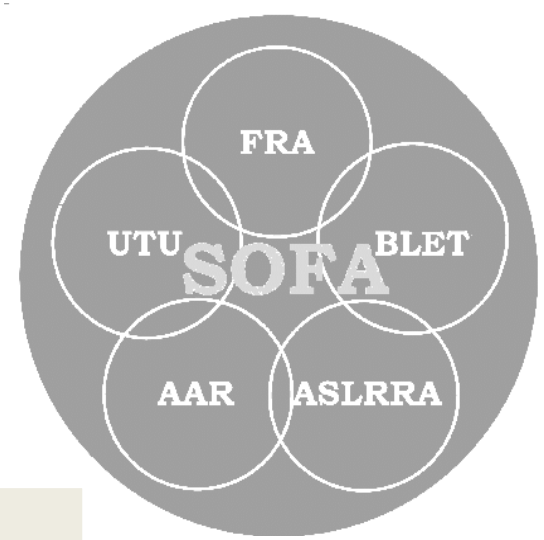
PLEASE POST IMMEDIATELY

Apply SOFA Operating Recommendations – Recognize Special Switching Hazards

Winter Brings Risk to Switching Operations

Switching Fatalities
and
SOFA-defined Severe Injuries
are historically higher
in Winter months

Please take caution! *page 5*



During Winter months
it is particularly important to
KEEP ON YOUR FEET
…not on your seat
pages 6 and 7

12 Switching Fatalities in 2008

(preliminary summaries on *pages 2-3*)

JAN	**08:**	**Waukegan, IL**
FEB	**03:**	**Chicago, IL**
MAR	**05:**	**Random Lake, WI**
MAY	**26:**	**Lumberton, NC**
MAY	**29:**	**Amarillo, TX**
JUN	**08:**	**Houston, TX**
JUL	**10:**	**Minneapolis, MN**
SEP	**10:**	**Terre Haute, IN**
SEP	**23:**	**Darby, PA**
OCT	**15:**	**Decatur, Al**
NOV	**15:**	**Laurel, MT**
DEC	**03:**	**Denver, CO**

Switching Fatality and Severe Injury Update – 2008 Fourth Quarter

Summaries of 2008 Switching Fatalities to-date

(based on preliminary information)

12 Switching Fatalities

1. January 08 – UP – Waukegan, IL

A UP conductor, working a METRA commuter train, was struck by another METRA commuter train while he was stooped over the crossover switch connecting the two main tracks located just South of the passenger station.

2. February 03 – NS – Chicago, IL

A brakeman, working between cars in his train, stepped out from between two cars and into the path of a main track Canadian National train that was passing the stopped NS train.

3. March 05 – WSOR – Random Lake, WI

A 50-year-old conductor was riding the side of a car into an industry when the car derailed, struck a car on an adjacent track, and resulted in the death of the employee.

4. May 26 – CSX – Lumberton, NC

A 45-year-old conductor was riding the leading end of 97 loaded coal hoppers and directing the move to the unloading spot by radio commands to his engine crew. Once the move was stopped, the conductor could not be contacted and was subsequently found dead, under a pile of coal located near the unloading area.

5. May 29 – UP – Amarillo, TX

A brakeman was riding the leading end of a four car cut of cars that was free rolling into a track. As the brakeman went to position himself to begin controlling the speed of the free rolling cars by using the handbrake, the hand brake support gave way, the hand brake apparatus broke off and the employee fell under the leading end of the free rolling cars.

6. June 08 – 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.

Summaries of 2008 Switching Fatalities to-date (continued)

(based on preliminary information)

12 Switching Fatalities

7. July 10 – BNSF – Minneapolis, MN

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.

8. September 10 – INRD – Terre Haute, IN

An employee was riding the leading end of a two car shove into an Industrial track when the car he was riding rode up on material build-up in the crossing, derailing the car into a pile of railroad track ties and crushing the employee to death.

9. September 23 – CSX – Darby, PA

A 46-year-old conductor was securing his train on one main track when he was struck and killed by another train passing him on the adjacent main track.

10. October 15 – CSX – Decatur, Al

A 28-year-old conductor was riding a shove move into a track when the opposite side of the car he was riding struck the corner of the leading end of his train causing the car he was riding, and others to derail crushing the conductor under the derailed cars.

11. November 15 – MRL – Laurel, MT

A 39-year-old brakeman was assisting his conductor (assistant engineer) in making air hoses and joints on track 11. The brakeman was working from one end of the track and the conductor was working from the other end. When communication between the two ground men failed, the conductor walked back and found the brakeman lying between the rails. He had been struck and killed by a block of his own free-rolling cars.

12. December 03 – DRIR – Denver, CO

A 33-year-old conductor was riding the leading end of a shove move over a highway-rail grade crossing when a tractor trailer truck struck the leading car, pinning the conductor between the truck and the car he was riding and killing him.

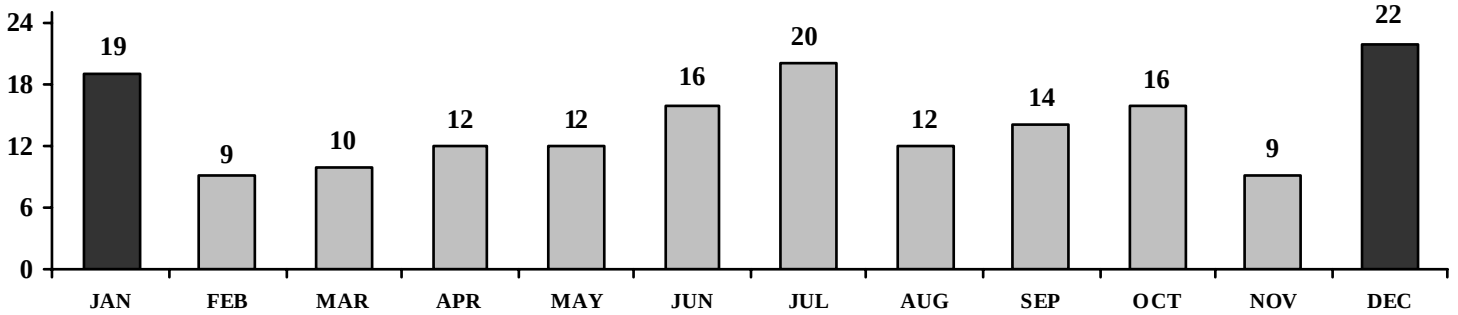
December 22 through January 14
RISK TAKES NO HOLIDAY ON THE RAILROAD

As it started its safety reviews of Switching Fatalities dating back to January of 1992, the SOFA Working Group (SWG) began to sense that the period December 22 to January 14 was particularly problematic. While realizing that Fatalities occur at all times of the year, there seemed to be a cluster in this 24-day period. Twenty (20) of the 171 Fatalities (nearly 12 percent) occurred in this period. And in the nearly 17 years since 1992, only 4 years have been Fatality free in this period. It is not clear to the SWG why this should be. However, unfortunately, employees engaged in switching operations have lost their lives around the holiday season.

