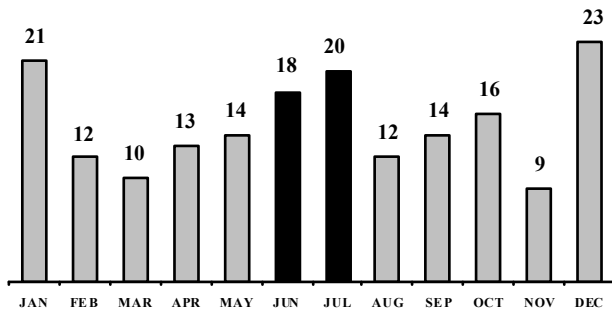


**PLEASE POST IMMEDIATELY**  
*Apply SOFA Findings...Recognize Special Switching Hazards*

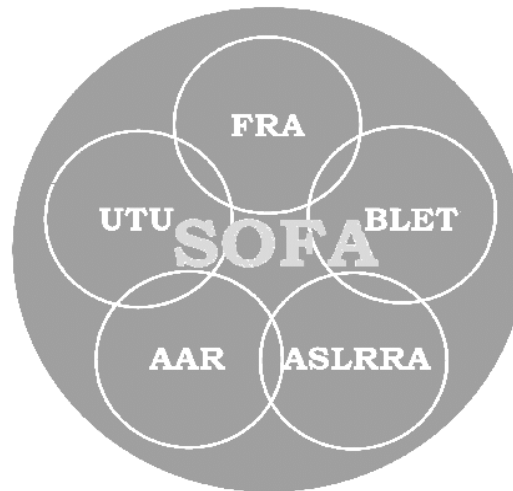
**Work Safely this Summer...and all career long**

**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

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

**Three Switching Fatality**  
**in 2010 through June 20**

**April 23:** Riverdale, IL

**May 31:** Kearny, NJ

**June 10:** Doswell, VA

*page 2*

**Declines in SOFA-defined**  
**Severe Injuries**

**At a 13-year low in 2009...**  
**trend continues in first three**  
**months of 2010** *pages 7-9*

**Switching Fatality and Severe Injury Update – 2010 Second Quarter**

# 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)

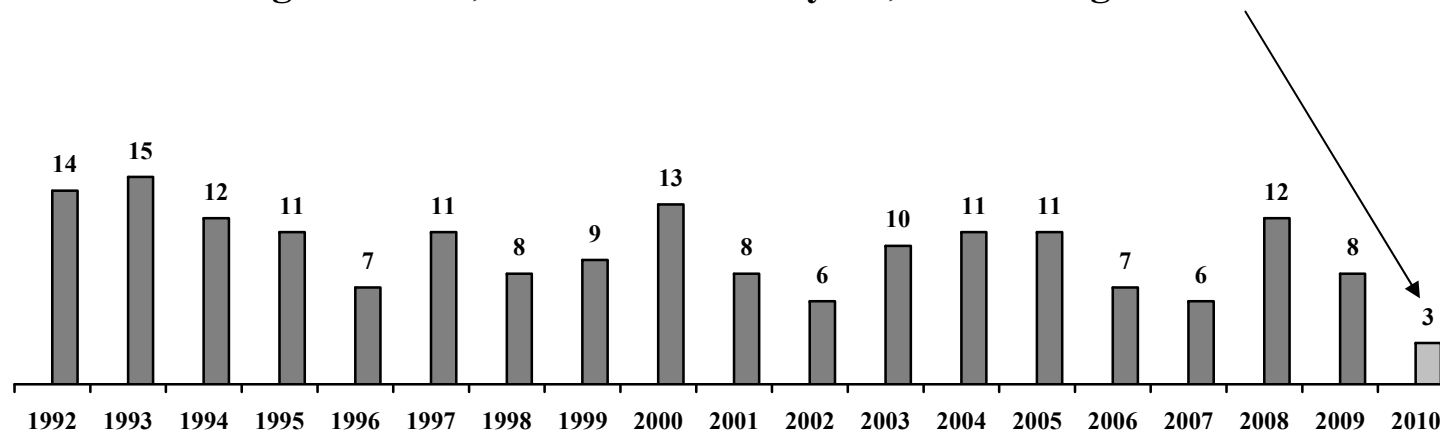
### 2- May 31 – NJT – Kearny, NJ

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



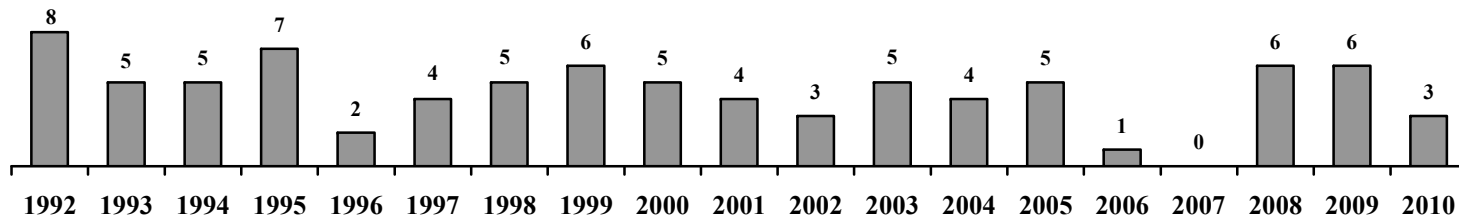
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# Three Switching Fatalities in 2010 through June 20 (continued)

