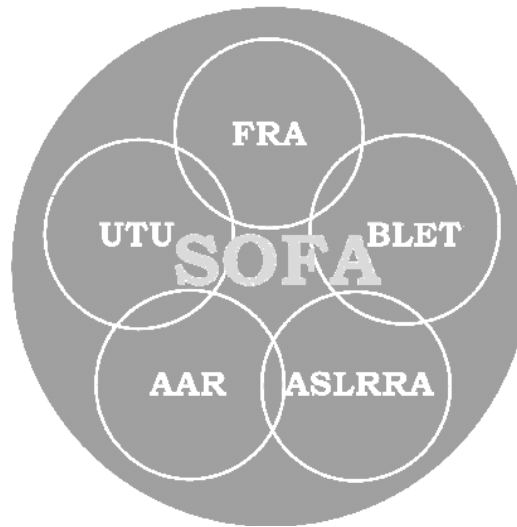


# PLEASE POST IMMEDIATELY

## *Apply SOFA Operating Recommendations – Recognize Special Switching Hazards*

### Seven Switching Fatalities in 2006

- **Zero Switching Fatalities in 2007 through May 25**, pg. 3
- **Upcoming June and July are high months for Switching Fatalities**, pg. 3
- **2006 SOFA-defined Severe Injuries historically low**, pgs. 5 and 7



#### **These events can occur quickly:**

One Fatality in first 232 days of 2006 (Leap Year)...  
then six Fatalities in 133 days

April 2:	Palmer, MI
August 21:	Bonaventure, FL
August 25:	Chicago, IL
September 10:	East St. Louis, IL
October 13:	Pajaro, CA
December 4:	Carson, CA
December 28:	Sioux City, FL

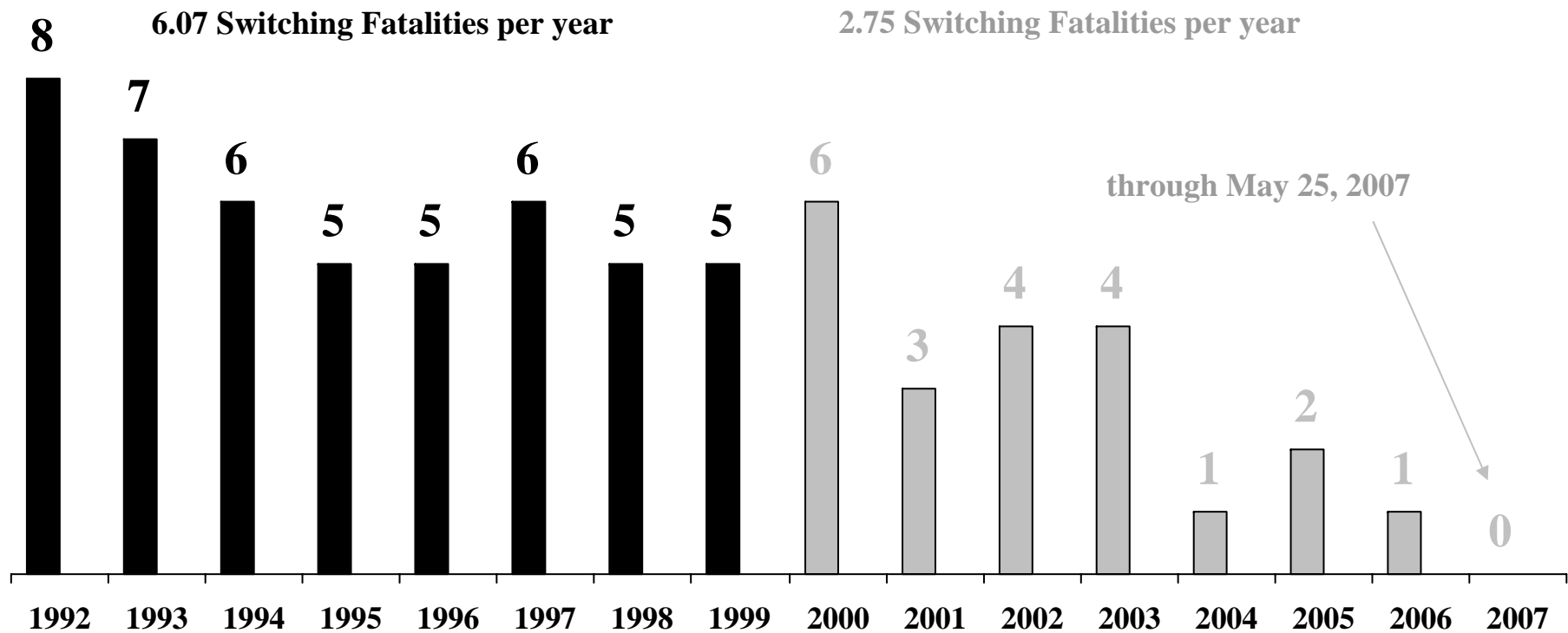
## **Switching Fatality and Severe Injury Update: 2007 Second Quarter**

## Reduction in Switching Fatalities involving the Five SOFA Operating Recommendations

### 55 percent decline in yearly rate – 6.07 vs. 2.75 Switching Fatalities per year

The original *SOFA Report*<sup>1</sup> was released in October 1999. Prior to the release, there were 47 Switching Fatalities related to the Five Operating Recommendations in the 7.75-year period January 1992 through September 1999. Expressed as a rate, there were 6.07 Switching Fatalities per year related to Operating Recommendations.