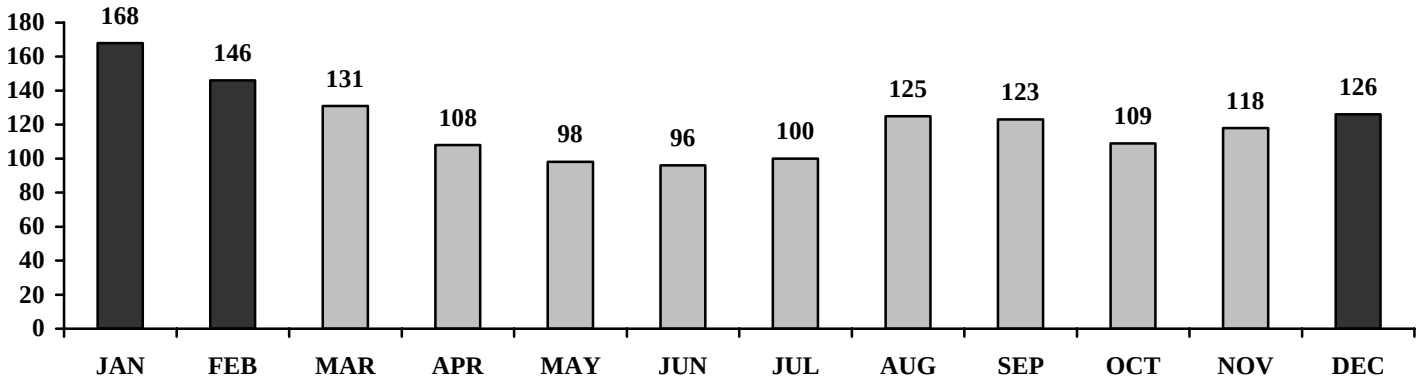
Over the years, the SWG has urged particular caution during this period. It again does so.

#	Year	Month	Day	City	State	#	Year	Month	Day	City	State
none	1992										
1	1993	DEC	30	Brook Park	OH	**12**	2001	JAN	10	Chicago	IL
2	1994	JAN	4	Hastings	NE	**13**	2001	JAN	11	South Fork	PA
3	1994	JAN	14	Amarillo	TX	**14**	2001	DEC	22	Eden	NC
4	1995	JAN	11	Indianapolis	IN	**15**	2001	DEC	24	Lynchburg	VI
none	1996					**none**	2002				
5	1997	JAN	12	S Fontana	CA	**none**	2003				
6	1997	DEC	26	Boise	ID	**16**	2004	JAN	14	Kankakee	IL
7	1998	DEC	28	Durrant	MS	**17**	2005	JAN	10	Buena Vista	AR
8	1999	JAN	12	Port Newark	NJ	**18**	2006	DEC	28	Sioux City	IA
9	2000	JAN	2	Cedar Springs	GA	**19**	2007	DEC	28	Bristol	IL
10	2000	DEC	28	Dupo	IL	**20**	2008	JAN	8	Waukegan	IL
11	2000	DEC	29	Gillette	WY						

171 Switching Fatalities: by Month
January 1, 1992 through December 8, 2008
(Note: December and January historically have high numbers of Fatalities, but all months have risk for Switching Fatalities)



1,448 SOFA-defined Severe Injuries: by Month
January 1, 1997 through September 30, 2008
(Note: December, January, and February historically have high numbers of Injuries, but all months have risk for SOFA-defined Severe Injuries)



SOFA-defined Severe Injuries Resulting from Slipped, Fell, Stumbled, etc.

605 of 1,448 Severe Injuries – 41.8 percent – resulted from slipped, fell, stumbled, etc. (FRA Circumstance Event Codes # 51-54, 70), January 1997 through September 2008. Injuries resulting from these events increase in upcoming Winter months.

5 FRA Event Circumstance Codes account for 41.8 percent of all Severe Injuries:

51: Slipped, fell, stumbled, etc. due to irregular surface, e.g., depression, slope, etc.

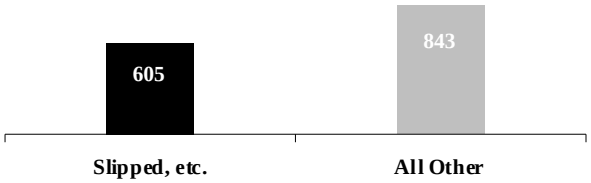
52: Slipped, fell, stumbled, etc. due to climatic condition (rain, snow, ice, etc.) [emphasis added]

53: Slipped, fell, stumbled, etc. on oil, grease, other slippery substance

54: Slipped, fell, stumbled, etc. due to object, e.g., ballast, spike, material, etc.

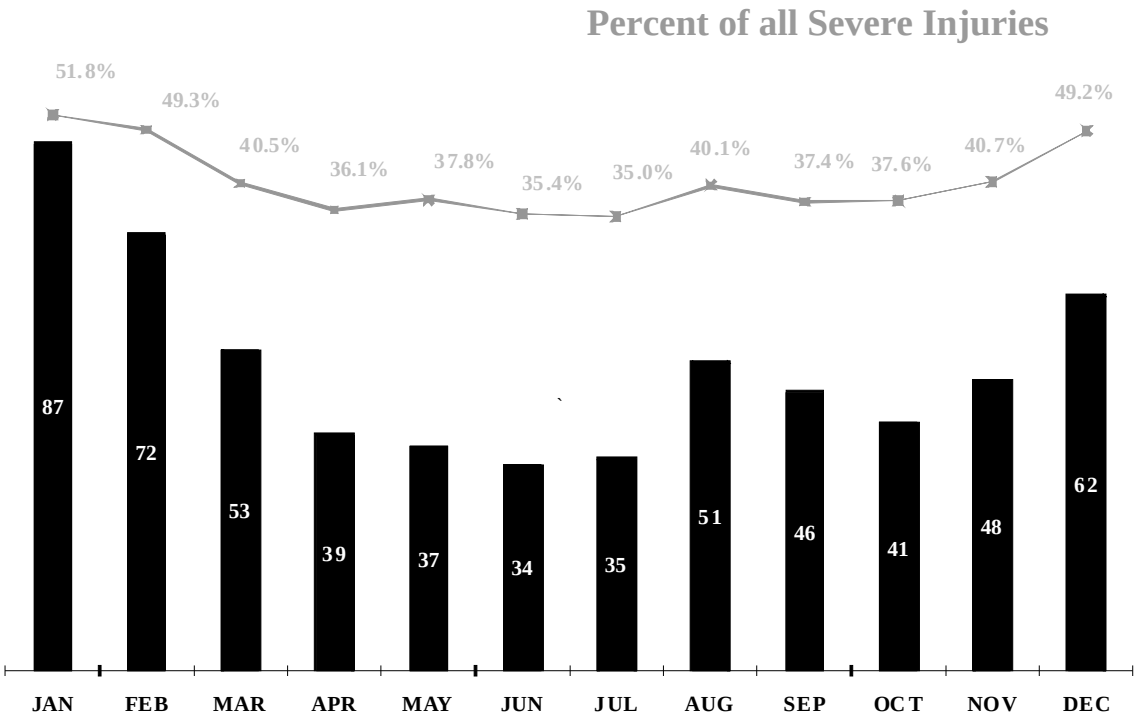
70: Slipped, fell, stumbled, other

Of the 1,448 SOFA-defined Severe Injuries, 605 resulted from Slipped, Fell, Stumbled, etc.



