars, making a couple of switches to line up their train for the return trip, the conductor tied the EOT device onto the rear car, came back to the switch, and told the engineer to back up five cars. The engineer did not get any other radio instructions after three cars and stopped. The conductor was found dead having been run over by the leading car and not having reversed the siding switch as he had intended to do.

**Special Switching Hazard(s):**

<table>
<thead>
<tr>
<th>Possible Contributing Factor:</th>
<th>Unexpected Movement of Railcars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day of Week:</td>
<td>Tuesday</td>
</tr>
<tr>
<td>Time of Fatal Event:</td>
<td>8:58 PM</td>
</tr>
<tr>
<td>Time on Duty (hours: minutes):</td>
<td>0:00</td>
</tr>
<tr>
<td>Temperature (Fahrenheit):</td>
<td>80</td>
</tr>
<tr>
<td>Direction of Movement:</td>
<td>shoved</td>
</tr>
<tr>
<td>Crew’s Next Move:</td>
<td>make cut</td>
</tr>
<tr>
<td>Death Result of Train Movement?</td>
<td>yes</td>
</tr>
<tr>
<td>Other Movements Nearby?</td>
<td>no</td>
</tr>
<tr>
<td>Track Type:</td>
<td>siding</td>
</tr>
<tr>
<td>Hit by Own Equipment?</td>
<td>yes</td>
</tr>
<tr>
<td>Striking Train Within Rules?</td>
<td>yes</td>
</tr>
<tr>
<td>Speed of Equipment (mph):</td>
<td>8</td>
</tr>
<tr>
<td>Deceased Regular Job?</td>
<td>yes</td>
</tr>
<tr>
<td>Crew Size:</td>
<td>2</td>
</tr>
<tr>
<td>Drugs Present?</td>
<td>no</td>
</tr>
<tr>
<td>Drugs a Factor?</td>
<td>no</td>
</tr>
</tbody>
</table>
Two yard engines working on adjacent tracks. One left a car fouling a clear track being used by the other engine. The foreman directing the shove move of the lite locomotives was crushed when his engine consist cornered the car fouling the adjacent track.

**SOFA Finding (s):**

- Possible Contributing Factor: 2, 5
  - Shoving movement, man on or at leading end of movement, failure to control
  - Car left afoul
  - Insufficient training

**Day of Week:**
- Monday

**Time of Fatal Event:**
- 12:30 PM

**Time on Duty (hours: minutes):**
- 10:00

**Temperature (Fahrenheit):**
- 72

**Crew’s Next Move:**
- run around yard

**Track Type:**
- yard/flat/lead

**Hit by Own Equipment?**
- no

**Striking Train Within Rules?**
- no

**Speed of Equipment (mph):**
- 7

**Deceased Regular Job?**
- no

**Crew Size:**
- 3

**Drugs Present?**
- no

**Drugs a Factor?**
- no

**Emergency Response Procedures Followed?**
- yes

---

A three-person crew was performing industrial switching using a runaround track, the yard foreman was attempting to couple up two super-cushion boxcars in a curve with power attached in a shove movement. Drawbars bypassed and yard foreman was crushed between the ends of the two cars.

**SOFA Finding (s):**

- Possible Contributing Factor: 1
  - Employee on or fouling track
  - Long drawbar, auto parts car
  - Failure to couple
  - No devise to asst. aligning drawbar

**Day of Week:**
- Friday

**Time of Fatal Event:**
- 6:40 AM

**Time on Duty (hours: minutes):**
- 6:41

**Direction of Movement:**
- shoved

**Crew’s Next Move:**
- spot car

**Death Result of Train Movement?**
- yes

**Track Type:**
- yard/lead/industrial

**Hit by Own Equipment?**
- yes

**Striking Train Within Rules?**
- yes

**Speed of Equipment (mph):**
- 1

**Deceased Regular Job?**
- yes

**Crew Size:**
- 3

**Drugs Present?**
- no

**Drugs a Factor?**
- no

**Emergency Response Procedures Followed?**
- yes
A three-person switching crew was shoving a cut of cars down a track with the intent of coupling to another cut that was sitting in the track. It was hard to shove the cars and the conductor told the brakeman to look for closed angle cocks. The brakeman found a closed angle cock when the shove move was within two car lengths of a coupling and opened it. The conductor was crushed and killed between the leading car of the shove and the head car to be coupled to when the shove move unintentionally accelerated just prior to coupling.

**SOFA Finding (s):**

1. Radio communication, failure to comply
2. Improper train inspection
3. Failure to allow air brakes to fully release before preceding
4. Excessive horsepower

**External Circumstances:**

- Closed angle cock

**Day of Week:** Wednesday
**Time of Fatal Event:** 11:00 AM
**Time on Duty (hours: minutes):** 6:00
**Temperature (Fahrenheit):** 90
**Direction of Movement:** shoved
**Crew’s Next Move:** couple to train
**Death Result of Train Movement?** yes
**Other Movements Nearby?** no
**Track Type:** yard/flat/classification
**Hit by Own Equipment?** yes
**Striking Train Within Rules?** no
**Speed of Equipment (mph):** 2
**Deceased Regular Job?** yes
**Crew Size:** 3
**Drugs Present?** no
**Drugs a Factor?** no
**Emergency Response Procedures Followed?** yes

---

A yard foreman, with 18-months of service, along with his helper, engineer and a utility employee had just finished making up a train in the yard. However, the crossover from the track on which the train had been made had to be cut. This last minute instruction led to an increased level of conversation among the crew, yard foreman, utility employee and the yardmaster. The yard foreman jumped on an ATV, rode it to the cut point, separated the train; and, when the cut not attached to the locomotive rolled, he was caught between the two sections of the train and killed.