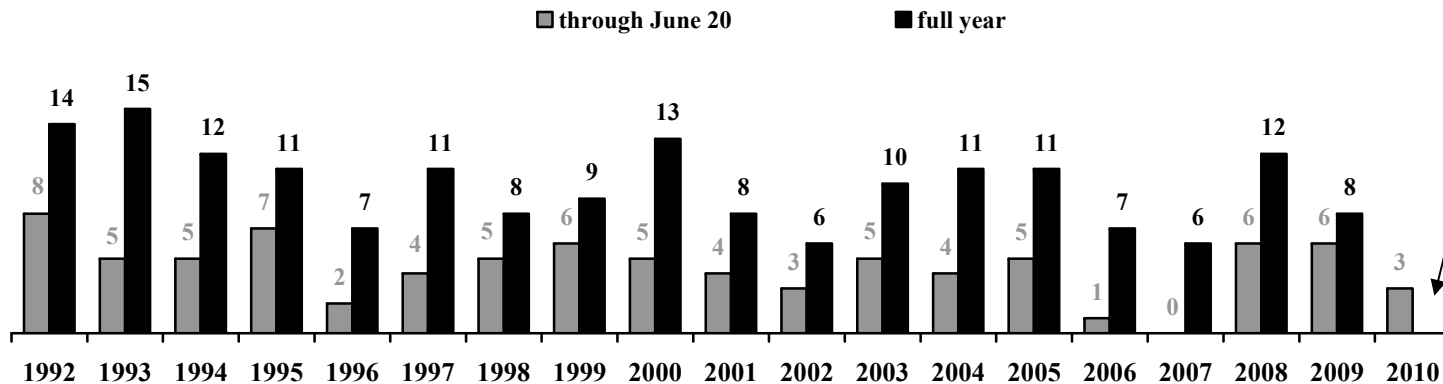
## SOFA Switching Fatality History

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 mutual 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)