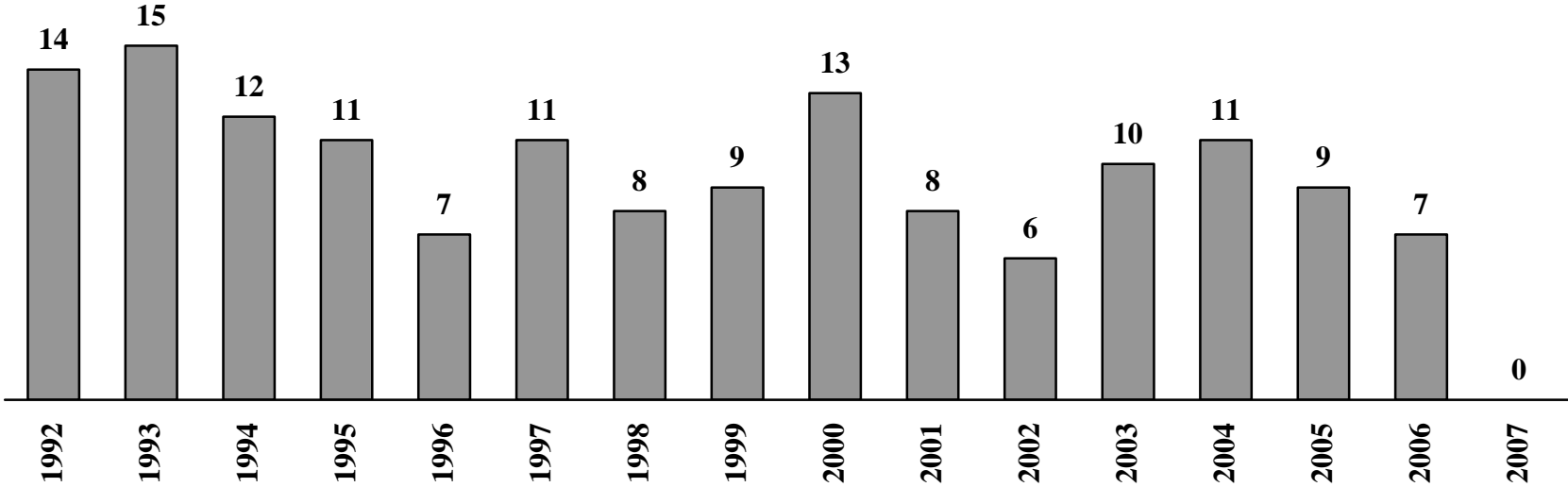
In the post-*SOFA Report* period of 7.65 years, October 1, 1999 through May 25, 2007, there were 21 Switching Fatalities related to the Five Operating Recommendations. Expressed as a rate, there were 2.75 Switching Fatalities per year related to Operating Recommendations.



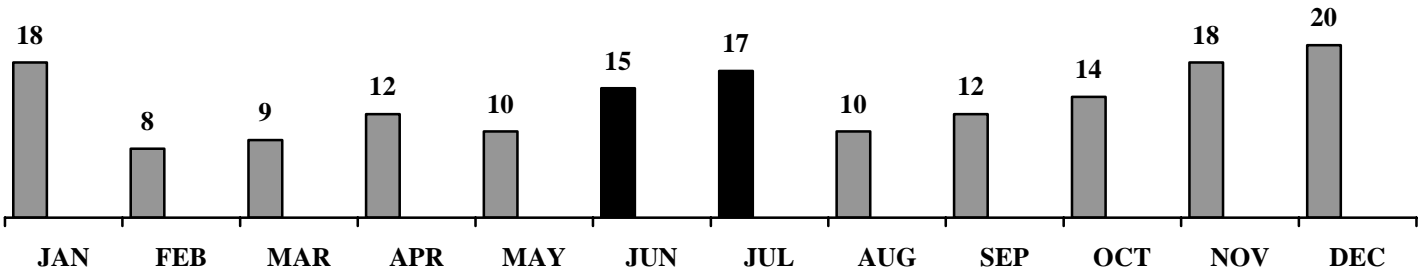
<sup>1</sup> Findings and Recommendations of the SOFA Working Group. October 1999. Available at <http://www.fra.dot.gov/us/content/102>