**SOFA Finding (s):**

1. Employee on or fouling track
2. Slack action
3. Use of brakes, other
4. Poor intra-crew communication about work in progress

**Day of Week:** Sunday
**Time of Fatal Event:** 3:15 PM
**Time on Duty (hours: minutes):** 7:16
**Temperature (Fahrenheit):** 94
**Direction of Movement:** shoved
**Crew’s Next Move:** clear cross-over
**Death Result of Train Movement?** yes
**Other Movements Nearby?** no
**Track Type:** yard/flat/receiving dept
**Hit by Own Equipment?** yes
**Striking Train Within Rules?** yes
**Speed of Equipment (mph):** 1
**Deceased Regular Job?** no
**Had Deceased Worked There Before?** yes
**Crew Size:** 3
**Drugs Present?** no
**Drugs a Factor?** no
**Emergency Response Procedures Followed?** yes
No. 15 of 18: June 06, 2003 – CSX – Kingsport, TN
A three-person industrial switching crew was shoving one car on a track that ran down the middle of a two-lane road and that was located in an industrial area. The conductor was riding on one side of the car and the brakeman was riding on the other. As the move approached a standing eighteen-wheel truck awaiting permission to back into the same area that the railroad was servicing, the driver began to back up, jack-knifed the trailer, and struck the brakeman crushing him between the truck box and the car he was riding.

Special Switching Hazard(s):
- Struck by Motor Vehicle
  - Possible Contributing Factor: Highway user inattentiveness
  - Possible Contributing Factor: Interference (other than vandalism) with railroad operations by non-railroad employee

External Circumstances:
- Jack-knifed positioned truck ran into side of lead car in shove move

Day of Week: Friday
Time of Fatal Event: 8:25 AM
Time on Duty (hours: minutes): 1:25
Temperature (Fahrenheit): 65
Direction of Movement: shoved
Crew’s Next Move: exit industry lead shoving one car
Death Result of Train Movement?: yes
Other Movements Nearby?: no
Track Type: industrial
Hit by Own Equipment?: no
Striking Train Within Rules?: no
Speed of Equipment (mph): 1
Deceased Regular Job?: yes
Crew Size: 3
Drugs Present?: no
Drugs a Factor?: no
Emergency Response Procedures Followed?: yes

No. 16 of 18: June 08, 2008 – UP – Houston, TX
A brakeman was lining switches ahead of a shove move during an industrial switching operation. The brakeman was directing the shove move via radio. Radio communication ceased, the conductor went back to check on the brakeman and found him dead within the gage of the rail.

No. 17 of 18: June 24, 2009 – ATR – Albertville, AL
A 33-year-old conductor was riding the leading end of 75 car cut (his train) to a position where he intended to spot the first—or leading 12 cars. As he was riding the car to the spot, it struck a piece of metal near the location of the intended spot crushing him between the tank car railing and the end dome of the tank car. (SSH)

No. 18 of 18: June 10, 2010 – CSX – Doswell, VA
A CSX conductor was doing an air brake test on his train to be ready to go South from a siding as soon as two Northward trains cleared his area. The conductor was struck and killed by the first Northward train coming by his location. (SSH)