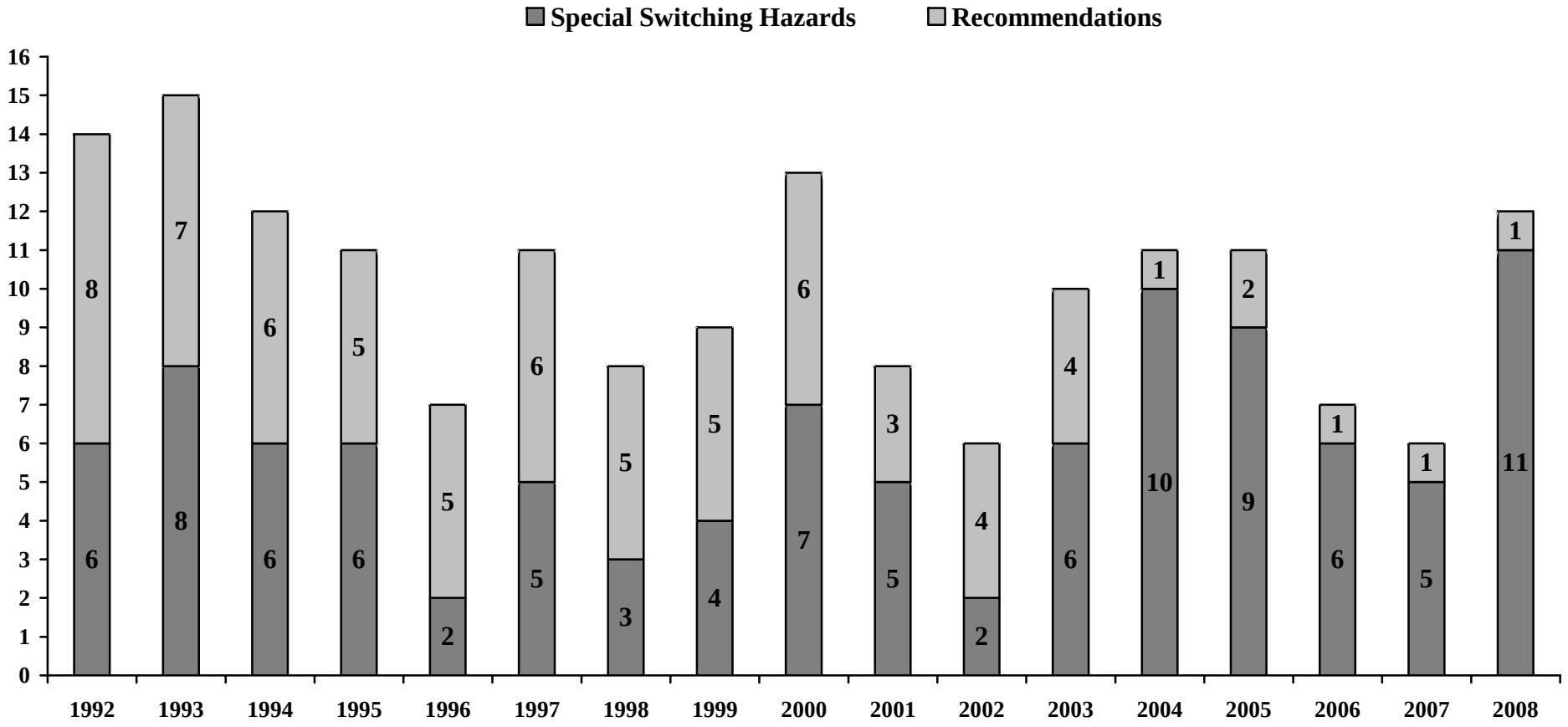
KEEP ON YOUR FEET

605 SOFA-defined Severe Injuries Resulting from Slipped, Fell, Stumbled, etc. by Month, January 1997 through September 2008



KEEP ON YOUR FEET…not on your seat

171 Switching Fatalities Classified by Type:
Involving Operating Recommendations; and Involving only Special Switching Hazards
January 1, 1992 through December 8, 2008



Note: Starting in 2001, and more so by 2004, the composition of Switching Fatalities by type changes. Fatalities involving the Five SOFA Operating Recommendations decline relative to Fatalities involving only Special Switching Hazards.

SOFA-defined Severe Injuries

January 1992 through September 2008

(Note: Among SOFA Updates, counts previously presented may change based on revisions of FRA data.)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	total	average
JAN	11	13	16	15	21	12	11	11	20	10	14	14	168	14.0
FEB	17	15	9	9	9	13	17	14	10	6	15	12	146	12.2
MAR	14	12	17	11	10	10	13	10	9	9	11	5	131	10.9
APR	8	10	6	10	12	6	9	13	10	7	8	9	108	9.0
MAY	6	12	8	8	12	14	9	6	6	8	3	6	98	8.2
JUN	9	10	8	11	8	5	10	9	7	11	5	3	96	8.0
JUL	9	14	10	8	10	7	6	10	5	12	8	1	100	8.3
AUG	13	10	11	14	8	10	7	14	10	10	13	5	125	10.4
SEP	10	11	15	10	20	12	5	4	9	6	10	11	123	10.3
subtotals	**97**	**107**	**100**	**96**	**110**	**89**	**87**	**91**	**86**	**79**	**87**	**66**		**91.3**
OCT	12	12	16	10	5	11	9	7	11	5	11		109	9.9
NOV	12	9	12	11	13	14	10	10	13	8	6		118	10.7
DEC	18	9	7	22	12	9	8	15	12	8	6		126	11.5
totals	**139**	**137**	**135**	**139**	**140**	**123**	**114**	**123**	**122**	**100**	**110**		**1,448**	

- **138.0 Severe Injuries per year on average: 1997 through 2001**
- **115.0 Severe Injuries per year on average: 2002 through 2007**
- **87 Severe Injuries in 2007, January through September**
- **66 Severe Injuries in 2008, January through September**

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/1781 [accessed December 8, 2008]

Amputations

January 1992 through September 2008

(Note: Among SOFA Updates, counts previously presented may change based on revisions of FRA data.)

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	2008	total	average
JAN	1	0	2	1	0	0	2	2	2	0	1	1	12	1.0
FEB	0	1	0	1	0	2	1	2	0	2	1	0	10	0.8
MAR	3	4	3	2	1	1	3	1	2	1	0	1	22	1.8
APR	1	2	0	1	2	0	1	1	2	2	3	3	18	1.5
MAY	1	2	3	0	2	2	2	0	0	1	1	0	14	1.2
JUN	2	1	1	0	1	0	0	1	0	0	1	1	8	0.7
JUL	1	5	1	0	4	0	1	2	1	2	2	0	19	1.6
AUG	1	0	1	4	0	1	0	2	2	0	3	0	14	1.2
SEP	2	4	3	2	5	4	0	0	3	1	1	1	25	2.2
subtotals	**12**	**19**	**14**	**11**	**15**	**10**	**10**	**11**	**12**	**9**	**13**	**7**		
OCT	2	5	2	2	0	0	2	2	0	0	2		17	1.5
NOV	2	2	2	2	3	0	1	1	2	3	1		19	1.7
DEC	4	1	0	4	1	1	2	1	1	0	0		15	1.4
totals	**20**	**27**	**18**	**19**	**19**	**11**	**15**	**15**	**15**	**12**	**16**		**194**	

- **20.6 Amputations per year on average: 1997 through 2001**
- **13.6 Amputations per year on average: 2002 through 2007**
- **13 Amputations in 2007, January through September**
- **7 Amputations in 2008, January through September**

Switching Fatality Review Section

This section contains:

- **Switching Fatality Cases for Review: December, January, February.** The Switching Fatality narrative summaries are from *Findings and Recommendations of the SOFA Working Group: August 2004 Update*. All other information about each Fatality is taken from the *SOFA Matrix*, the SOFA Working Group's electronic database.

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 the American economy.