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

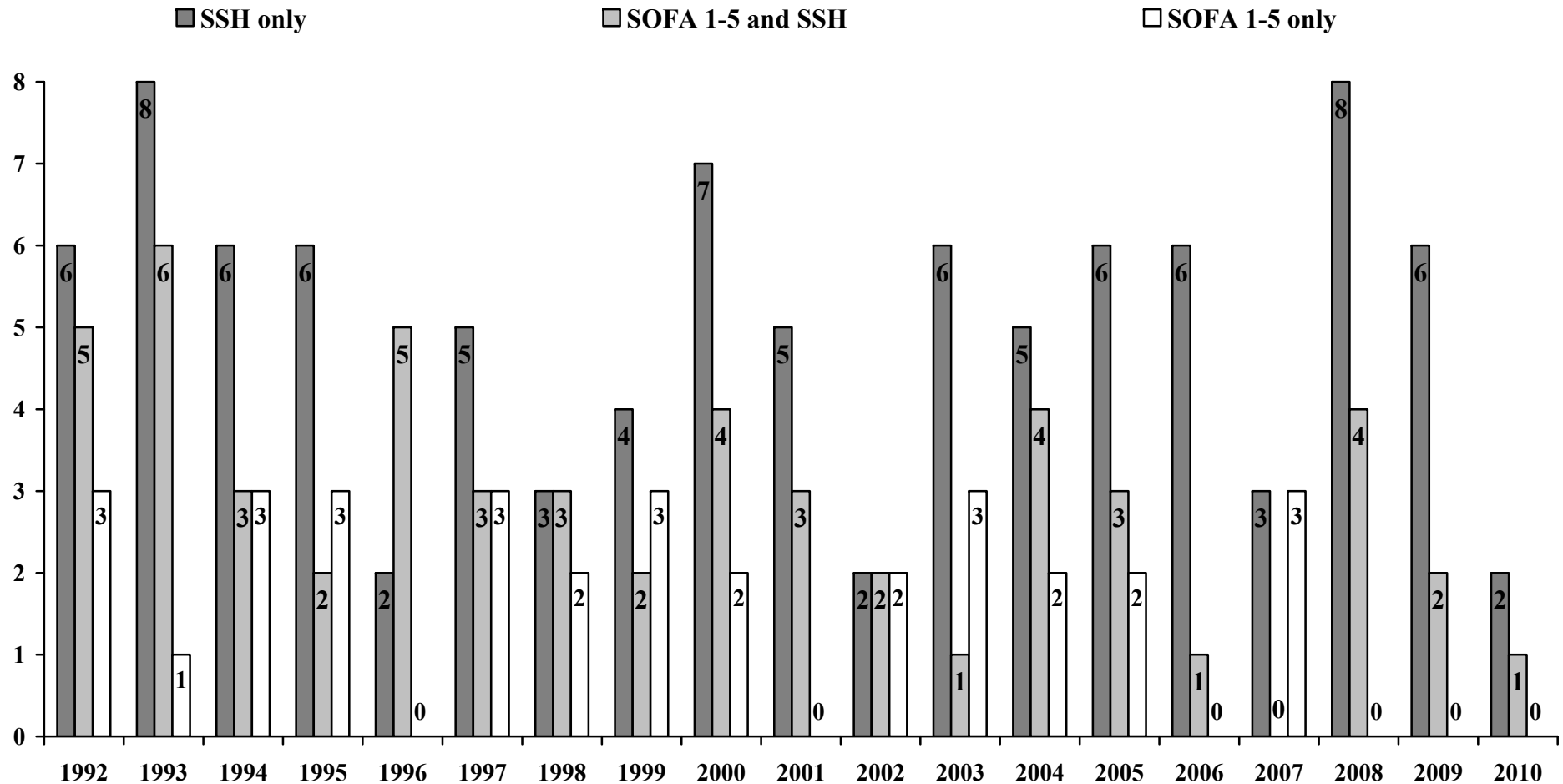
### 15 Special Switching Hazards

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

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# Classifying the 182 Switching Fatalities by SOFA Type (continued)

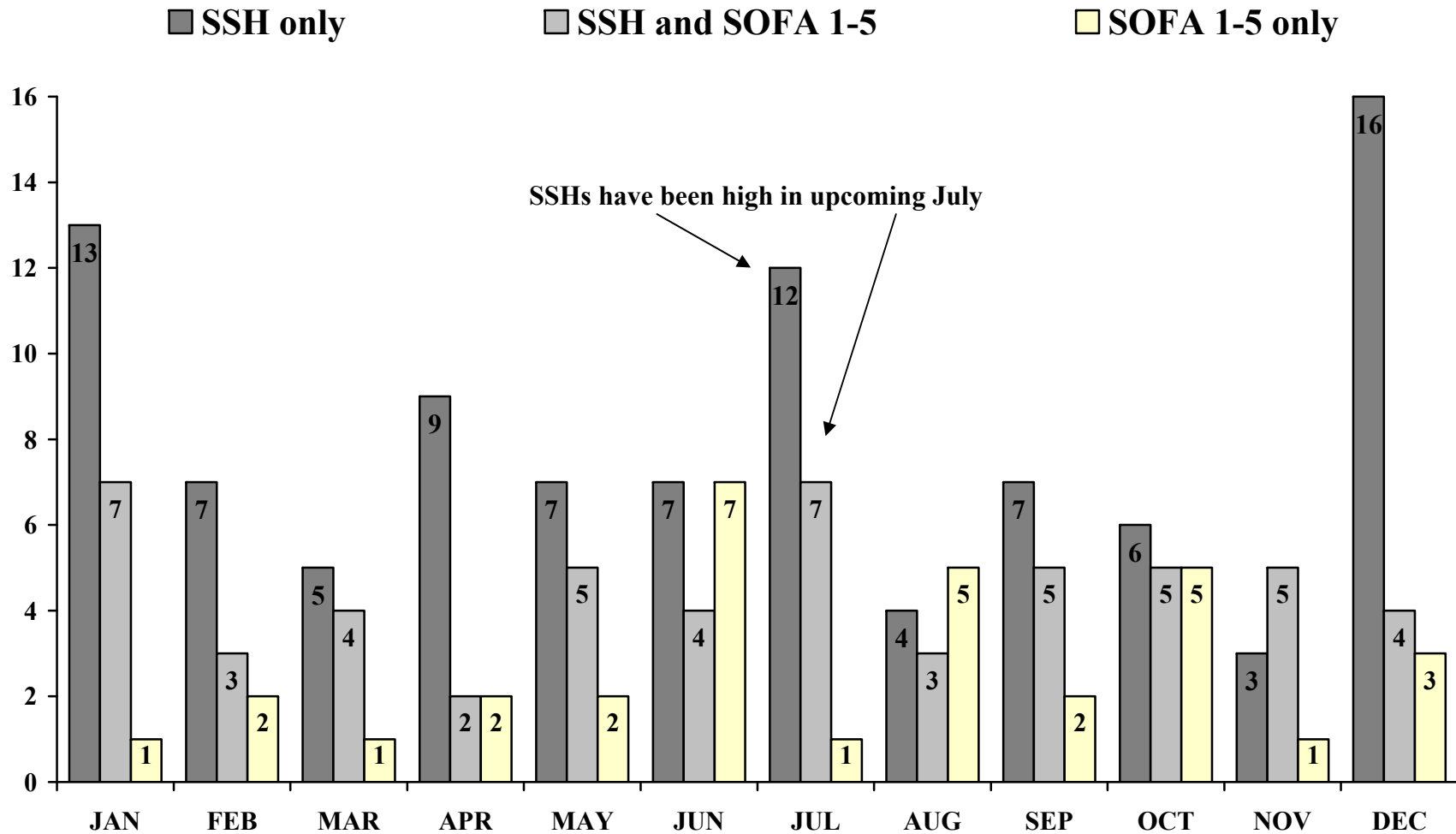
## By Year: January 1, 1992 through June 20, 2010