# 153 Switching Fatalities since 1992

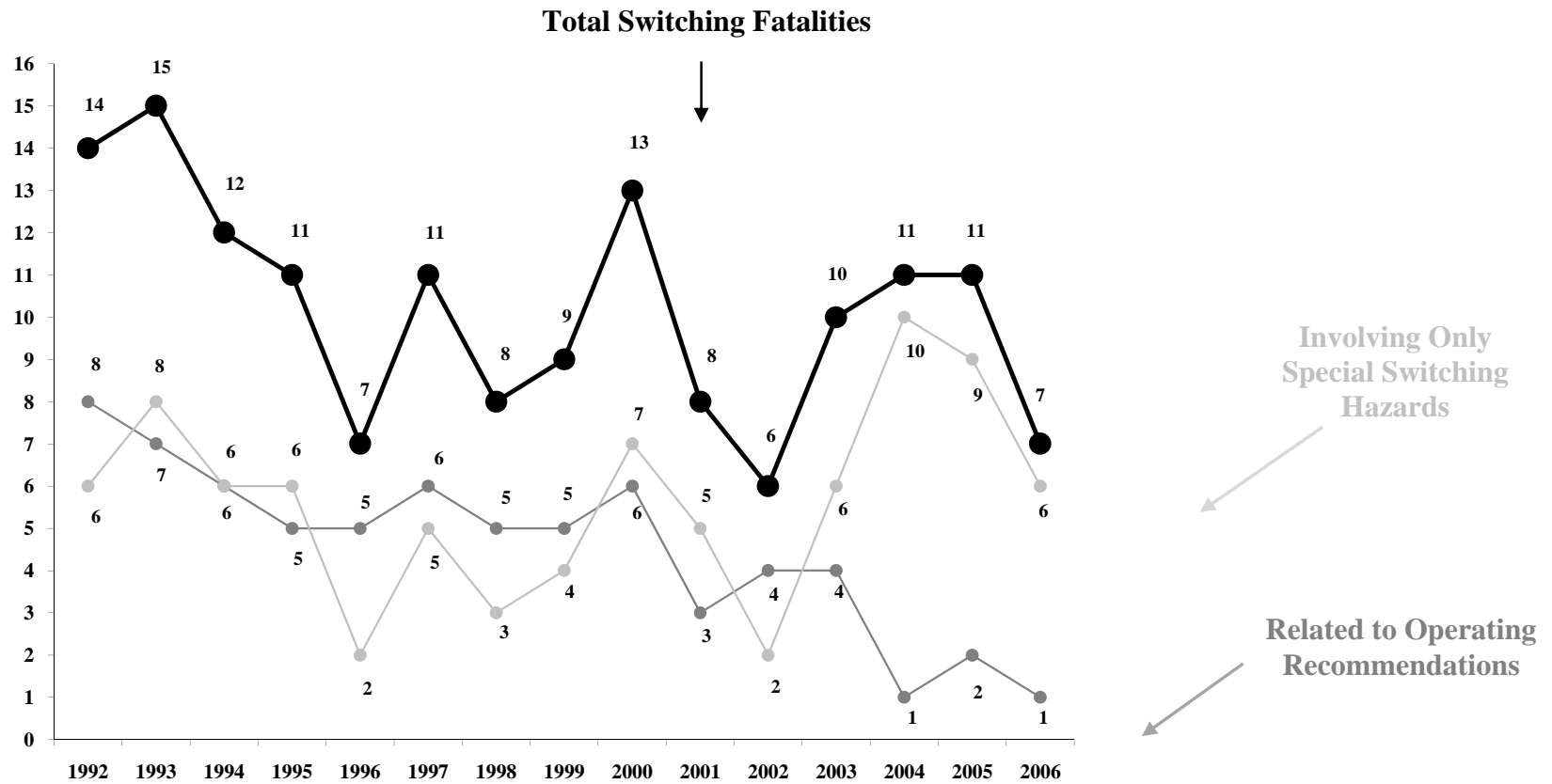
by year and month (through May 25, 2007)



## Historically, Switching Fatalities are high in June and July



**Switching Fatalities, January 1, 1992 through May 25, 2007:  
Total, Related to Operating Recommendations, and Involving Only Special Switching Hazards  
(There have been no Switching Fatalities in 2007)**



**Emphasis needed in Recognizing Special Switching Hazards**

## SOFA-defined Severe Injuries January 1992 through February 2007

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	total	average
<b>JAN</b>	11	13	16	15	21	12	11	11	20	10	13	153	13.9
<b>FEB</b>	17	15	9	9	9	13	17	14	10	6	14	133	12.1
<b>year-to-date</b>	<b>28</b>	<b>28</b>	<b>25</b>	<b>24</b>	<b>30</b>	<b>25</b>	<b>28</b>	<b>25</b>	<b>30</b>	<b>16</b>	<b>27</b>		<b>26.0</b>
<b>MAR</b>	14	12	17	11	10	10	13	10	9	9		115	11.5
<b>APR</b>	8	10	6	10	12	6	9	13	10	6		90	9.0
<b>MAY</b>	6	12	8	8	12	14	9	6	6	8		89	8.9
<b>JUN</b>	9	10	8	11	8	5	10	9	7	11		88	8.8
<b>JUL</b>	9	14	10	8	10	7	6	10	5	12		91	9.1
<b>AUG</b>	13	10	11	14	8	10	7	14	10	10		107	10.7
<b>SEP</b>	10	11	15	10	20	12	5	4	9	6		102	10.2
<b>OCT</b>	12	12	16	10	5	11	9	7	11	5		98	9.8
<b>NOV</b>	12	9	12	11	13	14	10	10	13	7		111	11.1
<b>DEC</b>	18	9	7	22	12	9	8	15	12	8		120	12.0
<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>98</b>		<b>1,297</b>	