Work Safely this Summer…and all career long
# 20 July Switching Fatalities

<table>
<thead>
<tr>
<th>#</th>
<th>Date</th>
<th>RR</th>
<th>Location</th>
<th>Age</th>
<th>Service (yrs)</th>
<th>Employee’s Job</th>
<th>Employee Act</th>
<th>Employee Location</th>
<th>Fatal Event</th>
<th>SOFA Finding</th>
<th>Special Switching Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>07/07/92</td>
<td>SSW</td>
<td>Conlen Siding, TX</td>
<td>58</td>
<td>12</td>
<td>road engineer</td>
<td>walking</td>
<td>between tracks</td>
<td>struck by on-track equipment</td>
<td></td>
<td>Struck by Mainline Trains</td>
</tr>
<tr>
<td>2</td>
<td>07/24/92</td>
<td>GBW</td>
<td>Wisconsin Rapids, WI</td>
<td>34</td>
<td>13</td>
<td>road brakemen</td>
<td>coupling air hose</td>
<td>on track</td>
<td>struck by on-track equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>07/25/92</td>
<td>UP</td>
<td>Portland, OR</td>
<td>54</td>
<td>28</td>
<td>road brakemen</td>
<td>walking</td>
<td>between tracks</td>
<td>struck by on-track equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>07/15/93</td>
<td>CR</td>
<td>Anderson, IN</td>
<td>43</td>
<td>25</td>
<td>yard brakeman</td>
<td>coupling air hose</td>
<td>on track</td>
<td>struck by on-track equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>07/05/94</td>
<td>BN</td>
<td>Essex, MT</td>
<td>59</td>
<td>35</td>
<td>road brakemen</td>
<td>operating</td>
<td>between cars/loc</td>
<td>crushed while operating</td>
<td></td>
<td>Free-Rolling Railcars</td>
</tr>
<tr>
<td>6</td>
<td>07/21/95</td>
<td>CR</td>
<td>Hershey, PA</td>
<td>61</td>
<td>40</td>
<td>yard conductor</td>
<td>riding</td>
<td>between cars/loc</td>
<td>fell from equipment</td>
<td></td>
<td>Employee Tripping</td>
</tr>
<tr>
<td>7</td>
<td>07/07/96</td>
<td>NS</td>
<td>Sidney, IN</td>
<td>29</td>
<td>1</td>
<td>yard conductor</td>
<td>standing</td>
<td>on track</td>
<td>struck by on-track equipment</td>
<td></td>
<td></td>
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<tr>
<td>8</td>
<td>07/18/97</td>
<td>MNCW</td>
<td>Stamford, CT</td>
<td>40</td>
<td>7.58</td>
<td>road conductor</td>
<td>flagging</td>
<td>on track</td>
<td>struck by on-track equipment</td>
<td></td>
<td>Struck by Mainline Trains</td>
</tr>
<tr>
<td>9</td>
<td>07/01/98</td>
<td>NS</td>
<td>Buechel, KY</td>
<td>54</td>
<td>30</td>
<td>misc.</td>
<td>riding</td>
<td>on side of car</td>
<td>rolled between car a</td>
<td></td>
<td>Close Clearance</td>
</tr>
<tr>
<td>10</td>
<td>07/07/00</td>
<td>CKRY</td>
<td>Wichita, KS</td>
<td>39</td>
<td>19</td>
<td>road conductor</td>
<td>adjusting coupler</td>
<td>on track</td>
<td>struck by on-track equipment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Continued on next page)
<table>
<thead>
<tr>
<th>#</th>
<th>Date</th>
<th>RR</th>
<th>Location</th>
<th>Age</th>
<th>Service (yrs)</th>
<th>Employee’s Job</th>
<th>Employee Act</th>
<th>Employee Location</th>
<th>Fatal Event</th>
<th>SOFA Finding</th>
<th>Special Switching Hazard</th>
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<tbody>
<tr>
<td>11</td>
<td>07/24/00</td>
<td>PARN</td>
<td>Skagway, AK</td>
<td>55</td>
<td>22</td>
<td>yard conductor</td>
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<td>struck by on-track equipment</td>
<td>4</td>
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<tr>
<td>12</td>
<td>07/28/00</td>
<td>UP</td>
<td>St. Louis, MO</td>
<td>48</td>
<td>27</td>
<td>yard brakeman</td>
<td>walking</td>
<td>near on-track equip-on ground</td>
<td>other impacts-on track equipment</td>
<td>Close Clearance</td>
<td>Free-Rolling Railcars</td>
</tr>
<tr>
<td>13</td>
<td>07/13/01</td>
<td>CPRS</td>
<td>Bensenville, IL</td>
<td>55</td>
<td>32</td>
<td>yard conductor</td>
<td>riding</td>
<td>on side of car</td>
<td>collision between on-track equipment</td>
<td>4</td>
<td></td>
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<tr>
<td>14</td>
<td>07/16/02</td>
<td>NS</td>
<td>Bonlee, NC</td>
<td>55</td>
<td>34</td>
<td>road conductor</td>
<td>standing</td>
<td>in/on loc</td>
<td>collision between on-track equipment</td>
<td>4</td>
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<tr>
<td>15</td>
<td>07/05/05</td>
<td>BNSF</td>
<td>Emporia, KS</td>
<td>26</td>
<td>6 months</td>
<td></td>
<td>(based on preliminary information)</td>
<td></td>
<td>Special Switching Hazard</td>
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<td></td>
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<tr>
<td>16</td>
<td>07/18/05</td>
<td>UP</td>
<td>Memphis, TN</td>
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<td>(based on preliminary information)</td>
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<tr>
<td>17</td>
<td>07/22/05</td>
<td>ATRR</td>
<td>Ragland, AL</td>
<td>n/a</td>
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<td>(based on preliminary information)</td>
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<td>Special Switching Hazard</td>
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<td></td>
</tr>
<tr>
<td>18</td>
<td>07/08/07</td>
<td>BNSF</td>
<td>Berry, AZ</td>
<td>37</td>
<td>n/a</td>
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<td>Special Switching Hazard</td>
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<tr>
<td>19</td>
<td>07/27/07</td>
<td>CN</td>
<td>Fulton, KY</td>
<td>46</td>
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<td>(based on preliminary information)</td>
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<td>Special Switching Hazard</td>
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<td></td>
</tr>
<tr>
<td>20</td>
<td>07/10/08</td>
<td>BNSF</td>
<td>Minneapolis, MN</td>
<td>n/a</td>
<td>n/a</td>
<td></td>
<td>(based on preliminary information)</td>
<td></td>
<td>Special Switching Hazard</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
No. 1 of 20: July 07, 1992 – SSW – Conlen Siding, TX

A two-person crew was called to deadhead to a siding and bring the train that was there and tied down into the yard. Upon arrival at the train, the conductor began releasing handbrakes on the train and the engineer began releasing handbrakes and inspecting the four head end locomotives. An approaching 60 MPH mainline train whistled for a highway crossing at grade and the conductor stopped what he was doing and positioned himself to do a roll by train inspection. His engineer was killed when he was struck by the passing train as he stepped out from between two of his units and began walking adjacent to, and in the fowl of, the main track.

**Special Switching Hazard(s):**
- Employee on or fouling track
- Noise from FE’s locomotives

**Possible Contributing Factor:**
- Employee on or fouling track
- Noise from FE’s locomotives

**External Circumstances:**
- Tuesday
- 8:37 AM
- 0:37
- pulled
- depart siding
- yes
- yes
- main/siding
- no
- 60
- yes
-
- no
- 2
- no
- no

No. 2 of 20: July 24, 1992 – GBW – Wisconsin Rapids, WI

The road job’s brakeman was trying to help the switch crew make up his train. The brakeman was in between cars on an active track being used by the switch crew and was killed when the cars he was between moved upon being struck by a cut of free rolling cars.

**SOF A Finding(s):**
- Employee on or fouling track
- Employee’s radio harness strap caught equipment
- Improper mingling of crews members

**Possible Contributing Factor:**
- Employee on or fouling track
- Employee’s radio harness strap caught equipment
- Improper mingling of crews members

**External Circumstances:**
- Thursday
- 12:40 AM
- 3:40
- 50
- free-running
- yes
- yard/classification
- no
- yes
- 1
- 3
- no
- no
- yes
**No. 3 of 20: July 25, 1992 – UP – Portland, OR**

A three-person crew had arrived at the yard, pulled their train into a track, cut off the engines and were given permission to return to the other end of the yard via an adjacent clear track. The conductor remained on the end originally entered and the brakeman stayed with the engineer. The brakeman got what he thought was the proper switch, instructed the engineer by radio to back up and, apparently turned his back on the move. Before the brakeman had a chance to mount the returning locomotives, he was struck and killed by the movement that continued for 400 feet before stopping when the engineer noticed the brakeman between the gauge of the rail in front of the locomotives.