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



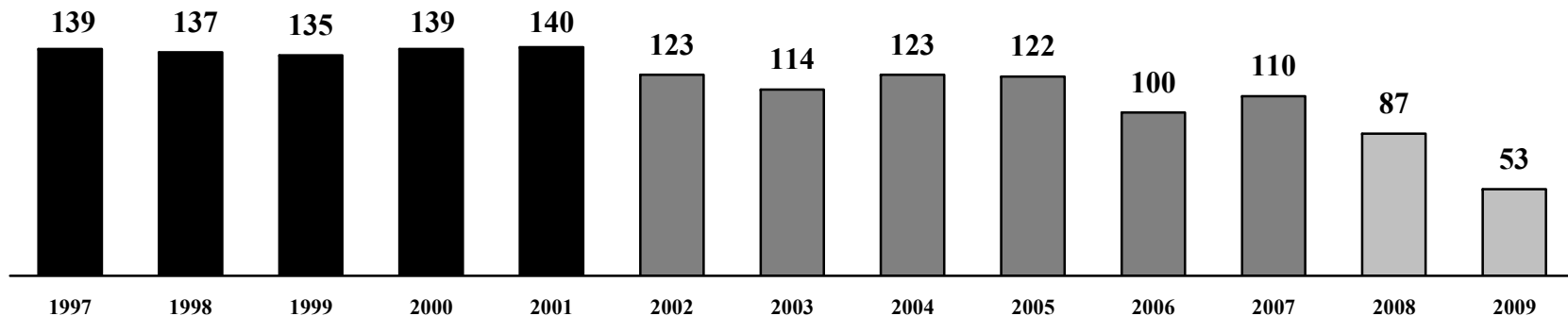
**In the three months with the largest number of Switching Fatalities – January, July, and December – there were high numbers of Fatalities involving Special Switching Hazards.**

# Declines in SOFA-defined Severe Injuries

## Full Year: 1997 through 2009

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)