SOFA reports, including a complete discussion of the Five Operating Recommendations and Special Switching Hazards, are available at: http://www.fra.dot.gov/us/content/1781 [accessed December 8, 2008]

Winter Brings Risk to Switching Operations

Apply SOFA Operating Recommendations – Recognize Special Switching Hazards

22 December Switching Fatalities

#	Date	RR	Location	Age	Service (yrs)	Employee's Job	Employee Act	Employee Location	Fatal Event	SOFA Recommendations	Special Switching Hazard
1	12/05/93	SOU	Atlanta, GA	59	29	road conductor	getting off	between tracks	struck by on-track equipment	**3**	
2	12/30/93	CR	Brook Park, OH	61	38	yard conductor	riding	on side of car	derailments		**Environment**
3	12/06/94	CR	Campbell Hall, NY	28	0.17	brakeman trainee	riding	in caboose	ran into on-track equipment	**2, 4, 5**	
4	12/13/94	UP	Thorton, CA	48	26	road brakemen	adjusting coupler	between cars/loc	sudden/unexpected movement of on-track equipment	**1**	
5	12/11/95	NS	Toledo, OH	53	32	yard brakeman	standing	on ground near on-track equip.	rolled between fixed		**Close Clearance**
6	12/14/95	CSXT	Monroe, NC	54	33	road conductor	riding	on side of car	struck against object		**Close Clearance**
7	12/16/96	UP	Clinton, IA	51	21	road brakemen	riding	between cars/loc	struck by on-track equipment		**Employee Tripping and Drugs and Alcohol**
8	12/18/96	IC	Chicago, IL	45	26	yard conductor	riding	on end of car	struck by on-track equipment		**Unsecured Cars**
9	12/02/97	BNSF	Emporia, KS	50	30	road conductor	standing	between tracks	struck by on-track equipment		**Struck by Mainline Trains**
10	12/26/97	UP	Boise, ID	55	32	road conductor	opening/closing angle cock	on track	sudden/unexpected movement of on-track equipment	**4**	
11	12/28/98	IC	Durrant, MS	55	26	road conductor	riding	other location	derailments	**4**	
12	12/28/00	UP	Dupo, IL	52	30	yard brakeman	standing	on track	struck by on-track equipment		**Struck by Mainline Trains**
13	12/29/00	BNSF	Gillette, WY	29	6	road conductor	walking	on track	struck by on-track equipment		**Struck by Mainline Trains**
14	12/22/01	NS	Eden, NC	50	29	road brakemen	riding	on side of car	collision/impact-auto, truck, bus, van, etc.		**Struck by Motor Vehicle**
15	12/24/01	NS	Lynchburg, VA	30	4.5	road conductor	walking	near on-track equip-on ground	struck by on-track equipment		**Close Clearance and Struck by Mainline Trains**
16	12/07/03	UP	San Antonio, TX	37	5.75	remote control operator (RCO)	operating	on track	struck by on-track equipment		**Unexpected Movement of Railcars**
17	12/17/04	BNSF	Radium, CO	n/a	25	(Information is preliminary, and not based on the investigation.)					**Special Switching Hazard**
18	12/04/05	BNSF	Burlington, IA	n/a	n/a	(Information is preliminary, and not based on the investigation.)					**Special Switching Hazard**
19	12/04/06	UP	Carson, CA	n/a	n/a	(Information is preliminary, and not based on the investigation.)					**Special Switching Hazard**
20	12/28/06	UP	Sioux City, IA	57	39	(Information is preliminary, and not based on the investigation.)					**Special Switching Hazard**
21	12/28/07	BNSF	Bristol, IL	61	n/a	(Information is preliminary, and not based on the investigation.)					**Special Switching Hazard**
22	12/03/08	DRIR	Denver, IL	33	n/a	(Information is preliminary, and not based on the investigation.)					**Struck by Motor Vehicle or Loading Device**

No. 1 of 22: December 05, 1993 – SOU – Atlanta, GA

Change in operating procedure between two crews swapping equipment resulted in conductor being struck by unexpected movement while he was in the foul of the track.

SOFA Operating Recommendation(s):	**3**
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Dismounted moving equipment at 8 mph
External Circumstances:	Elevation difference between tracks and large ballast
Day of Week:	Sunday
Time of Fatal Event:	7:00 AM
Time on Duty (hours: minutes):	3:15
Temperature (Fahrenheit):	55
Direction of Movement:	pulled
Crew's Next Move:	line switch
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):	2
Deceased Regular Job?	no
Crew Size:	2
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 2 of 22: December 30, 1993 – CR – Brook Park, OH

A three-person industrial switching crew was shoving over an industrial crossing within the confines of a plant. The conductor was riding the leading end of the lead car when it rode up on ice, built up within the flange-ways, and derailed the car into the side of the building. The conductor was crushed between the car he was riding and the building.

Special Switching Hazard(s):	**Environment**
Possible Contributing Factor:	Other roadbed defects
Possible Contributing Factor:	Snow, ice, mud, gravel, coal etc. on the track
Possible Contributing Factor:	Switching movement, excessive speed
External Circumstances:	Others assisted crew
Day of Week:	Thursday
Time of Fatal Event:	9:20 AM
Time on Duty (hours: minutes):	1:21
Direction of Movement:	shoved
Crew's Next Move:	spot car
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	industrial/outside/stub track
Hit by Own Equipment?	yes
Speed of Equipment (mph):	8
Had Deceased Worked There Before?	yes
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 3 of 22: December 06, 1994 – CR – Campbell Hall, NY

First local had left the immediate location of the work area to be used by the second local without notifying the second local of the position of the switches, derails or returning the switches to a non-conflicting position. Second local shoving three cars and a caboose with a two-month trainee directing the move, struck standing equipment after traversing switches that were unexpectedly lined for the equipment.

SOFA Operating Recommendation(s):	**2, 4, 5**
Possible Contributing Factor:	Poor crew utilization
Possible Contributing Factor:	Radio communication, improper
Possible Contributing Factor:	Shoving movement, man on or at leading end of movement, failure to control
Possible Contributing Factor:	Failure to comply with restricted speed
Possible Contributing Factor:	Radio communication, failure to give/receive
Possible Contributing Factor:	Derail, failure to apply or remove
Possible Contributing Factor:	Speed, other
Day of Week:	Tuesday
Time of Fatal Event:	2:52 AM
Time on Duty (hours: minutes):	6:52
Temperature (Fahrenheit):	51
Direction of Movement:	shoved
Crew's Next Move:	set out cars
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	yard/flat/storage
Hit by Own Equipment?	no
Striking Train Within Rules?	no
Speed of Equipment (mph):	19
Deceased Regular Job?	no
Had Deceased Worked There Before?	yes
Crew Size:	3
Emergency Response Procedures Followed?	yes

No. 4 of 22: December 13, 1994 – UP – Thorton, CA

Crew coupling up cars in an industry track, brakeman attempted to couple air between cars when unexpected movement of railcars occurred, resulting in his fatal injury.

SOFA Operating Recommendation(s):	**1**
Possible Contributing Factor:	Failure to provide adequate space between equipment
External Circumstances:	Employee on or fouling track
Day of Week:	Tuesday
Time of Fatal Event:	12:01 AM
Time on Duty (hours: minutes):	2:16
Temperature (Fahrenheit):	34
Direction of Movement:	pulled
Crew's Next Move:	CO power
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	industrial/spot/ load and unload/outside
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:	4
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 5 of 22: December 11, 1995 – NS – Toledo, OH

A three-person crew was called to switch an industry that all were very familiar with. During the switching moves, the brakeman was inside an area with no clearances between the cars and the hand railings installed on the walls. He was making coupling and, according to the conductor and engineer, upon completion of that work, ordered the engineer to haul out of the building where the conductor would take over the next move to be performed. Subsequently, a plant employee observed the brakeman slumped beside the track, rushed to assistance, call 911 and notified the conductor that his man was down. The brakeman died later on at the hospital of crushing wounds incurred when he was rolled between the cars being pulled out and the railing.

Special Switching Hazard(s):	**Close Clearance**
Possible Contributing Factor:	Snow, ice, mud, gravel, coal etc. on the track
Possible Contributing Factor:	Close or no clearance
Possible Contributing Factor:	Employee on or fouling track
Day of Week:	Monday
Time of Fatal Event:	6:25 PM
Time on Duty (hours: minutes):	2:25
Temperature (Fahrenheit):	12
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 and unload/inside
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. 6 of 22: December 14, 1995 – CSX – Monroe, NC

A three-person crew (engineer, conductor & conductor trainee) was called to operate a local freight train. During a switching operation at a yard, the conductor was riding nine cars down a clear track and directing the shove move by radio. When the engineer did not hear any more radio transmissions from the conductor, he stopped the move and found the conductor dead and lying beside the track he had been shoving down. Post accident investigation revealed that he had been struck by a truck trailer door positioned on a flat car standing on an adjacent track and that had been left open and swinging freely. The investigation revealed that a vandal had broken into the trailer and stolen material from it.