**SOFa Finding(s):**

<table>
<thead>
<tr>
<th>Possible Contributing Factor:</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee on or fouling track</td>
<td></td>
</tr>
<tr>
<td>External Circumstances:</td>
<td></td>
</tr>
<tr>
<td>Engineer didn’t change ends</td>
<td></td>
</tr>
</tbody>
</table>

**Day of Week:** Saturday  
**Time of Fatal Event:** 11:40 AM  
**Time on Duty (hours: minutes):** 4:40  
**Temperature (Fahrenheit):** 76  
**Direction of Movement:** shoved  
**Crew’s Next Move:** return to other end of yard  
**Death Result of Train Movement?** yes  
**Other Movements Nearby?** no  
**Track Type:** yard/receiving /dept  
**Hit by Own Equipment?** yes  
**Striking Train Within Rules?** no  
**Speed of Equipment (mph):** 3  
**Deceased Regular Job?** yes  
**Crew Size:** 3  
**Drugs Present?** no  
**Drugs a Factor?** no  
**Emergency Response Procedures Followed?** yes

**No. 4 of 20: July 15, 1993 – CR – Anderson, IN**

After the brakeman had tied the locomotives onto a cut of cars in the yard, the engineer received an instruction, via radio, from the brakeman to “shove to hold more cars.” The engineer began to shove and didn’t stop until he was on the other end of the track. The brakeman was run over by the shove move. There was no evidence of any other radio transmissions concerning the shove move.

**SOFa Finding(s):**

<table>
<thead>
<tr>
<th>Possible Contributing Factor:</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee on or fouling track</td>
<td></td>
</tr>
<tr>
<td>Employee falling from moving equipment</td>
<td></td>
</tr>
<tr>
<td>Poor intra-crew communication about work in progress</td>
<td></td>
</tr>
<tr>
<td>Radio communication, improper</td>
<td></td>
</tr>
</tbody>
</table>

**Day of Week:** Thursday  
**Time of Fatal Event:** 5:25 PM  
**Time on Duty (hours: minutes):** 1:25  
**Temperature (Fahrenheit):** 75  
**Direction of Movement:** shoved  
**Crew’s Next Move:** CO engine  
**Death Result of Train Movement?** yes  
**Track Type:** yard/flat/classification  
**Hit by Own Equipment?** yes  
**Striking Train Within Rules?** no  
**Speed of Equipment (mph):** 4  
**Deceased Regular Job?** no  
**Crew Size:** 3  
**Drugs Present?** no  
**Drugs a Factor?** no  
**Emergency Response Procedures Followed?** yes
A three-person work train crew was in the process of dropping 14 cars they thought were empty into a quarry-loading track. The brakeman was riding the leading and brake end of the car. As the cars were separated from the engine, he set the high brake on the car he was riding. However, because there were residual materials in many of the cars, the weight added momentum to the cars and the brakeman got off and back on between two other cars in an attempt to set more hand brakes. When the cut of cars collided with a ballast pile, used as a bumping post, that was located at the end of the track, he was crushed to death between the two cars he was trying to apply hand brakes.

<table>
<thead>
<tr>
<th>Special Switching Hazard(s):</th>
<th>Free-Rolling Railcars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possible Contributing Factor:</td>
<td>Failure to control speed of car using hand brake</td>
</tr>
<tr>
<td>Possible Contributing Factor:</td>
<td>Crew thought they had 14 empties, had 5 partial loads - extra 52 tons</td>
</tr>
<tr>
<td>External Circumstances:</td>
<td>Failure to test hand brake</td>
</tr>
</tbody>
</table>

- **Day of Week:** Tuesday
- **Time of Fatal Event:** 4:45 PM
- **Time on Duty (hours: minutes):** 9:45
- **Temperature (Fahrenheit):** 76
- **Direction of Movement:** free-running
- **Crew’s Next Move:** stop the drop
- **Death Result of Train Movement?** yes
- **Other Movements Nearby?** no
- **Track Type:** industrial/spot(load/unload)/outside/stub track
- **Hit by Own Equipment?** yes
- **Striking Train Within Rules?** no
- **Speed of Equipment (mph):** 10
- **Deceased Regular Job?** yes
- **Crew Size:** 3
- **Drugs Present?** no
- **Drugs a Factor?** no
- **Emergency Response Procedures Followed?** yes

Work Safely this Summer…and all career long
A three-person crew was switching an industry. The conductor had directed a few switching moves and then instructed the engineer to haul out of the plant. The conductor was observed by a plant employee riding on the trailing end of the first of two tank cars being pulled out of the plant. Moments later the conductor fell between the cars and was killed when he was run over by the trailing car in the two car move.

**Special Switching Hazard(s):**

- Employee Tripping

**Employee Tripping**

- Possible Contributing Factor: Employee falling from moving equipment

- Day of Week: Friday
- Time of Fatal Event: 9:10 AM
- Time on Duty (hours: minutes): 3:10
- Temperature (Fahrenheit): 80
- Direction of Movement: pulled
- Crew’s Next Move: set out cars
- Death Result of Train Movement?: yes
- Other Movements Nearby?: no
- Track Type: industrial/spot/(load/unload)/outside
- Hit by Own Equipment?: yes
- Striking Train Within Rules?: yes
- Speed of Equipment (mph): 3
- Deceased Regular Job?: yes
- Crew Size: 3
- Drugs Present?: no
- Drugs a Factor?: no
- Emergency Response Procedures Followed?: yes

---

**No. 7 of 20: July 07, 1996 – NS – Sidney, IN**

Road crew, engineer and conductor, while stopped on siding track to meet an opposing train, FE (conductor) detrained to perform a roll-by inspection of other train. FE stepped off his train shortly before opposing train’s arrival then stood in that train’s track while trying to adjust his portable radio. Opposing train struck FE at this point. FE had one year of experience.