- **138.0 Severe Injuries per year on average: 1997 through 2001**
- **116.5 Severe Injuries per year on average: 2002 through 2005**
- **98 Severe Injuries in 2006: a historically low annual total**

*Severe Injuries* are defined by the SOFA Working Group as (1) potentially life threatening; (2) high likelihood of permanent loss of function, permanent occupational limitation, or other permanent disability; (3) likely to result in significant work restrictions; and (4) result 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. Available at: <http://www.fra.dot.gov/us/content/102>

# Amputations

## January 1992 through February 2007

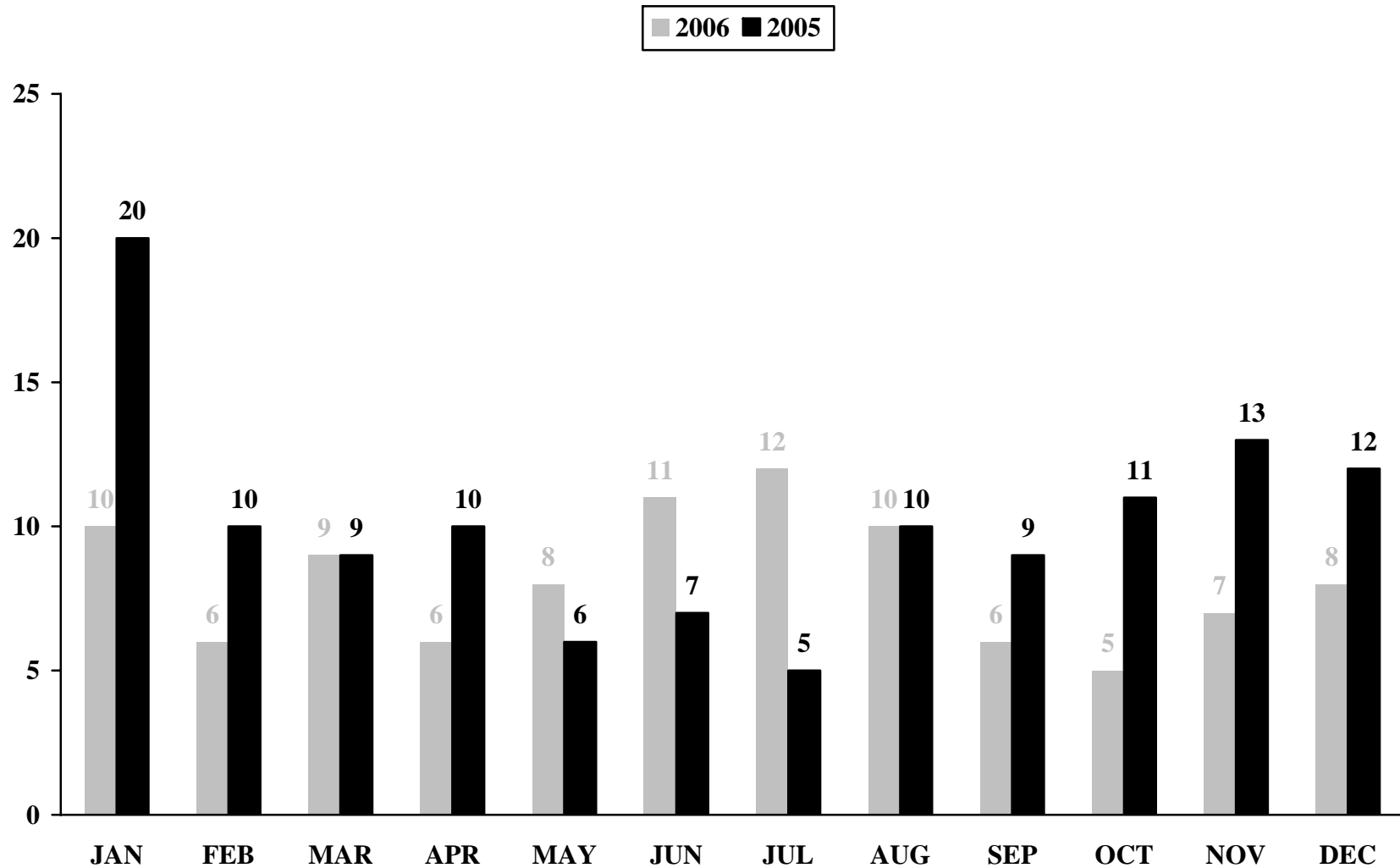
A type of SOFA-defined Severe Injury, Amputations are shown separately because of the extreme trauma to employees engaged in switching, and the likelihood of permanent occupational and lifestyle limitations.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	total	average
<b>JAN</b>	1	0	2	1	0	0	2	2	2	0	1	11	1.0
<b>FEB</b>	0	1	0	1	0	2	1	2	0	2	1	10	0.9
<b>year-to-date</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>2</b>		<b>2.1</b>
<b>MAR</b>	3	4	3	2	1	1	3	1	2	1		21	2.1
<b>APR</b>	1	2	0	1	2	0	1	1	2	2		12	1.2
<b>MAY</b>	1	2	3	0	2	2	2	0	0	1		13	1.3
<b>JUN</b>	2	1	1	0	1	0	0	1	0	0		6	0.6
<b>JUL</b>	1	5	1	0	4	0	1	2	1	2		17	1.7
<b>AUG</b>	1	0	1	4	0	1	0	2	2	0		11	1.1
<b>SEP</b>	2	4	3	2	5	4	0	0	3	1		24	2.4
<b>OCT</b>	2	5	2	2	0	0	2	2	0	0		15	1.5
<b>NOV</b>	2	2	2	2	3	0	1	1	2	3		18	1.8
<b>DEC</b>	4	1	0	4	1	1	2	1	1	0		15	1.5
<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>173</b>	