Special Switching Hazard(s):	**Close Clearance**
Possible Contributing Factor:	Vandalism of on-track equipment, i.e. brakes released
Possible Contributing Factor:	Object or equipment on or fouling the tracks (other than above) not vandalism
Day of Week:	Thursday
Time of Fatal Event:	4:30 AM
Time on Duty (hours: minutes):	7:30
Temperature (Fahrenheit):	44
Direction of Movement:	shoved
Crew's Next Move:	cut engine off
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	yard/flat/classification
Hit by Own Equipment?	yes
Striking Train Within Rules?	yes
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. 7 of 22: December 16, 1996 – UP – Clinton, IA

A three-person crew was in the process of switching a plant when the conductor sent the locomotive and cars out of one track toward the brakeman who was to handle the switches and direct the cars into another track. The conductor stopped the move after the cars had cleared an industry road crossing and the engineer waited to receive instructions from the brakeman. However, the brakeman had mounted the second head car behind the locomotives and had apparently slipped or fell from that position and was found dead by the engineer and conductor lying between and beneath the fourth head car. The brakeman tested positive for THCA & THC.

Special Switching Hazard(s):	**Employee Tripping and Drugs and Alcohol**
Possible Contributing Factor:	Employee falling from moving equipment
Possible Contributing Factor:	Impairment of efficiency or judgment because of drugs or alcohol
Day of Week:	Monday
Time of Fatal Event:	8:40 PM
Time on Duty (hours: minutes):	5:40
Temperature (Fahrenheit):	32
Direction of Movement:	pulled
Crew's Next Move:	CO power
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	outside
Hit by Own Equipment?	yes
Striking Train Within Rules?	yes
Speed of Equipment (mph):	1
Deceased Regular Job?	yes
Crew Size:	3
Drugs Present?	yes
Drugs a Factor?	yes

No. 8 of 22: December 18, 1996 – IC – Chicago, IL

A three-person yard crew was in the process of switching a plant. The brakeman was at the plant doors and the conductor and engineer had hauled out to put away a car that had been removed from the plant. After the conductor had tied onto the cars to go into the plant and begun to shove toward the plant, the car that had just been placed on an adjacent track rolled out, fouled the conductor's movement, and crushed him between the leading car and the rolling car.

Special Switching Hazard(s):	**Unsecured Cars**
Possible Contributing Factor:	Failure to properly secure hand brake on car(s) railroad employee
Possible Contributing Factor:	Shoving movement, man on or at leading end of movement, failure to control
Possible Contributing Factor:	Broken brake pipe or connections
Day of Week:	Wednesday
Time of Fatal Event:	11:40 AM
Time on Duty (hours: minutes):	5:55
Temperature (Fahrenheit):	15
Direction of Movement:	shoved/free-running
Crew's Next Move:	spot cars
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	outside
Hit by Own Equipment?	yes
Speed of Equipment (mph):	4
Deceased Regular Job?	yes
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 9 of 22: December 02, 1997 – BNSF – Emporia, KS

The three-person crew had just finished making up their train at the yard. The conductor, for unknown reasons, had positioned himself on the "live" main trackside of his train, near the second and third locomotives. The conductor was struck and killed by a passing main track train that had approached the area from the opposite direction than that the conductor's train was to proceed.

Special Switching Hazard(s):	**Struck by Mainline Trains**
Possible Contributing Factor:	Employee on or fouling track
Day of Week:	Tuesday
Time of Fatal Event:	7:45 PM
Time on Duty (hours: minutes):	9:45
Temperature (Fahrenheit):	43
Direction of Movement:	pulled
Crew's Next Move:	couple train
Death Result of Train Movement?	yes
Other Movements Nearby?	yes
Track Type:	main/yard
Hit by Own Equipment?	no
Striking Train Within Rules?	yes
Speed of Equipment (mph):	54
Deceased Regular Job?	yes
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 10 of 22: December 26, 1997 – UP – Boise, ID

Conductor was riding equipment while setting hand brakes. Move was being shoved; improper radio communication.

SOFA Operating Recommendation(s):	**4**
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
External Circumstances:	Grade crossing placement
Day of Week:	Friday
Time of Fatal Event:	5:45 PM
Time on Duty (hours: minutes):	9:30
Temperature (Fahrenheit):	27
Direction of Movement:	shoved
Crew's Next Move:	uncouple cars to spot
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	main/industrial
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. 11 of 22: December 28, 1998 – IC – Durrant, MS

Shove movement was not properly controlled by radio communication and resulted in a collision with a fallen tree which caused the derailment and death of the conductor.

SOFA Operating Recommendation(s):	**4**
Possible Contributing Factor:	Radio communication, failure to give/receive
Possible Contributing Factor:	Excessive speed
Possible Contributing Factor:	Shoving movement, man on or at leading end of movement, failure to control
Possible Contributing Factor:	Object or equipment on or fouling the tracks (other than above) not vandalism
External Circumstances:	Extended shove move and type of equipment
Day of Week:	Monday
Time of Fatal Event:	4:32 PM
Time on Duty (hours: minutes):	0:33
Temperature (Fahrenheit):	36
Direction of Movement:	shoved
Crew's Next Move:	stop at switch
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):	22
Deceased Regular Job?	yes
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 12 of 22: December 28, 2000 – UP – Dupo, IL

A three-person yard switching crew was in the process of pulling cars down a long lead that ran parallel to a main track. The switchman was standing between the cars that were being pulled out onto the lead and the main track. While the cars were being moved, a main line train approached his location. The switchman, with nowhere to go, was struck by the passing main line train and killed by a blow to the head.

Special Switching Hazard(s):	**Struck by Mainline Trains**
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Insufficient ballast section
External Circumstances:	Snow and ice
Day of Week:	Thursday
Time of Fatal Event:	8:10 AM
Time on Duty (hours: minutes):	1:40
Temperature (Fahrenheit):	8
Direction of Movement:	pulled
Crew's Next Move:	line switch
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):	29
Deceased Regular Job?	yes
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 13 of 22: December 29, 2000 – BNSF – Gillette, WY

A two-person freight train crew was about to be passed by another freight train at a location on line-of-road. The conductor of the stopped train got up out of his seat, exited the leading locomotive and crossed over the track on which the on-coming train was proceeding. The conductor was struck and killed by the lead locomotive of the passing train.

Special Switching Hazard(s):	**Struck by Mainline Trains**
Possible Contributing Factor:	Employee physical condition, other
Possible Contributing Factor:	Employee on or fouling track
External Circumstances:	Using cell phone
Day of Week:	Friday
Time of Fatal Event:	9:28 PM
Time on Duty (hours: minutes):	4:08
Temperature (Fahrenheit):	20
Direction of Movement:	pulled
Crew's Next Move:	inspect 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):	43
Deceased Regular Job?	yes
Crew Size:	2
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 14 of 22: December 22, 2001 – NS – Eden, NC

A three-person, local switching crew that included a conductor in training was in the process of shoving a cut of cars over a highway road crossing at grade. The brakeman was riding one corner of the leading car and the conductor in training was riding the opposite side of the car. All warning devices were in operation when a van struck the leading end of the car knocking the brakeman off the car and under the leading wheels.

Special Switching Hazard(s):	**Struck by Motor Vehicle**
Possible Contributing Factor:	Highway user inattentiveness
External Circumstances:	Employee physical condition, other
Day of Week:	Saturday
Time of Fatal Event:	9:45 AM
Time on Duty (hours: minutes):	3:54
Temperature (Fahrenheit):	45
Direction of Movement:	shoved
Crew's Next Move:	switch plant
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	main/industrial
Hit by Own Equipment?	yes
Striking Train Within Rules?	yes
Speed of Equipment (mph):	3
Deceased Regular Job?	yes
Had Deceased Worked There Before?	yes
Crew Size:	4
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 15 of 22: December 24, 2001 – NS – Lynchburg, VA

A conductor, engineer and conductor in training had been transported to an unattended train standing on a siding a portion of which was in a tunnel adjacent to the main track. After storing their equipment, the conductor and the conductor in training left the locomotive to release hand brakes on the train. The conductor was killed when she failed to step in between two boxcars of her train as the conductor in training had done and was subsequently struck by a passing mainline train.