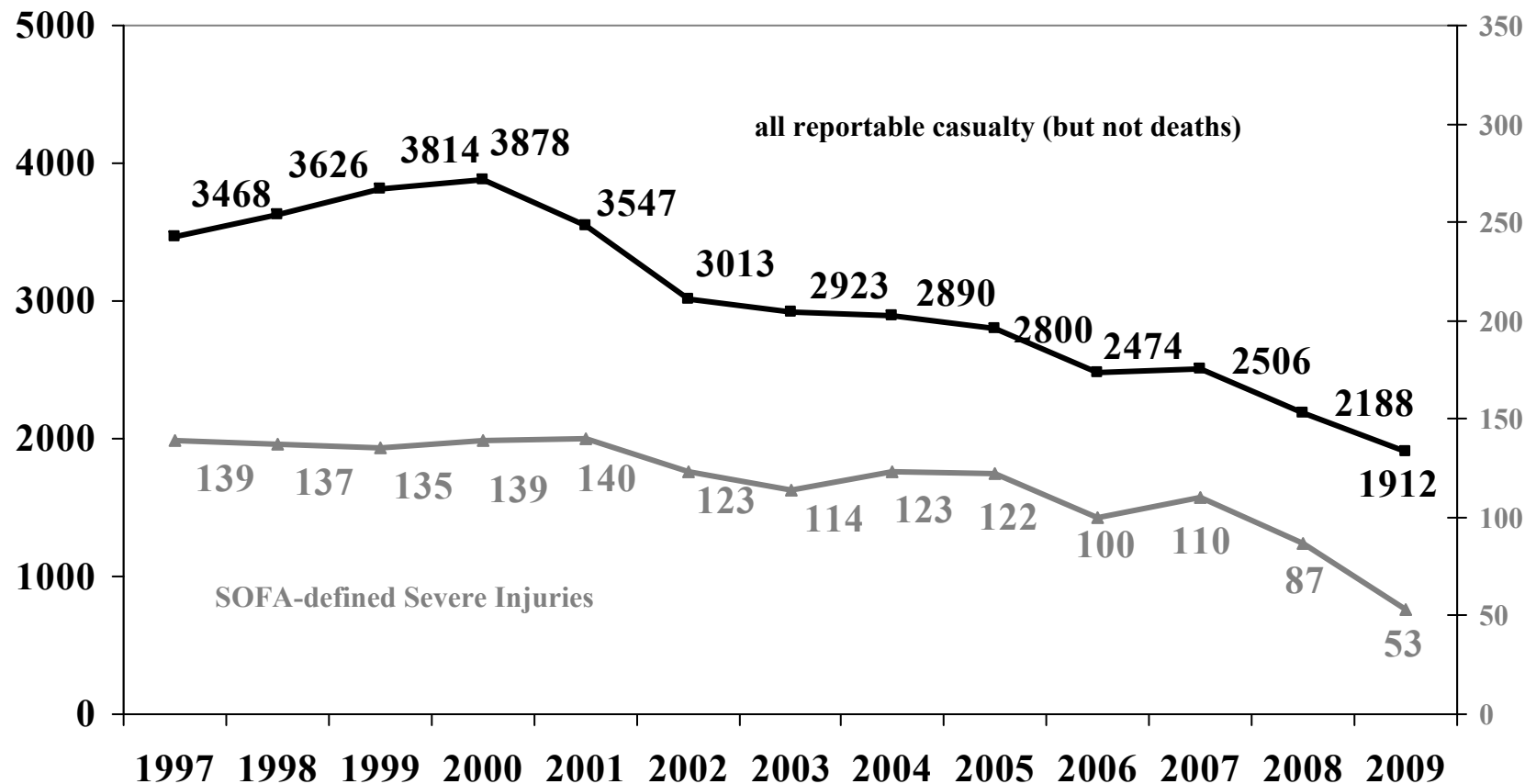


**Importance of SOFA-defined Severe Injuries:** Since 1997, there have been 1,537 of these Injuries □ 202 of which were amputations. (1997 is the first year these Injuries to train and engine service employees can be determined as defined by the interest of the SOFA Working Group.) While in recent years 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.

**SOFA-defined Severe Injuries v. All Reportable Casualty (but not deaths)  
to Train and Engine Service Employees, 1997 through 2009**





## 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)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	total	average
<b>JAN</b>	11	13	16	15	21	12	11	11	20	10	14	13	6	6	179	12.8
<b>FEB</b>	17	15	9	9	9	13	17	14	10	6	15	12	4	6	156	11.1
<b>MAR</b>	14	12	17	11	10	10	13	10	9	9	11	5	5	3	139	9.9
<b>subtotals</b>	<b>42</b>	<b>40</b>	<b>42</b>	<b>35</b>	<b>40</b>	<b>35</b>	<b>41</b>	<b>35</b>	<b>39</b>	<b>25</b>	<b>40</b>	<b>30</b>	<b>15</b>	<b>15</b>		<b>33.9</b>
<b>APR</b>	8	10	6	10	12	6	9	13	10	7	8	9	5		113	8.7
<b>MAY</b>	6	12	8	8	12	14	9	6	6	8	3	7	1		100	7.7
<b>JUN</b>	9	10	8	11	8	5	10	9	7	11	5	3	6		102	7.8
<b>JUL</b>	9	14	10	8	10	7	6	10	5	12	8	1	4		104	8.0
<b>AUG</b>	13	10	11	14	8	10	7	14	10	10	13	5	4		129	9.9
<b>SEP</b>	10	11	15	10	20	12	5	4	9	6	10	12	5		129	9.9
<b>OCT</b>	12	12	16	10	5	11	9	7	11	5	11	4	2		115	8.8
<b>NOV</b>	12	9	12	11	13	14	10	10	13	8	6	8	3		129	9.9
<b>DEC</b>	18	9	7	22	12	9	8	15	12	8	6	8	8		142	10.9
<b>totals</b>	<b>139</b>	<b>137</b>	<b>135</b>	<b>139</b>	<b>140</b>	<b>123</b>	<b>114</b>	<b>123</b>	<b>122</b>	<b>100</b>	<b>110</b>	<b>87</b>	<b>53</b>		<b>1,537</b>	

\**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> [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.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	total	average
<b>JAN</b>	1	0	2	1	0	0	2	2	2	0	1	1	1	0	13	0.9
<b>FEB</b>	0	1	0	1	0	2	1	2	0	2	1	0	0	1	11	0.8
<b>MAR</b>	3	4	3	2	1	1	3	1	2	1	0	1	1	0	23	1.6
<b>subtotals</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>1</b>		<b>3.6</b>
<b>APR</b>	1	2	0	1	2	0	1	1	2	2	3	3	1		19	1.5
<b>MAY</b>	1	2	3	0	2	2	2	0	0	1	1	0	0		14	1.1
<b>JUN</b>	2	1	1	0	1	0	0	1	0	0	1	1	0		8	0.6
<b>JUL</b>	1	5	1	0	4	0	1	2	1	2	2	0	1		20	1.5
<b>AUG</b>	1	0	1	4	0	1	0	2	2	0	3	0	1		15	1.2
<b>SEP</b>	2	4	3	2	5	4	0	0	3	1	1	2	0		27	2.1
<b>OCT</b>	2	5	2	2	0	0	2	2	0	0	2	0	0		17	1.3
<b>NOV</b>	2	2	2	2	3	0	1	1	2	3	1	0	0		19	1.5
<b>DEC</b>	4	1	0	4	1	1	2	1	1	0	0	0	1		16	1.2
<b>totals</b>	<b>20</b>	<b>27</b>	<b>18</b>	<b>19</b>	<b>19</b>	<b>11</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>12</b>	<b>16</b>	<b>8</b>	<b>6</b>		<b>202</b>	

# **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>

[accessed June 20, 2010]

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# 18 June Switching Fatalities