**SOF A Finding (s):**

- **Possible Contributing Factor:** Employee on or fouling track
- **Possible Contributing Factor:** Metal stress over physical exam/lack of sleep

- Day of Week: Sunday
- Time of Fatal Event: 1:08 AM
- Time on Duty (hours: minutes): 5:08
- Temperature (Fahrenheit): 75
- Direction of Movement: pulled
- Crew’s Next Move: meet train
- Death Result of Train Movement?: yes
- Other Movements Nearby?: yes
- Track Type: main
- Hit by Own Equipment?: no
- Striking Train Within Rules?: yes
- Speed of Equipment (mph): 38
- Deceased Regular Job?: yes
- Had Deceased Worked There Before?: yes
- Crew Size: 2
- Drugs Present?: no
- Drugs a Factor?: no
- Emergency Response Procedures Followed?: yes
No. 8 of 20: July 18, 1997 – MNCW – Stamford, CT
A conductor/flagman was assigned to protect contractor workers that were installing construction poles near a passenger station platform. To better observe the work, the conductor/flagman placed himself within the gauge of a “live” main track and was struck and killed by a passing train.

**Special Switching Hazard(s):**

- Day of Week: Friday
- Time of Fatal Event: 1:29 AM
- Time on Duty (hours: minutes): 0:00
- Temperature (Fahrenheit): 75
- Direction of Movement: pulled
- Death Result of Train Movement?: yes
- Possible Contributing Factor: Employee on or fouling track

**Struck by Mainline Trains**

- Other Movements Nearby?: no
- Track Type: main
- Hit by Own Equipment?: no
- Striking Train Within Rules?: yes
- Speed of Equipment (mph): 38
- Crew Size: 1
- Drugs Present?: no
- Drugs a Factor?: no

---

No. 9 of 20: July 01, 1998 – NS – Buechel, KY
A three-person local switching crew (conductor, engineer and utility employee) had just begun to pull five cars out of an industrial loading dock while the conductor and the utility employee began to walk toward the door providing egress out of the dock area. Suddenly, according to the conductor, the utility employee allegedly tripped on some material on the dock, grabbed the side of the outgoing cut of cars and was pulled between the car he was holding onto and the handrail structure that accompanied the stairs leading from the platform to the door. He died two weeks later.

**Special Switching Hazard(s):**

- Day of Week: Wednesday
- Time of Fatal Event: 2:50 AM
- Time on Duty (hours: minutes): 2:51
- Temperature (Fahrenheit): 74
- Direction of Movement: pulled
- Crew’s Next Move: switch cars
- Death Result of Train Movement?: yes
- Possible Contributing Factor: Close Clearance
- Track Type: industrial/spot(load/unload)/inside
- Speed of Equipment (mph): 3
- Deceased Regular Job?: yes
- Crew Size: 3
- Drugs Present?: no
- Drugs a Factor?: no
- Emergency Response Procedures Followed?: yes
No. 10 of 20: July 07, 2000 – CKRY – Wichita, KS

Employee was struck by his own train when he tripped and fell onto the rail as he stepped in between moving equipment to open a knuckle while walking backwards.

**SOFA Finding (s):**

1. Possible Contributing Factor: Employee on or fouling track
2. Possible Contributing Factor: Other general switching rules

<table>
<thead>
<tr>
<th>Day of Week:</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time of Fatal Event:</td>
<td>9:55 AM</td>
</tr>
<tr>
<td>Time on Duty (hours: minutes):</td>
<td>15:00</td>
</tr>
<tr>
<td>Direction of Movement:</td>
<td>shoved</td>
</tr>
<tr>
<td>Crew’s Next Move:</td>
<td>couple to track</td>
</tr>
<tr>
<td>Death Result of Train Movement?</td>
<td>yes</td>
</tr>
<tr>
<td>Other Movements Nearby?</td>
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<tr>
<td>Track Type:</td>
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<tr>
<td>Hit by Own Equipment?</td>
<td>yes</td>
</tr>
<tr>
<td>Striking Train Within Rules?</td>
<td>yes</td>
</tr>
<tr>
<td>Speed of Equipment (mph):</td>
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<tr>
<td>Deceased Regular Job?</td>
<td>yes</td>
</tr>
<tr>
<td>Crew Size:</td>
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</tr>
<tr>
<td>Drugs Present?</td>
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</tr>
<tr>
<td>Drugs a Factor?</td>
<td>no</td>
</tr>
<tr>
<td>Emergency Response Procedures Followed?</td>
<td>yes</td>
</tr>
</tbody>
</table>

No. 11 of 20: July 24, 2000 – PARN – Skagway, AK

A two-person yard switching crew was in the process of moving their light locomotives to a track where it was to be stored for the night. The conductor was on the leading end of the unit and directing the move by radio communication. After instructing the engineer to stop, the conductor got off the locomotive, lined two switches and told the engineer to back up. The engineer backed up until he placed the unit at the location where it is always left without further radio contact from his conductor. The conductor was struck and killed by the locomotive and found, by the engineer, under the locomotive’s fuel tanks.

**SOFA Finding (s):**

4. Possible Contributing Factor: Employee on or fouling track
2. Possible Contributing Factor: Poor intra-crew communication about work in progress
3. Possible Contributing Factor: Radio communication, improper

<table>
<thead>
<tr>
<th>Day of Week:</th>
<th>Monday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time of Fatal Event:</td>
<td>12:15 PM</td>
</tr>
<tr>
<td>Time on Duty (hours: minutes):</td>
<td>6:15</td>
</tr>
<tr>
<td>Temperature (Fahrenheit):</td>
<td>52</td>
</tr>
<tr>
<td>Direction of Movement:</td>
<td>pulled</td>
</tr>
<tr>
<td>Crew’s Next Move:</td>
<td>tie up</td>
</tr>
<tr>
<td>Death Result of Train Movement?</td>
<td>yes</td>
</tr>
<tr>
<td>Other Movements Nearby?</td>
<td>no</td>
</tr>
<tr>
<td>Track Type:</td>
<td>yard/flat/service</td>
</tr>
<tr>
<td>Hit by Own Equipment?</td>
<td>yes</td>
</tr>
<tr>
<td>Striking Train Within Rules?</td>
<td>no</td>
</tr>
<tr>
<td>Speed of Equipment (mph):</td>
<td>5</td>
</tr>
<tr>
<td>Deceased Regular Job?</td>
<td>yes</td>
</tr>
<tr>
<td>Crew Size:</td>
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</tr>
<tr>
<td>Drugs Present?</td>
<td>no</td>
</tr>
<tr>
<td>Drugs a Factor?</td>
<td>no</td>
</tr>
<tr>
<td>Emergency Response Procedures Followed?</td>
<td>yes</td>
</tr>
</tbody>
</table>
No. 12 of 20: July 28, 2000 – UP – St. Louis, MO