Special Switching Hazard(s):	**Close Clearance and Struck by Mainline Trains**
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Other train operation/human factors
Possible Contributing Factor:	Other train operation/human factors
Possible Contributing Factor:	Close or no clearance
Possible Contributing Factor:	Employee physical condition, other
Day of Week:	Monday
Time of Fatal Event:	3:43 AM
Time on Duty (hours: minutes):	4:15
Temperature (Fahrenheit):	35
Direction of Movement:	pulled
Crew's Next Move:	brake test
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
Deceased Regular Job?	no
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 16 of 22: December 07, 2003 – UP – San Antonio, TX

A pitch/catch remote control operation was being run by a single operator who was struck and killed during a yard operation by his own locomotive. He stepped in front of its movement as he was headed for the other end of a crossover switch that he intended to line for the route he intended his engine to use.

Special Switching Hazard(s):	**Unexpected Movement of Railcars**
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Switch improperly lined
Possible Contributing Factor:	Spring/power switch mechanism malfunction
Possible Contributing Factor:	Other miscellaneous causes
External Circumstances:	Quit offered
Day of Week:	Sunday
Time of Fatal Event:	12:12 AM
Time on Duty (hours: minutes):	1:12
Temperature (Fahrenheit):	39
Direction of Movement:	pulled
Crew's Next Move:	line switch
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	yard
Hit by Own Equipment?	yes
Striking Train Within Rules?	no
Speed of Equipment (mph):	12.65
Deceased Regular Job?	yes
Crew Size:	1
Drugs Present?	yes
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 17 of 22 December 17, 2004 – BNSF – Radium, CO
(Information is preliminary, and not based on the investigation.)

Conductor, with 25 years of service, was struck by a passing train he was trying to observe.

No. 18 of 22: December 04, 2005 – BNSF – Burlington, IA
(Information is preliminary, and not based on the investigation.)

A brakeman, riding the side of a car into an area posted as "close clearance," was killed when he was crushed between the car he was riding and a steel walkway support beam.

No. 19 of 22: December 04, 2006 – UP – Carson, CA
(Information is preliminary, and not based on the investigation.)

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...)**

No. 20 of 22: December 28, 2006 – UP – Sioux City, IA
(Information is preliminary, and not based on the investigation.)

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)**

No. 21 of 22: December 28, 2007 – BNSF – Bristol, IL
(Information is preliminary, and not based on the investigation.)

A 61- year- old conductor was switching cars at an industry when he was struck and killed by rolling on track equipment.

No. 22 of 22: December 03, 2008 – DRIR – Denver, CO
(Information is preliminary, and not based on the investigation.)

A 33-year-old conductor was riding the leading end of a shove move over a highway-rail grade crossing when a tractor trailer truck struck the leading car, pinning the conductor between the truck and the car he was riding and killing him. **(Special Switching Hazard # 7: Struck by motor vehicle or loading device.)**

Apply SOFA Operating Recommendations – Recognize Special Switching Hazards

19 January Switching Fatalities

#	Date	RR	Location	Age	Service (yrs)	Employee's Job	Employee Act	Employee Location	Fatal Event	SOFA Recommendations	Special Switching Hazard
1	01/28/92	BN	Willmar, MN	57	22	yard brakeman	walking	on track	struck by on-track equipment	**4**	
2	01/30/92	AGC	Polk County, FL	32	0.5	yard brakeman	getting on	other location on locomotive	missed handhold, grabiron, step, etc.	**5**	
3	01/04/94	BN	Hastings, NE	46	20	yard conductor	walking	between cars/loc	sudden/unexpected movement of on-track equipment		**Unsecured Cars**
4	01/14/94	BN	Amarillo, TX	57	36	yard conductor	standing	between tracks	derailments		**Equipment**
5	01/18/94	CSXT	Bainbridge, GA	45	25	road conductor	riding	on end of car	sudden/unexpected movement of on-track equipment		**Miscellaneous**
6	01/20/94	UP	Fall City, NE	44	16	road conductor	riding	on side of car	rolled between moving rolling stock and stationary rolling stock	**2**	
7	01/11/95	CR	Indianapolis, IN	51	30	yard conductor	riding	on side of car	struck by on-track equipment		**Equipment**
8	01/12/97	UP	S. Fontana, CA	60	35	road conductor	riding	on side of car	slack action, draft, compressive buff/coupling		**Employee Falling**
9	01/29/97	UP	Mason City, IA	48	28	road conductor	walking	on track	struck by on-track equipment	**4**	
10	01/24/98	BNSF	Omaha, NE	47	26	yard conductor	lining switches	beside track	struck by object		**Drugs and Alcohol**
11	01/12/99	CR	Port Newark, NJ	54	5.5	yard conductor	walking	on track	struck by on-track equipment	**3, 4**	
12	01/22/99	CR	Alexandria, NY	45	1	road conductor	riding	on side of car	derailments		**Environment**
13	01/02/00	CIRR	Cedar Springs, GA	49	21	yard conductor	riding	on side of car	collision between on-track equipment		**Environment**
14	01/10/01	CSX	Chicago, IL	42	1	road conductor	walking	near on-track equipment/on ground	struck by on-track equipment	**5**	
15	01/11/01	NS	South Fork, PA	52	34	road engineer	inspecting	between tracks	struck by on-track equipment	**3**	
16	01/14/04	NS	Kankakee, IL	n/a	n/a	**(Information is preliminary, and not based on the investigation.)**					**Special Switching Hazard**
17	01/10/05	UP	Buena Vista, AR	53	n/a	**(Information is preliminary, and not based on the investigation.)**					**Special Switching Hazard**
18	01/26/05	PHL	Los Angeles, CA	52	n/a	**(Information is preliminary, and not based on the investigation.)**					**Special Switching Hazard**
19	01/08/08	UP	Waukegan, IL	n/a	n/a	**(Information is preliminary, and not based on the investigation.)**					**Special Switching Hazard**

No. 1 of 19: January 28, 1992 – BN - Willmar, NM

A four-person crew (engineer, switch foreman, 2 switchmen) had just shove cars into track 11 and held onto one for track 9. The switch foreman got the switch for 9, noticed his front switchman standing near cars on track 11, and rode the locomotive onto the lead. After the 11th switch was lined for the lead, the switch foreman kicked the single car into track 9. The front switchman was struck and killed by the free rolling car.

SOFA Operating Recommendation(s):	**4**
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Employee involved with two movements of separate crews
External Circumstances:	Heavy clothing, hood(s)
Day of Week:	Tuesday
Time of Fatal Event:	5:30 PM
Time on Duty (hours: minutes):	2:00
Direction of Movement:	shoved/free-running
Crew's Next Move:	engine to track #2
Death Result of Train Movement?	yes
Other Movements Nearby?	yes
Track Type:	yard/flat/classification
Hit by Own Equipment?	yes
Striking Train Within Rules?	yes
Speed of Equipment (mph):	4
Deceased Regular Job?	yes
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 2 of 19: January 30, 1992 – AGC – Polk County, FL

Industry switch crew, engineer and two flagmen, both flagmen rode the lower steps of the leading end of the lead locomotive. FE (flagman) was on left side, the other flagman on right side. After 2000 feet into this lite engine movement the surviving flagman noticed the FE stopped talking and he crossed over to the FE's side and saw FE lying next to the track behind movement. Investigation showed FE either slipped off the fireman's side or tripped while dismounting or attempting to remount from the fireman's side. FE had six months experience.