- **20.6 Amputations per year on average: 1997 through 2001**
- **13.6 Amputations per year on average: 2002 through 2006**

## SOFA-defined Severe Injuries in 2006 vs. 2005 month to month comparison

The 98 SOFA-defined Severe Injuries in 2006 were historically low back to 1997, the first year these Injuries can be determined. The previous low (122 Injuries) occurred in 2005. May, June, and July are the only months in 2006 with higher counts than 2005.



# Seven Switching Fatalities in 2006

## Six Fatalities involve Special Switching Hazards

(Information contained in these Fatality summaries is preliminary pending investigation.)

### 1) April 02, 2006...Lake Superior & Ishpeming Railroad...Palmer, Michigan

A conductor, while riding the leading end of a shove move, fell off and was struck and killed by the car he had been riding. (**Special Switching Hazard: Tripping, Slipping, Falling**)

### 2) August 21, 2006...Florida East Coast Railroad...Bonaventure, Florida

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. (**Special Switching Hazard: Struck by Motor Vehicle...**)

### 3) August 25, 2006...Norfolk Southern Railroad...Chicago, Illinois

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. (**Recommendation 1**)

#### Recommendation 1 ←

Any crew member intending to foul track or equipment must notify the locomotive engineer before such action can take place. The locomotive engineer must then apply locomotive or train brakes, have the reverser centered, and then confirm this action with the individual on the ground. Additionally, any crew member that intends to adjust knuckles/drawbars, or apply or remove EOT device, must insure that the cut of cars to be coupled into is separated by no less than 50 feet. Also, the person on the ground must physically inspect the cut of cars not attached to the locomotive to insure that they are completely stopped and, if necessary, a sufficient number of hand brakes must be applied to insure the cut of cars will not move.

#### Lifesaver 1

Secure equipment before action is taken.

#### Discussion 1

This recommendation emphasizes the importance of securing the equipment. A thorough understanding by all crew members that the area between cars is a hazardous location, whether equipment is moving or standing, is imperative.

### 4) September 10, 2006...Alton & Southern Railroad...East St. Louis, Illinois

A two-person crew was in the process of making up a locomotive consist using two adjacent tracks. After having set over one of the locomotives, the conductor was riding the leading end of the two locomotives into the adjacent track when his hand signals went out of sight, the movement was stopped and the engineer went back to discover the conductor had been crushed between the locomotive he had just set out and the locomotive he was riding. (**Special Switching Hazard: Close Clearance**)

## **Seven Switching Fatalities in 2006 (continued)**

### **Six Fatalities involve Special Switching Hazards**

(Information contained in these Fatality summaries is preliminary pending investigation.)

#### **5) October 13, 2006...Union Pacific Railroad...Pajaro, California**

A two-person crew, performing switching operations with a remote control locomotive, were in the process of shoving three cars with the intent of cutting them off and letting them free roll into a track at Watsonville Junction. The two men were working on opposite sides of the on-track movement. The cars were cut off, the conductor noticed something under the cars and, upon further investigation determined that his helper had been run over. **(Special Switching Hazard: Tripping, Slipping, Falling)**

#### **6) December 4, 2006...Union Pacific ...Carson, California**

A two-person crew, performing switching operations with a remote control locomotive, were in the process of shoving six cars over a highway-rail grade crossing equipped with an active warning system. The conductor was riding the leading end of the shove move and struck a truck cab that drove in front of the move. As a result of the collision, the conductor died days later. **(Special Switching Hazard: Struck by Motor Vehicle...)**