A three-person local switching crew was in the process of setting cars into a track within an industry. The switchman was riding the side ladder of the leading end of the leading car as it went into the building. The doorway would not clear a man riding on the side of the car and the trainman was killed as he was compressed between it and the car he was riding.

Special Switching Hazard(s):
Possible Contributing Factor: Close Clearance
Possible Contributing Factor: Close or no clearance
Possible Contributing Factor: Failure to communicate unsafe condition

Day of Week: Friday
Time of Fatal Event: 8:45 AM
Time on Duty (hours: minutes): 9:15
Direction of Movement: shoved
Crew’s Next Move: spot cars
Death Result of Train Movement? yes
Other Movements Nearby? no
Track Type: industrial/spot(load/unload)/inside
Hit by Own Equipment? yes
Striking Train Within Rules? yes
Speed of Equipment (mph): 3
Deceased Regular Job? yes
Crew Size: 4
Drugs Present? no
Drugs a Factor? no
Emergency Response Procedures Followed? yes

No. 13 of 20: July 13, 2001 – CPRS – Bensenville, IL

The three-person crew had just finished kicking a flat car into a clear track and the conductor was about to mount the leading end of a cut of cars to be kicked into another track further down the lead. As the conductor issued instructions to the engineer to begin the move, and to the crew, the flat car had not cleared the fouling point to the lead. The shove move rode up onto the flat car derailing the car the conductor was riding on which crushed him to death.

Special Switching Hazard(s):
Possible Contributing Factor: Free-Rolling Railcars
Possible Contributing Factor: Car left afoul
Possible Contributing Factor: Shoving movement, man on or at leading end of movement, failure to control
Possible Contributing Factor: Other miscellaneous causes
External Circumstances: Location of pile of cross ties

Day of Week: Friday
Time of Fatal Event: 11:10 PM
Time on Duty (hours: minutes): 8:10
Temperature (Fahrenheit): 69
Direction of Movement: shoved
Crew’s Next Move: line switch
Death Result of Train Movement? yes
Other Movements Nearby? no
Track Type: yard/classification
Hit by Own Equipment? yes
Striking Train Within Rules? no
Speed of Equipment (mph): 8
Deceased Regular Job? yes
Crew Size: 3
Drugs Present? no
Drugs a Factor? no
Emergency Response Procedures Followed? yes
No. 14 of 20: July 16, 2002 – NS – Bonlee, NC

While shoving lite engines back to train on mainline, employees failed to control the movement by radio, resulting in a collision with a standing train.

SOFA Finding(s):

Possible Contributing Factor: Radio communication, failure to give/receive
Possible Contributing Factor: Other causes relating to train handling or makeup
Possible Contributing Factor: Radio communication, failure to comply
Possible Contributing Factor: Shoving movement, man on or at leading end of movement, failure to control

Day of Week: Tuesday
Time of Fatal Event: 11:59 AM
Time on Duty (hours: minutes): 5:59
Temperature (Fahrenheit): 85
Direction of Movement: shoved
Crew’s Next Move: couple
Death Result of Train Movement?: yes
Other Movements Nearby?: no
Track Type: main
Hit by Own Equipment?: yes
Striking Train Within Rules?: no
Speed of Equipment (mph): 13
Deceased Regular Job?: yes
Crew Size: 4
Drugs Present?: no
Drugs a Factor?: no
Emergency Response Procedures Followed?: yes

No. 15 of 20: July 5, 2005 BNSF Emporia, KS
(based on preliminary information)

A 26-year-old trainman, with six months experience, was crushed when the car he was riding during a shove move impacted a standing cut of cars.

No. 16 of 20: July 18, 2005 UP Memphis, TN
(based on preliminary information)

A conductor died when the car he was riding on the point of a shove move was struck at a private crossing by a semi-tractor trailer truck at an industrial location.

No. 17 of 20: July 22, 2005 ATRR Ragland, AL
(based on preliminary information)

An Alabama & Tennessee Railway Company conductor died when crushed against a wall when the car he was riding on the point of a shove move was derailed.

No. 18 of 20: July 8, 2007 BNSF Berry, AZ
(based on preliminary information)

A 37-year-old conductor was in the process of setting off nine cars on the siding at Berry when radio communication ceased. The locomotive engineer stopped, walked back to check on the conductor, and found him pinned under the wheel of a freight car. He was later pronounced dead.

No. 19 of 20: July 27, 2007 CN Fulton, KY
(based on preliminary information)

A 46-year-old conductor was a member of a 3 person switching crew that was classifying cars into various tracks in the yard. The trainman was making the final few switching moves and heard the conductor state that he was hurt. The trainman found the conductor between two cars and determined that he had been knocked down and run over by a rail car.