SOFA Operating Recommendation(s):	**5**
Possible Contributing Factor:	Poor intra-crew communication about work in progress
External Circumstances:	Board/dis-board wrong side
Day of Week:	Thursday
Time of Fatal Event:	3:00 PM
Time on Duty (hours: minutes):	0:10
Temperature (Fahrenheit):	75
Direction of Movement:	pulled
Crew's Next Move:	wye engine
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	yard/flat/lead/industrial
Hit by Own Equipment?	yes
Striking Train Within Rules?	yes
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. 3 of 19: January 04, 1994 – BN – Hastings, NE

A three-person crew was in the process of pulling a cut of cars out of a track and leaving two additional cuts sitting separately in the track. The helper was riding the cut out of the track and the foreman was last seen walking between the two remaining cuts of cars. Evidence suggests that the foreman attempted to cross over the tracks between the cars being pulled out and the first of two remaining cuts of cars when he was crushed between the cars being pulled out and the second cut of cars after they were impacted by the third, unsecured cut.

Special Switching Hazard(s):	**Unsecured Cars**
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Failure to couple
Day of Week:	Tuesday
Time of Fatal Event:	7:00 PM
Time on Duty (hours: minutes):	2:00
Temperature (Fahrenheit):	31
Direction of Movement:	pulled/free-running
Crew's Next Move:	stop to uncouple
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	yard/flat/classification
Hit by Own Equipment?	yes
Speed of Equipment (mph):	6
Deceased Regular Job?	yes
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 4 of 19: January 14, 1994 – BN – Amarillo, TX

A three-person crew reported for duty and later was in the process of shoving cars down a track with the switch foreman riding the point. At the same time, another yard switching job was pulling cars in the opposite direction on an adjacent track and derailed. The foreman immediately told the other crew that they were on the ground and then told his engineer to stop the shove he was riding. The foreman was found crushed between the car he was riding and the car that derailed on the adjacent track.

Special Switching Hazard(s):	**Equipment**
Day of Week:	Friday
Time of Fatal Event:	11:15 AM
Time on Duty (hours: minutes):	4:16
Temperature (Fahrenheit):	48
Direction of Movement:	pulled
Crew's Next Move:	cut engine off
Death Result of Train Movement?	yes
Other Movements Nearby?	yes
Track Type:	yard/flat/classification
Hit by Own Equipment?	no
Striking Train Within Rules?	yes
Speed of Equipment (mph):	6
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no

No. 5 of 19: January 18, 1994 – CSX – Bainbridge, GA

A three-person switching crew was in the process of shoving cars down an industrial lead. The conductor and brakeman were riding the end platform of a tank car and, as the move approached a highway/rail grade crossing, the brakeman gave the engineer a car count in which to stop. As a result, there was some "slack action" and the conductor fell from the end platform onto the rail and was pronounced dead at the hospital over five hours later.

Special Switching Hazard(s):	**Miscellaneous**
Possible Contributing Factor:	Employee falling from moving equipment
Possible Contributing Factor:	Slack action
Day of Week:	Tuesday
Time of Fatal Event:	6:10 PM
Time on Duty (hours: minutes):	1:10
Temperature (Fahrenheit):	38
Direction of Movement:	shoved
Crew's Next Move:	spot
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):	6
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 6 of 19: January 20, 1994 – UP – Fall City, NE

Conductor riding side of two cars to be kicked, he moves to the opposite side of car to work hand brake and is immediately struck by locomotives standing on adjacent track creating a no-clearance condition. Conductor was not aware that the locomotives had arrived at that location since he had last been there.

SOFA Operating Recommendation(s):	**2**
Possible Contributing Factor:	Close or no clearance
Possible Contributing Factor:	Poor crew utilization
Day of Week:	Thursday
Time of Fatal Event:	8:00 PM
Time on Duty (hours: minutes):	0:30
Temperature (Fahrenheit):	16
Direction of Movement:	free-running
Crew's Next Move:	stop car
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	yard/flat/classification
Hit by Own Equipment?	no
Speed of Equipment (mph):	6
Deceased Regular Job?	yes
Crew Size:	3
Emergency Response Procedures Followed?	yes

No. 7 of 19: January 11, 1995 – CR – Indianapolis, IN

A three-person crew was in the process of switching a plant. The conductor was riding the leading end of the lead car during an eight-car shove. He had notified the engineer that he had mounted the moving car and told him by radio to continue shoving. When the engineer did not hear any more from the conductor, he stopped and the brakeman walked back to find the conductor had been run over by five of the eight cars being shoved. An exception was taken by the FRA for the absence of the "BR" end handhold that could have been used to assist the conductor in moving from the side of the car to the end of the car.

Special Switching Hazard(s):	**Equipment**
Possible Contributing Factor:	Employee falling from moving equipment
Possible Contributing Factor:	Defective BR end hand hold
Day of Week:	Wednesday
Time of Fatal Event:	11:30 PM
Time on Duty (hours: minutes):	8:31
Direction of Movement:	shoved
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	industrial/spot/load-unload/inside/stub track
Hit by Own Equipment?	yes
Striking Train Within Rules?	yes
Speed of Equipment (mph):	3
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 8 of 19: January 12, 1997 – UP – S. Fontana, CA

A three-person road crew arrived at a siding, pulled into the siding and stopped their train. They then cut off their locomotive consist, ran around the 50 loaded cars in their train, and tied onto the opposite end. The conductor and brakeman then positioned themselves on the leading end of the shove move and directed the engineer by radio to begin the shove into the plant. As the move entered a descending grade into the plant, the slack ran out, the conductor lost his hold on the leading car, fell in front of the car he was riding, was run over and died.

Special Switching Hazard(s):	**Employee Falling**
Possible Contributing Factor:	Buffing or slack action excessive, train handling
External Circumstances:	Unfamiliar with territory
Day of Week:	Sunday
Time of Fatal Event:	10:15 PM
Time on Duty (hours: minutes):	4:15
Temperature (Fahrenheit):	42
Direction of Movement:	shoved
Crew's Next Move:	stop
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	siding/lead
Hit by Own Equipment?	yes
Striking Train Within Rules?	no
Speed of Equipment (mph):	8
Deceased Regular Job?	no
Had Deceased Worked There Before?	no
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no

No. 9 of 19: January 29, 1997 – UP – Mason City, IA

Conductor and engineer were moving toward engine house area with lite engines and using hand signals. The conductor stopped the movement to line a switch. The engineer while waiting heard and acted upon an unidentified radio transmission "come ahead 21." The engineer initiated the shove movement and eventually, the conductor was struck from behind and killed.

SOFA Operating Recommendation(s):	**4**
Possible Contributing Factor:	Radio communication, improper
Possible Contributing Factor:	Employee on or fouling track
Day of Week:	Wednesday
Time of Fatal Event:	12:55 PM
Time on Duty (hours: minutes):	4:55
Temperature (Fahrenheit):	0
Direction of Movement:	shoved
Crew's Next Move:	switch off power
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	yard/flat/lead
Hit by Own Equipment?	yes
Striking Train Within Rules?	no
Speed of Equipment (mph):	1
Crew Size:	2
Drugs Present?	no
Drugs a Factor?	no

No. 10 of 19: January 24, 1998 – BNSF – Omaha, NE

A three-person switching crew was working in close proximity to another switching crew and, after some discussion, but no absolute understanding of the move just made by the other crew, began to pull down the switching lead. As they approached a mis-aligned switch, the foreman jumped off the moving locomotive, ran to the switch and was in the process of "flopping it over" when the leading wheels of the locomotive entered the switch, popped the handle up, striking the foreman in the face and killing him. Post accident testing indicated that drug impairment may have contributed to the fatality.