#	Date	RR	Location	Age	Service (yrs)	Employee's Job	Employee Act	Employee Location	Fatal Event	SOFA Finding	Special Switching Hazard
1	06/01/92	ATSF	Escondido, CA	58	29	road conductor	climbing over/on	between cars/loc	sudden/unexpected movement of on-track equipment	4	
2	06/01/92	BN	Seattle, WA	42	22	yard brakeman	riding	on end of car	collision between on-track equipment		Employee Tripping and Unsecured Cars
3	06/02/92	IHRC	Henderson, KY	52	23	road conductor	running	on track	struck by on-track equipment	5	
4	06/20/92	CNW	Northlake, IL	42	15	yard conductor	adjusting coupler	on track	defective/malfunctioning equipment	1	
5	06/04/93	SEPTA	Devon, PA	29	6	road pass engineer	standing	in/on loc	lost balance		Miscellaneous (falling)
6	06/07/93	IC	Fulton, KY	49	20	yard brakeman	standing	on track	sudden/unexpected movement of on-track equipment	3	
7	06/15/96	CSX	Charlotte, NC	36	1	yard brakeman	standing	near on-track equip-on ground	pushed/shoved into/against	5	
8	06/06/97	CMRC	Bay City, MI	50	7	road conductor	riding	on end of car	collision between on-track equipment	4	
9	06/24/97	UP	Portland, OR	53	28	yard conductor	walking	near on-track equip-on ground	struck by on-track equipment		Employee Tripping
10	06/24/97	NS	Rowesville, SC	21	2.5	road conductor	walking	on track	struck by on-track equipment		Unexpected Movement of Railcars
11	06/01/98	BNSF	Lubbock, TX	24	0.83	yard conductor	riding	other location on loc	collision between on-track equipment	2, 5	
12	06/05/98	NS	Hapeville, GA	48	27	yard conductor	adjusting coupler	between tracks	collision between on-track equipment	1	
13	06/23/99	UP	Redding, CA	57	35	road conductor	standing	on track	struck by on-track equipment	1, 4	
14	06/16/02	BNSF	Memphis, TN	20	1.5	yard conductor	handbrakes, applying	between cars/loc	struck by on-track equipment	1, 3, 5	
15	06/06/03	CSXT	Kingsport, TN	35	3	road brakemen	riding	on side of car	collision/impact-auto, truck, bus, van, etc.		Struck by Motor Vehicle
16	06/08/08	UP	Houston, TX	n/a	n/a	brakeman	(based on preliminary information)				Special Switching Hazard
17	06/24/09	ATR	Albertville, AL	33	n/a	conductor	(based on preliminary information)				Special Switching Hazard
18	06/10/10	CSX	Doswell, VA	n/a	n/a	conductor	(based on preliminary information)				Special Switching Hazard

# 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.

<b>SOFA Finding (s):</b>	<b>4</b>
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
Crew’s Next Move:	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.

<b>Special Switching Hazard(s):</b>	<b>Employee Tripping and Unsecured Cars</b>
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
Crew’s Next Move:	shove to clear
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

**No. 3 of 18: June 02, 1992 – IHRC – Henderson, KY**

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.

<b>SOFA Finding (s):</b>	<b>5</b>
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

**No. 4 of 18: June 20, 1992 – CNW – Northlake, IL**

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.

<b>SOFA Finding (s):</b>	<b>1</b>
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

**No. 5 of 18: June 04, 1993 – SEPTA – Devon, PA**

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):**

Possible Contributing Factor:

**Miscellaneous (falling)**

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

**No. 6 of 18: June 07, 1993 – IC – Fulton, KY**

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):**

**3**

Possible Contributing Factor:

Employee on or fouling track

Possible Contributing Factor:

Poor intra-crew communication about work in progress

External Circumstances:

X-car-/Ilist 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.

<b>SOFA Finding (s):</b>	<b>5</b>
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.

<b>SOFA Finding (s):</b>	<b>4</b>
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):**

Possible Contributing Factor:  
Possible Contributing Factor:

**Employee Tripping**

Failure to release hand brakes on car(s)  
Employee on or fouling track

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

**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):**

Possible Contributing Factor:

**Unexpected Movement of Railcars**

Switch improperly lined

Day of Week:	Tuesday
Time of Fatal Event:	8:58 PM
Time on Duty (hours: minutes):	0:00
Temperature (Fahrenheit):	80
Direction of Movement:	shoved
Crew's Next Move:	make cut
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	siding
Hit by Own Equipment?	yes
Striking Train Within Rules?	yes
Speed of Equipment (mph):	8
Deceased Regular Job?	yes
Crew Size:	2
Drugs Present?	no
Drugs a Factor?	no

**No.11 of 18: June 01, 1998 – BNSF – Lubbock, TX**

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.

<b>SOFA Finding (s):</b>	<b>2, 5</b>
Possible Contributing Factor:	Shoving movement, man on or at leading end of movement, failure to control
Possible Contributing Factor:	Car left afoul
Possible Contributing Factor:	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

**No. 12 of 18: June 05, 1998 – NS – Hapeville, GA**

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.

<b>SOFA Finding (s):</b>	<b>1</b>
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Long drawbar, auto parts car
Possible Contributing Factor:	Failure to couple
External Circumstances:	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

**No. 13 of 18: June 23, 1999 – UP – Redding, CA**

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.

<b>SOFA Finding (s):</b>	<b>1, 4</b>
Possible Contributing Factor:	Radio communication, failure to comply
Possible Contributing Factor:	Improper train inspection
Possible Contributing Factor:	Failure to allow air brakes to fully release before preceding
Possible Contributing Factor:	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

**No. 14 of 18: June 16, 2002 – BNSF – Memphis, TN**

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.