#### **7) December 28, 2006...Union Pacific...Sioux City, Iowa**

A conventional yard switching crew, had just “kicked” cars into one track and as the next cut of cars was “kicked” toward another track, the 57-year-old conductor with 39 years of service noticed that the second cut of cars would not clear the first cut. He tried to board the second cut of cars to stop them from rolling but was caught and crushed between the first and second cuts of cars. **(Special Switching Hazard: Free Rolling Cars)**

## **Recognizing Special Switching Hazards**

There has been a shift in proportion among the two general reasons the SOFA Working Group has identified as causing Switching Fatalities: Operating Recommendations and Special Switching Hazards. Most Switching Fatalities now involve one or more Special Switching Hazards. The SOFA Working Group (SWG) believes the industry’s emphasis on *Applying SOFA Operating Recommendations* has had a positive effect – as will continued emphasis. But to *Make Switching Fatality Free*, additional emphasis is needed in *Recognizing Special Switching Hazards*.

“In addition to the Five Operating Recommendations, the SWG wants to make those engaged in switching aware of Special Switching Hazards.” - from *Findings and Recommendations of the SOFA Working Group: August 2004 Update*. p. xiv.

## 10 May Switching Fatalities

#	Date	RR	Location	Age	Service (yrs)	Employee's Job	Employee Act	Employee Location	Fatal Event	SOFA Recommendations	Special Switching Hazard
1	05/22/93	ATSF	El Paso, TX	46	27	yard conductor	standing	near on-track equip-on ground	collision/impact-auto, truck, bus, van, etc.		Other Special Hazards or Events
2	05/03/95	CSXT	Evansville, IN	52	32	yard conductor	standing	between tracks	struck by on-track equipment	2	
3	05/26/98	BRC	Bedford Park, IL	57	36	yard conductor	adjusting coupler	on track	sudden/unexpected movement of on-track equipment	1	
4	05/19/99	NS	Cincinnati, OH	36	1	road conductor	riding	other location on loc	collision between on-track equipment	5	
5	05/22/00	CSX	Richmond, VA	38	2	road brakemen	riding	on side of car	struck against object		Close Clearance
6	05/31/00	UP	Pine Bluff, AR	47	2	yard conductor	riding	other location on loc	collision between on-track equipment		Other Special Hazards or Events
7	05/14/02	UP	Pine Bluff, AR	53	2.5	yard brakeman	adjusting coupler	on track	struck by on-track equipment	1	
8	05/13/04	MSO	Sturgis, MI	38	--	<b>To be reviewed by SOFA Working Group</b>					Special Switching Hazard
9	05/18/04	NS	Elwood, IN	35	--	<b>To be reviewed by SOFA Working Group</b>					Special Switching Hazard
10	05/13/05	DCRR	Detroit, MI	24	--	<b>To be reviewed by SOFA Working Group</b>					Special Switching Hazard

# 15 June Switching Fatalities

#	Date	RR	Location	Age	Service (yrs)	Employee's Job	Employee Act	Employee Location	Fatal Event	SOFA Recommendations	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

## 17 July Switching Fatalities

#	Date	RR	Location	Age	Service (yrs)	Employee's Job	Employee Act	Employee Location	Fatal Event	SOFA Recommendations	Special Switching Hazard
1	07/07/92	SSW	Conlen Siding, TX	58	12	road engineer	walking	between tracks	struck by on-track equipment		Struck by Mainline Trains
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		Free-Rolling Railcars
6	07/21/95	CR	Hershey, PA	61	40	yard conductor	riding	between cars/loc	fell from equipment		Employee Tripping
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		Struck by Mainline Trains

(Continued on next page)

## 17 July Switching Fatalities (continued)

#	Date	RR	Location	Age	Service (yrs)	Employee's Job	Employee Act	Employee Location	Fatal Event	SOFA Recommendations	Special Switching Hazard	
9	07/01/98	NS	Buechel, KY	54	30	misc.	riding	on side of car	rolled between car a		Close Clearance	
10	07/07/00	CKRY	Wichita, KS	39	19	road conductor	adjusting coupler	on track	struck by on-track equipment	1		
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	<b>To be reviewed by SOFA Working Group</b>						Special Switching Hazard
16	07/18/05	UP	Memphis, TN	n/a.	n/a	<b>To be reviewed by SOFA Working Group</b>						Special Switching Hazard
17	07/22/05	ATRR	Ragland, AL	n/a	n/a	<b>To be reviewed by SOFA Working Group</b>						Special Switching Hazard

# May Switching Fatalities

(**Information source:** The Switching Fatality narrative summaries are taken from *Findings and Recommendations of the SOFA Working Group: August 2004 Update*. All other information is from the *SOFA Matrix*, the SOFA Working Group's electronic database.)

## No. 1 of 10: May 22, 1993 – ATSF – El Paso, TX

A three-person switching crew was in the process of shoving cars into a track in the TOFC yard. The switch foreman was directing the move when he was struck from behind by the left front fender of a hostler truck and run over by its rear wheels.