No. 20 of 20: July 10, 2008 BNSF Minneapolis, MN
(based on preliminary information)

A utility employee was in the process of “bleeding off” cars on track 11 in Northtown Yard when the leading end of a shoving move passed him. Shortly thereafter, a car inspector found the body of the utility employee.
# 12 August Switching Fatalities

<table>
<thead>
<tr>
<th>#</th>
<th>Date</th>
<th>RR</th>
<th>Location</th>
<th>Age</th>
<th>Service (yrs)</th>
<th>Employee's Job</th>
<th>Employee Act</th>
<th>Employee Location</th>
<th>Fatal Event</th>
<th>SOFA Finding</th>
<th>Special Switching Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>08/04/93</td>
<td>UP</td>
<td>Pryor, OK</td>
<td>42</td>
<td>18</td>
<td>road brakemen</td>
<td>riding</td>
<td>on end of car</td>
<td>derailments</td>
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<td>Close Clearance</td>
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<tr>
<td>2</td>
<td>08/11/93</td>
<td>SP</td>
<td>Tracy, CA</td>
<td>47</td>
<td>29</td>
<td>road brakemen</td>
<td>getting on</td>
<td>on end of car</td>
<td>struck by on-track equipment</td>
<td>3, 4</td>
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<tr>
<td>3</td>
<td>08/12/93</td>
<td>ATSF</td>
<td>Evandale, TX</td>
<td>52</td>
<td>31</td>
<td>road brakemen</td>
<td>standing</td>
<td>on track</td>
<td>struck by on-track equipment</td>
<td>2</td>
<td></td>
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<tr>
<td>4</td>
<td>08/15/97</td>
<td>UP</td>
<td>Elko, NV</td>
<td>53</td>
<td>28</td>
<td>yard brakeman</td>
<td>adjusting coupler</td>
<td>between cars/loc</td>
<td>sudden/unexpected movement of on-track equipment</td>
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<tr>
<td>5</td>
<td>08/11/00</td>
<td>BNSF</td>
<td>Port of Los Angeles, CA</td>
<td>36</td>
<td>4</td>
<td>road brakemen</td>
<td>walking</td>
<td>on track</td>
<td>struck by on-track equipment</td>
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<td>6</td>
<td>08/08/02</td>
<td>CWRO</td>
<td>Cleveland, OH</td>
<td>53</td>
<td>34</td>
<td>yard conductor</td>
<td>riding</td>
<td>on side of car</td>
<td>struck against object</td>
<td>2</td>
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<td>7</td>
<td>08/26/03</td>
<td>LC</td>
<td>Chester, SC</td>
<td>29</td>
<td>4</td>
<td>road conductor</td>
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<td>between cars/loc</td>
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<td>8</td>
<td>08/15/05</td>
<td>AM</td>
<td>Rogers, AR</td>
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<td>9</td>
<td>08/21/06</td>
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<td>Bonaventure, FL</td>
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<td>Struck by Motor Vehicle</td>
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<td>10</td>
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<td>NS</td>
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<td>11</td>
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<td>East Chicago, IN</td>
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<td>(based on preliminary information)</td>
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<td>Special Switching Hazard</td>
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<tr>
<td>12</td>
<td>08/30/07</td>
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<td>Stockton, CA</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>(based on preliminary information)</td>
<td></td>
<td></td>
<td>Special Switching Hazard</td>
<td></td>
</tr>
</tbody>
</table>
12 August Switching Fatalities

No. 1 of 12: August 04, 1993 – UP – Pryor, OK
A three-person industrial switching crew was shoving three cars down a track. The conductor was on the ground, ahead of the move and the brakeman was riding the side of the leading end of the leading car. A bush created a clearance issue and the brakeman stepped around the side of the leading car to the end of the car just as it began to derail. The brakeman was killed when he fell from the derailing car.

**Special Switching Hazard(s):**
- Possible Contributing Factor: Close Clearance
- Possible Contributing Factor: Worn rail
- Possible Contributing Factor: Close or no clearance
- Possible Contributing Factor: Employee falling from moving equipment

**Day of Week:** Wednesday
**Time of Fatal Event:** 4:45 PM
**Time on Duty (hours: minutes):** 6:45
**Direction of Movement:** shoved
**Crew's Next Move:** couple
**Death Result of Train Movement?** yes
**Other Movements Nearby?** no
**Track Type:** inspection/stub track
**Hit by Own Equipment?** yes
**Striking Train Within Rules?** yes
**Speed of Equipment (mph):** 6
**Crew Size:** 3
**Drugs Present?** no
**Drugs a Factor?** no
**Emergency Response Procedures Followed?** yes

No. 2 of 12: August 11, 1993 – SP – Tracy, CA
Crew performing industry switching. Brakeman attempted to couple air hoses while conductor gave engineer instructions to shove the movement. Resulting movement was unexpected to brakeman who was fatally injured.

**SOFA Finding (s):**
- Possible Contributing Factor: 3, 4 Poor intra-crew communication about work in progress
- Possible Contributing Factor: Hand signal, failure to comply
- Possible Contributing Factor: Other body defects (car)
- Possible Contributing Factor: Poor crew utilization

**Day of Week:** Wednesday
**Time of Fatal Event:** 11:52 AM
**Time on Duty (hours: minutes):** 2:52
**Direction of Movement:** shoved
**Crew's Next Move:** shove to yard
**Death Result of Train Movement?** yes
**Track Type:** lead/industrial
**Hit by Own Equipment?** yes
**Striking Train Within Rules?** no
**Speed of Equipment (mph):** 5
**Deceased Regular Job?** no
**Had Deceased Worked There Before?** yes
**Crew Size:** 5
**Drugs Present?** no
**Drugs a Factor?** no
**Emergency Response Procedures Followed?** yes
No. 3 of 12: August 12, 1993 – ATSF – Evandale, TX

Upon detraining, brakeman was struck and killed by another railroad’s yard job working in the same small yard. Members of both crews saw each other but the brakeman apparently did not see the short line crews shove move.

SOFA Finding (s):
Possible Contributing Factor: Employee on or fouling track
External Circumstances: Failure to communicate unsafe condition

Day of Week: Thursday
Time of Fatal Event: 1:25 PM
Time on Duty (hours: minutes): 3:25
Temperature (Fahrenheit): 100
Direction of Movement: shoved
Crew's Next Move: make cut
Death Result of Train Movement? yes
Other Movements Nearby? yes
Track Type: siding/industrial
Hit by Own Equipment? no
Striking Train Within Rules? no
Speed of Equipment (mph): 5
Crew Size: 3
Drugs Present? no
Drugs a Factor? no
Emergency Response Procedures Followed? yes

No. 4 of 12: August 15, 1997 – UP – Elko, NV

Crew was switching in class yard. Helper was attempting to adjust the drawbar in order to couple to three cars about forty feet away that had not coupled the first time. While adjusting the drawbar, the helper did not notice the three free-rolling cars coming back in on him and the cars coupled him up.