<b>SOFA Finding (s):</b>	<b>1, 3, 5</b>
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Slack action
Possible Contributing Factor:	Use of brakes, other
Possible Contributing Factor:	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):**

Possible Contributing Factor:

Possible Contributing Factor:

External Circumstances:

Day of Week:

Time of Fatal Event:

Time on Duty (hours: minutes):

Temperature (Fahrenheit):

Direction of Movement:

Crew's Next Move:

Death Result of Train Movement?

Other Movements Nearby?

Track Type:

Hit by Own Equipment?

Striking Train Within Rules?

Speed of Equipment (mph):

Deceased Regular Job?

Crew Size:

Drugs Present?

Drugs a Factor?

Emergency Response Procedures Followed?

**Struck by Motor Vehicle**

Highway user inattentiveness

Interference (other the vandalism) with railroad operations by non-railroad employee

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

Friday

8:25 AM

1:25

65

shoved

exit industry lead shoving one car

yes

no

industrial

no

no

1

yes

3

no

no

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)

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## 20 July Switching Fatalities

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

(Continued on next page)

#	Date	RR	Location	Age	Service (yrs)	Employee's Job	Employee Act	Employee Location	Fatal Event	SOFA Finding	Special Switching Hazard
11	07/24/00	PARN	Skagway, AK	55	22	yard conductor	walking	on track	struck by on-track equipment	4	
12	07/28/00	UP	St. Louis, MO	48	27	yard brakeman	walking	near on-track equip-on ground	other impacts-on track equipment		Close Clearance
13	07/13/01	CPRS	Bensenville, IL	55	32	yard conductor	riding	on side of car	collision between on-track equipment		Free-Rolling Railcars
14	07/16/02	NS	Bonlee, NC	55	34	road conductor	standing	in/on loc	collision between on-track equipment	4	
15	07/05/05	BNSF	Emporia, KS	26	6 months	(based on preliminary information)					Special Switching Hazard
16	07/18/05	UP	Memphis, TN	n/a.	n/a	(based on preliminary information)					Special Switching Hazard
17	07/22/05	ATRR	Ragland, AL	n/a	n/a	(based on preliminary information)					Special Switching Hazard
18	07/08/07	BNSF	Berry, AZ	37	n/a	(based on preliminary information)					Special Switching Hazard
19	07/27/07	CN	Fulton, KY	46	n/a	(based on preliminary information)					Special Switching Hazard
20	07/10/08	BNSF	Minneapolis, MN	n/a	n/a	(based on preliminary information)					Special Switching Hazard

# 20 July Switching Fatalities

## 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 foul of, the main track.

### Special Switching Hazard(s):

Possible Contributing Factor:  
External Circumstances:

### Struck by Mainline Trains

Employee on or fouling track  
Noise from FE's locomotives

Day of Week:	Tuesday
Time of Fatal Event:	8:37 AM
Time on Duty (hours: minutes):	0:37
Direction of Movement:	pulled
Crew's Next Move:	depart siding
Death Result of Train Movement?	yes
Other Movements Nearby?	yes
Track Type:	main/siding
Hit by Own Equipment?	no
Striking Train Within Rules?	yes
Speed of Equipment (mph):	60
Had Deceased Worked There Before?	yes
Crew Size:	2
Drugs Present?	no
Drugs a Factor?	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.

### SOFA Finding (s):

Possible Contributing Factor:  
Possible Contributing Factor:  
External Circumstances:

2, 3

Employee on or fouling track  
Employee's radio harness strap caught equipment  
Improper mingling of crews members

Day of Week:	Thursday
Time of Fatal Event:	12:40 AM
Time on Duty (hours: minutes):	3:40
Temperature (Fahrenheit):	50
Direction of Movement:	free-running
Death Result of Train Movement?	yes
Track Type:	yard/classification
Hit by Own Equipment?	no
Striking Train Within Rules?	yes
Speed of Equipment (mph):	1
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	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.

<b>SOFA Finding (s):</b>	<b>4</b>
Possible Contributing Factor:	Employee on or fouling track
External Circumstances:	Engineer didn't change ends
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.

<b>SOFA Finding (s):</b>	<b>4</b>
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Employee falling from moving equipment
Possible Contributing Factor:	Poor intra-crew communication about work in progress
Possible Contributing Factor:	Radio communication, improper
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

**No. 5 of 20: July 05, 1994 – BN – Essex, MT**

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.

**Special Switching Hazard(s):**

Possible Contributing Factor:  
Possible Contributing Factor:  
External Circumstances:

**Free-Rolling Railcars**

Failure to control speed of car using hand brake  
Crew thought they had 14 empties, had 5 partial loads - extra 52 tons  
Failure to test hand brake

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

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**No. 6 of 20: July 21, 1995 – CR – Hershey, PA**

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):**

Possible Contributing Factor:

**Employee Tripping**

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 trains arrival then stood in that trains track while trying to adjust his portable radio. Opposing train struck FE at this point. FE had one year of experience.

**SOFA Finding (s):**

Possible Contributing Factor:

Possible Contributing Factor:

**5**

Employee on or fouling track

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.