### Special Switching Hazard(s):

Possible Contributing Factor:

Possible Contributing Factor:

### Other Special Hazards or Events

Highway user inattentiveness

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

Day of Week:

Saturday

Time of Fatal Event:

10:30 AM

Time on Duty (hours: minutes):

4:00

Temperature (Fahrenheit):

82

Crew's Next Move:

spot cars

Death Result of Train Movement?

no

Track Type:

spot(load/unload)/outside/stub track

Hit by Own Equipment?

no

Speed of Equipment (mph):

0

Crew Size:

3

Emergency Response Procedures Followed?

yes

## No. 2 of 10: May 03, 1995 – CSX – Evansville, IN

Conductor was struck and killed by a shove move on the track adjacent to where he was working. Communication about the move on that adjacent track had been conveyed to the conductor via the "bleeder," a utility type employee.

### SOFA Operating Recommendation(s):

2

Possible Contributing Factor:

Employee on or fouling track

External Circumstances:

Two radio channels used

Day of Week:

Wednesday

Time of Fatal Event:

5:55 PM

Time on Duty (hours: minutes):

3:00

Temperature (Fahrenheit):

60

Direction of Movement:

shoved

Crew's Next Move:

switch car

Death Result of Train Movement?

yes

Other Movements Nearby?

yes

Track Type:

yard/lead/classification

Hit by Own Equipment?

no

Speed of Equipment (mph):

5

Crew Size:

3

Drugs Present?

no

Drugs a Factor?

no

Emergency Response Procedures Followed?

yes

**No. 3 of 10: May 26, 1998 – BRC – Bedford Park, IL**

Crew was working in one track in class yard with helper controlling engine moves, conductor was adjusting coupler when three free rolling cars struck him from behind and coupled him up.

<b>SOFA Operating Recommendation(s):</b>	<b>1</b>
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Instructions to train/yard crew improper
Possible Contributing Factor:	Failure to apply handbrakes on car(s)
Possible Contributing Factor:	Failure to provide adequate space between equipment
Day of Week:	Tuesday
Time of Fatal Event:	7:33 AM
Time on Duty (hours: minutes):	1:03
Temperature (Fahrenheit):	8
Direction of Movement:	free-running
Crew's Next Move:	couple track
Death Result of Train Movement?	no
Track Type:	yard/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. 4 of 10: May 19, 1999 – NS – Cincinnati, OH**

A conductor with one year of service was riding in the stairwell of the leading locomotive. He was directing the move by radio when he realized too late that the move would not clear the standing equipment. He was crushed between the handrail of his locomotive and the standing locomotive.

<b>SOFA Operating Recommendation(s):</b>	<b>5</b>
Possible Contributing Factor:	Car left afoul
Possible Contributing Factor:	Shoving movement, man on or at leading end of movement, failure to control
External Circumstances:	Lack of defined foul point
Day of Week:	Wednesday
Time of Fatal Event:	5:30 PM
Time on Duty (hours: minutes):	1:50
Temperature (Fahrenheit):	70
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/lead
Hit by Own Equipment?	yes
Speed of Equipment (mph):	7
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. 5 of 10: May 22, 2000 – CSX – Richmond, VA**

A three-person road switching crew was in the process of spotting loaded coal cars at an unloading facility that was equipped with a “shaker” that helped empty each car. The shaker’s position causes a close clearance condition. The conductor was riding one side of the leading coal car and the brakeman was riding the other. Although having a clear view of the fouling equipment, the brakeman did not get off the car as the conductor had expected and was crushed between it and the fouling shaker equipment.

**Special Switching Hazard(s):**

Possible Contributing Factor:  
Possible Contributing Factor:  
Possible Contributing Factor:  
Possible Contributing Factor:

**Close Clearance**

Close or no clearance  
Poor intra-crew communication about work in progress  
Failure to communicate unsafe condition  
Shoving movement, man on or at leading end of movement, failure to control  
Close clearance

External Circumstances:

Day of Week:

Monday

Time of Fatal Event:

11:30 AM

Time on Duty (hours: minutes):

10:30

Temperature (Fahrenheit):

70

Direction of Movement:

shoved

Crew’s Next Move:

‘spot cars

Death Result of Train Movement?

yes

Other Movements Nearby?

no

Track Type:

main/industrial/spot(load/unload)/outside

Hit by Own Equipment?

no

Striking Train Within Rules?

no

Speed of Equipment (mph):

1

Deceased Regular Job?

no

Had Deceased Worked There Before?

no

Crew Size:

3

**No. 6 of 10: May 31, 2000 – UP – Pine Bluff, AR**

A three-person yard switching crew was in the process of moving their light locomotives through a series of crossover switches however, the switchman had gone to the yard office for another list of cars to switch and the foreman, who had two (2) years of service, was directing the lite engine move by radio. The foreman told the engineer to stop, the foreman got off the leading end of the lead locomotive to line switches, he then told the engineer to continue backing up. Shortly thereafter, the foreman was crushed in a side collision between the locomotive consist he was directing and other cars standing on an adjacent track.