SOFA Finding (s):
Possible Contributing Factor: Failure to apply handbrakes on car(s)
Possible Contributing Factor: Employee on or fouling track
External Circumstances: Yard track grade

Day of Week: Friday
Time of Fatal Event: 3:30 AM
Time on Duty (hours: minutes): 3:31
Temperature (Fahrenheit): 65
Direction of Movement: free-running
Crew's Next Move: couple track
Death Result of Train Movement? no
Track Type: yard/flat/classification
Hit by Own Equipment? yes
Speed of Equipment (mph): 1
Deceased Regular Job? yes
Had Deceased Worked There Before? no
Crew Size: 3
Emergency Response Procedures Followed? yes
No. 5 of 12: August 11, 2000 – BNSF – Port of Los Angeles, CA

Employee was struck and killed by the lead car of another switching movement that was operating on the adjacent yard track.

**SOFA Finding (s):**

Possible Contributing Factor: Failure to communicate unsafe condition
Possible Contributing Factor: Shoving movement, absence of a man on or at leading end of movement
Possible Contributing Factor: Employee on or fouling track
Possible Contributing Factor: Poor inter-crew communications
External Circumstances: Joint operations

Day of Week: Friday
Time of Fatal Event: 10:50 PM
Time on Duty (hours: minutes): 7:50
Temperature (Fahrenheit): 65
Direction of Movement: shoved
Crew's Next Move: shove drag
Death Result of Train Movement?: yes
Other Movements Nearby?: yes
Track Type: yard/flat/lead
Hit by Own Equipment?: no
Striking Train Within Rules?: no
Speed of Equipment (mph): 7
Deceased Regular Job?: yes
Crew Size: 3
Drugs Present?: no
Drugs a Factor?: no
Emergency Response Procedures Followed?: yes

No. 6 of 12: August 08, 2002 – CWRO – Cleveland, OH

A two-person crew was switching cars in a yard and, without the trainman's knowledge, another switching crew had set cars into a track adjacent to the one being used by the first crew. The set out included a wide ladle car and it created a clearance issue on the adjacent track. Some time later, the trainman was riding the lead car down the track adjacent to the wide ladle car and was killed when he was rolled between the car he was riding and the wide ladle car sitting on the adjacent track.

**SOFA Finding (s):**

Possible Contributing Factor: Close or no clearance
Possible Contributing Factor: Failure to communicate unsafe condition
Possible Contributing Factor: Poor inter-crew communications
External Circumstances: Other body defects (car)

Day of Week: Thursday
Time of Fatal Event: 4:15 AM
Time on Duty (hours: minutes): 5:15
Temperature (Fahrenheit): 65
Direction of Movement: shoved
Crew's Next Move: spot
Death Result of Train Movement?: yes
Other Movements Nearby?: no
Track Type: yard/industrial/spot(load/unload)/outside
Hit by Own Equipment?: yes
Speed of Equipment (mph): 2
Deceased Regular Job?: yes
Crew Size: 2
Drugs Present?: no
Drugs a Factor?: no
Emergency Response Procedures Followed?: yes
A three-person crew that included a brakeman trainee was switching an industry when the conductor requested a short backup move when the cars he intended to couple to did not couple. A short time later and after failed attempts to contact the conductor the trainee discovered him dead and lying between the cars he had been trying to couple together.

SOFA Finding (s):

<table>
<thead>
<tr>
<th>Possible Contributing Factor</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee on or fouling track</td>
<td></td>
</tr>
<tr>
<td>Failure to provide adequate space between equipment</td>
<td></td>
</tr>
<tr>
<td>Other miscellaneous causes</td>
<td></td>
</tr>
<tr>
<td>Coupler mismatch, high/low</td>
<td></td>
</tr>
<tr>
<td>Radio communication, improper</td>
<td></td>
</tr>
</tbody>
</table>

Day of Week: Tuesday
Time of Fatal Event: 12:30 PM
Time on Duty (hours: minutes): 5:00
Temperature (Fahrenheit): 89
Direction of Movement: shoved
Crew's Next Move: couple
Death Result of Train Movement?: yes
Other Movements Nearby?: no
Track Type: lead/industrial
Hit by Own Equipment?: yes
Striking Train Within Rules?: yes
Speed of Equipment (mph): 1
Deceased Regular Job?: yes
Crew Size: 3
Drugs Present?: no
Drugs a Factor?: no
Emergency Response Procedures Followed?: yes

An Arkansas & Missouri Railroad Company (AM) brakeman was directing a car to a spot within a plant when he was crushed to death between the car and a close clearance structure.

A 45-year-old conductor was riding the leading end of a cut of cars into a plant and over a road crossing in the plant when the movement struck a truck fatality injuring the conductor. (possible Special Switching Hazard: Struck by Motor Vehicle)

During a flat switching operation, the conductor attempted to couple cars attached to his locomotive with 2 cars standing on a track. The coupling did not occur and a short time later, the conductor was found run over by one of the two standing cars. (possible SOFA 1)

A two person conventional yard switching assignment was shoving a cut of cars into a track and the move was being controlled by the conductor. Radio communication between the conductor and the engineer ceased, the movement was stopped, and the conductor was found by the engineer dead and under the leading wheels of the second leading car of the shove. (possible Special Switching Hazard: trips, slipping, falling)

A Remote Control Operator was riding the leading end of a two car shove move and in control of the move when he struck the side of another car that was fouling the crossover switch he was lined to operate through. As a result, the RCO was killed. (possible Special Switching Hazard: close clearance)