<b>Special Switching Hazard(s):</b>	<b>Struck by Mainline Trains</b>
Possible Contributing Factor:	Employee on or fouling track
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
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.

<b>Special Switching Hazard(s):</b>	<b>Close Clearance</b>
Possible Contributing Factor:	Poor intra-crew communication about work in progress
Possible Contributing Factor:	Close or no clearance
External Circumstances:	Illegal handrail
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
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.

<b>SOFA Finding (s):</b>	<b>1</b>
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Other general switching rules
Day of Week:	Friday
Time of Fatal Event:	9:55 AM
Time on Duty (hours: minutes):	15:00
Direction of Movement:	shoved
Crew's Next Move:	couple to track
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	main/yard/flat/lead
Hit by Own Equipment?	yes
Striking Train Within Rules?	yes
Speed of Equipment (mph):	2
Deceased Regular Job?	yes
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

**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.

<b>SOFA Finding (s):</b>	<b>4</b>
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Poor intra-crew communication about work in progress
Possible Contributing Factor:	Radio communication, improper
Day of Week:	Monday
Time of Fatal Event:	12:15 PM
Time on Duty (hours: minutes):	6:15
Temperature (Fahrenheit):	52
Direction of Movement:	pulled
Crew's Next Move:	tie up
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	yard/flat/service
Hit by Own Equipment?	yes
Striking Train Within Rules?	no
Speed of Equipment (mph):	5
Deceased Regular Job?	yes
Crew Size:	2
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

**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:

Possible Contributing Factor:

**Close Clearance**

Close or no clearance

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:

Possible Contributing Factor:

Possible Contributing Factor:

External Circumstances:

**Free-Rolling Railcars**

Car left afoul

Shoving movement, man on or at leading end of movement, failure to control

Other miscellaneous causes

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.

<b>SOFA Finding (s):</b>	<b>4</b>
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

#	Date	RR	Location	Age	Service (yrs)	Employee's Job	Employee Act	Employee Location	Fatal Event	SOFA Finding	Special Switching Hazard
1	08/04/93	UP	Pryor, OK	42	18	road brakemen	riding	on end of car	derailments		Close Clearance
2	08/11/93	SP	Tracy, CA	47	29	road brakemen	getting on	on end of car	struck by on-track equipment	3, 4	
3	08/12/93	ATSF	Evandale, TX	52	31	road brakemen	standing	on track	struck by on-track equipment	2	
4	08/15/97	UP	Elko, NV	53	28	yard brakeman	adjusting coupler	between cars/loc	sudden/unexpected movement of on-track equipment	1	
5	08/11/00	BNSF	Port of Los Angeles, CA	36	4	road brakemen	walking	on track	struck by on-track equipment	2	
6	08/08/02	CWRO	Cleveland, OH	53	34	yard conductor	riding	on side of car	struck against object	2	
7	08/26/03	LC	Chester, SC	29	4	road conductor	adjusting coupler	between cars/loc	sudden/unexpected movement of on-track equipment	1	
8	08/15/05	AM	Rogers, AR	n/a	n/a	(based on preliminary information)				n/a	
9	08/21/06	FEC	Bonaventure, FL	45	n/a	(based on preliminary information)					Struck by Motor Vehicle
10	08/25/06	NS	Chicago, IL	n/a	n/a	(based on preliminary information)				1	
11	08/25/07	IHBR	East Chicago, IN	n/a	n/a	(based on preliminary information)					Special Switching Hazard
12	08/30/07	BNSF	Stockton, CA	n/a	n/a	(based on preliminary information)					Special Switching Hazard

# 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 derauling car.

### Special Switching Hazard(s):

Possible Contributing Factor:

Possible Contributing Factor:

Possible Contributing Factor:

### Close Clearance

Worn rail

Close or no clearance

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:

Possible Contributing Factor:

Possible Contributing Factor:

External Circumstances:

3, 4

Poor intra-crew communication about work in progress

Hand signal, failure to comply

Other body defects (car)

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 detrainning, 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.

<b>SOFA Finding (s):</b>	<b>2</b>
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.

<b>SOFA Finding (s):</b>	<b>1</b>
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.

<b>SOFA Finding (s):</b>	<b>2</b>
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.

<b>SOFA Finding (s):</b>	<b>2</b>
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

**No. 7 of 12: August 26, 2003 – LC – Chester, SC**

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):	1
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Failure to provide adequate space between equipment
Possible Contributing Factor:	Other miscellaneous causes
Possible Contributing Factor:	Coupler mismatch, high/low
External Circumstances:	Radio communication, improper
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

**No. 8 of 12: August 08, 2005 – AM – Rogers, AR  
(based on preliminary information)**

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.

**No. 9 of 12: August 21, 2006 – FEC – Bonaventure, FL  
(based on preliminary information)**

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)

**No. 10 of 12: August 25, 2006 – NS – Chicago, IL  
(based on preliminary information)**

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)

**No. 11 of 12: August 25, 2007 – IHBR – East Chicago, IN  
(based on preliminary information)**

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 (tripping, slipping, falling))

**No. 12 of 12: August 30, 2007 – BNSF – Stockton, CA  
(based on preliminary information)**

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))