**Special Switching Hazard(s):**

Possible Contributing Factor:  
Possible Contributing Factor:

**Other Special Hazards or Events**

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

Day of Week:

Wednesday

Time of Fatal Event:

3:15 AM

Time on Duty (hours: minutes):

3:16

Temperature (Fahrenheit):

70

Direction of Movement:

shoved

Crew’s Next Move:

couple to track

Death Result of Train Movement?

yes

Other Movements Nearby?

no

Track Type:

hump/rec/dept

Hit by Own Equipment?

no

Striking Train Within Rules?

no

Speed of Equipment (mph):

1

Crew Size:

3

Drugs Present?

no

Drugs a Factor?

no

Emergency Response Procedures Followed?

yes

**No. 7 of 10: May 14, 2002 – UP – Pine Bluff, AR**

The switchman of a three-person yard switching crew asked the engineer to stretch a track. Noticing that there was a separation between the forth and fifth head cars, the switchman went in to align the couplers. The switchman was coupled up when unsecured cars rolled in on him.

<b>SOFA Operating Recommendation(s):</b>	<b>1</b>
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Failure to apply handbrakes on car(s)
Possible Contributing Factor:	Failure to provide adequate space between equipment
Possible Contributing Factor:	Poor crew utilization
Day of Week:	Tuesday
Time of Fatal Event:	8:40 AM
Time on Duty (hours: minutes):	1:40
Temperature (Fahrenheit):	61
Direction of Movement:	free-running
Crew's Next Move:	couple track
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	yard/hump
Hit by Own Equipment?	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 10: May 13, 2004 – MSO – Sturgis, MI  
(To be reviewed by SOFA Working Group)**

A 38-year-old conductor was killed when he apparently slipped and fell from a car he was riding.

**No. 9 of 10: May 18, 2004 – NS – Elwood, IN  
(To be reviewed by SOFA Working Group)**

A 35-year-old brakeman, with 6-years of service, was killed when the lead car he was riding was struck by a tractor-trailer.

**No. 10 of 10: May 13, 2005 – DCRR – Detroit, MI  
(To be reviewed by SOFA Working Group)**

A 24-year-old conductor died of injuries sustained when the car he was riding derailed. He was crushed between the car and a cement abutment.

***Apply SOFA Operating Recommendations***

***Recognize Special Switching Hazard***

# June Switching Fatalities

(Information source: The Switching Fatality narrative summaries are taken from *Findings and Recommendations of the SOFA Working Group: August 2004 Update*. All other information is from the *SOFA Matrix*, the SOFA Working Group's electronic database.)

## No. 1 of 15: 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 Operating Recommendation(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 15: 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 15: 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 Operating Recommendation(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 15: 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 Operating Recommendation(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 15: 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.

<b>Special Switching Hazard(s):</b>	<b>Miscellaneous (falling)</b>
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

**No. 6 of 15: 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.

<b>SOFA Operating Recommendation(s):</b>	<b>3</b>
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Poor intra-crew communication about work in progress
External Circumstances:	X-car-/lilst 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 15: 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 Operating Recommendation(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 15: 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 Operating Recommendation(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 15: 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 15: 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 15: 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.

**SOFA Operating Recommendation(s):**

Possible Contributing Factor:

**2, 5**

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 15: 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.

**SOFA Operating Recommendation(s):**

Possible Contributing Factor:

**1**

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 15: 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 Operating Recommendation(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 15: 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 Operating Recommendation(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 15: 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:

**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

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

***Apply SOFA Operating Recommendations***

***Recognize Special Switching Hazards***

# July Switching Fatalities

(Information source: The Switching Fatality narrative summaries are taken from *Findings and Recommendations of the SOFA Working Group: August 2004 Update*. All other information is from the *SOFA Matrix*, the SOFA Working Group's electronic database.)

## No. 1 of 17: 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 17: 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 Operating Recommendation(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 17: 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 Operating Recommendation(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 17: 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 Operating Recommendation(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 17: 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:

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?

**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

Tuesday

4:45 PM

9:45

76

free-running

stop the drop

yes

no

industrial/spot(load/unload)/outside/stub track

yes

no

10

yes

3

no

no

yes

***Apply SOFA Operating Recommendations***

***Recognize Special Switching Hazard***

**No. 6 of 17: 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 17: 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 Operating Recommendation(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 17: 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):**

**Struck by Mainline Trains**

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 17: 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):**

**Close Clearance**

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 17: 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 Operating Recommendation(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 17: 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 Operating Recommendation(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 17: 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 17: 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 17: 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 Operating Recommendation(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 17: July 5, 2005 at Emporia, KS  
(To be reviewed by SOFA Working Group)**

A 26-year-old, Burlington Northern Santa Fe (BNSF) 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 17: July 18, 2005 at Memphis, TN  
(To be reviewed by SOFA Working Group)**

An Union Pacific (UP) 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 17: July 22, 2005 at Ragland, AL  
(To be reviewed by SOFA Working Group)**

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.

***Apply SOFA Operating Recommendations***

***Recognize Special Switching Hazard***