Special Switching Hazard(s):	**Drugs and Alcohol**
Possible Contributing Factor:	Failure to comply with restricted speed
Possible Contributing Factor:	Poor inter-crew communications
Possible Contributing Factor:	Switch improperly lined
Possible Contributing Factor:	Impairment of efficiency or judgment because of drugs or alcohol
Day of Week:	Saturday
Time of Fatal Event:	10:15 AM
Time on Duty (hours: minutes):	2:45
Temperature (Fahrenheit):	20
Direction of Movement:	pulled
Crew's Next Move:	go to industry
Death Result of Train Movement?	yes
Track Type:	yard/flat/lead
Hit by Own Equipment?	no
Speed of Equipment (mph):	9
Had Deceased Worked There Before?	yes
Crew Size:	3
Drugs Present?	yes
Emergency Response Procedures Followed?	yes

No. 11 of 19: January 12, 1999 – CR – Port Newark, NJ

A three-person industry switching crew was in the process of switching cars back and forth over a private crossing equipped with an in-ground hand throw switch. The brakeman was at the switch and the conductor was going back and forth from one set of cars to another. The conductor shouted to the brakeman that he wanted the next move down one track but the cars started down the other. The brakeman tried to warn the conductor who had his back to the move and then stopped the move but too late to save the conductor who was hit and run over by the leading car of the shove.

SOFA Operating Recommendation(s):	**3, 4**
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
Possible Contributing Factor:	Shoving movement, man on or at leading end of movement, failure to control
Possible Contributing Factor:	Switch improperly lined
Day of Week:	Tuesday
Time of Fatal Event:	1:03 AM
Time on Duty (hours: minutes):	9:04
Direction of Movement:	shoved/free-running
Crew's Next Move:	couple track
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	flat/lead/industrial
Hit by Own Equipment?	yes
Striking Train Within Rules?	no
Speed of Equipment (mph):	6
Deceased Regular Job?	no
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 12 of 19: January 22, 1999 – CR – Alexander, NY

A three-person local switching crew was shoving a loaded covered hopper down an industrial lead. The conductor was riding on one side of the car and the brakeman was riding the other. As the car was shoved over a private crossing, the accumulation of ice and snow lifted the car off the rails and it tipped over and onto the conductor who was killed as a result of the derailment.

Special Switching Hazard(s):	**Environment**
Possible Contributing Factor:	Employee falling from moving equipment
Possible Contributing Factor:	Snow, ice, mud, gravel, coal etc. on the track
External Circumstances:	Build up frozen material in flange way
Day of Week:	Friday
Time of Fatal Event:	6:19 PM
Time on Duty (hours: minutes):	6:49
Temperature (Fahrenheit):	35
Direction of Movement:	shoved
Crew's Next Move:	stop at switch
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	main/industrial
Hit by Own Equipment?	yes
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. 13 of 19: January 02, 2000 – CIRR – Cedar Springs, GA

A two-person switching crew was in the process of switching cars in a storage yard and the conductor was riding the leading end of a cut of cars being shoved down a track. The move was taking place in dense fog and in darkness when the car he was riding collided with other cars on an adjacent track that were fouling the track he was on. The conductor was killed as a result of the collision.

Special Switching Hazard(s):	**Environment**
Possible Contributing Factor:	Shoving movement, man on or at leading end of movement, failure to control
Possible Contributing Factor:	Failure to comply with restricted speed
Possible Contributing Factor:	Impairment of efficiency or judgment because of drugs or alcohol
Possible Contributing Factor:	Car(s) shoved out and left out of clear
External Circumstances:	Did not have a lantern & no lighting at site
Day of Week:	Sunday
Time of Fatal Event:	4:20 AM
Time on Duty (hours: minutes):	0:50
Temperature (Fahrenheit):	40
Direction of Movement:	shoved
Crew's Next Move:	spot cars
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):	9
Deceased Regular Job?	yes
Crew Size:	2
Drugs Present?	yes
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 14 of 19: January 10, 2001 – CSX – Chicago, IL

Conductor with 14-months service was struck and killed by passing mainline train while attempting to board locomotive at crew-change point.

SOFA Operating Recommendation(s):	**5**
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Other extreme environmental condition
Possible Contributing Factor:	Other miscellaneous causes
Possible Contributing Factor:	Poor intra-crew communication about work in progress
External Circumstances:	10" snow on the ground
Day of Week:	Wednesday
Time of Fatal Event:	1:05 AM
Time on Duty (hours: minutes):	0:50
Temperature (Fahrenheit):	33
Direction of Movement:	pulled
Crew's Next Move:	depart
Death Result of Train Movement?	yes
Other Movements Nearby?	yes
Track Type:	main/siding
Hit by Own Equipment?	no
Striking Train Within Rules?	no
Speed of Equipment (mph):	27
Deceased Regular Job?	no
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 15 of 19: January 11, 2001 – NS – South Fork, PA

The engineer and conductor of a road train were told to stop and check their locomotives for flat spots. Once stopped, and without a job briefing the locomotive engineer left the lead unit and shortly thereafter, was struck and killed by a passing mainline train.

SOFA Operating Recommendation(s):	**3**
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Poor intra-crew communication about work in progress
Possible Contributing Factor:	Failure to communicate unsafe condition
Possible Contributing Factor:	Damaged flange or tread
Day of Week:	Thursday
Time of Fatal Event:	2:37 AM
Time on Duty (hours: minutes):	3:17
Temperature (Fahrenheit):	20
Direction of Movement:	pulled
Crew's Next Move:	inspect flat spots on engine
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):	36
Deceased Regular Job?	yes
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 16 of 19: January 14, 2004 – NS – Kankakee, IL

(Information is preliminary, and not based on the investigation.)

A conductor, with 4-years service, killed when struck by a train he was switching in Kankakee Yard.

No. 17 of 19: January 10, 2005 – UP – Buena Vista, AR

(Information is preliminary, and not based on the investigation.)

A 53-year-old conductor was struck and killed by lite engines that were running down the main track to the head-end of his train, which was standing on the siding, to deliver a locomotive unit.

No. 18 of 19: January 26, 2005 – PHL – Los Angeles, CA

(Information is preliminary, and not based on the investigation.)

A 52-year-old conductor was struck and killed by his own cut of cars when he lined switches, thought the cars were going to one track, turned his back, and the cars came down the track he was fouling.

No. 19 of 19: January 8, 2008 – UP – Waukegan, IL

(Information is preliminary, and not based on the investigation.)

A UP conductor, working a METRA commuter train, was struck by another METRA commuter train while he was stooped over the crossover switch connecting the two main tracks located just South of the passenger station.

9 February Switching Fatalities

#	Date	RR	Location	Age	Service (yrs)	Employee's Job	Employee Act	Employee Location	Fatal Event	SOFA Recommendation(s)	Special Switching Hazard
1	02/17/95	CR	St. James, OH	48	29	road conductor	walking	near on-track equip-on ground	struck by on-track equipment	**3, 4**	
2	02/24/95	ATSF	Amarillo, TX	44	19	yard conductor	installing	on track	struck by on-track equipment	**1, 2**	
3	02/02/97	CR	Burns Harbor, IN	54	27	yard conductor	standing	beside track	struck by on-track equipment	**2**	
4	02/04/98	BRC	Bedford Park, IL	42	23	yard conductor	standing	between tracks	sudden/unexpected movement of on-track equipment	**2**	
5	02/17/99	KCS	Kansas City, MO	26	7	yard conductor	walking	beside track	struck by object		**Struck by Motor Vehicle**
6	02/11/03	CNIC	Flat Rock, MI	57	31	yard brakeman	walking	on track	struck by on-track equipment	**2**	
7	02/16/03	CSXT	Syracuse, NY	36	2.5	yard brakeman	walking	on track	struck by on-track equipment		**Free-Rolling Railcars**
8	02/18/03	CSXT	Cheektowaga, NY	51	29	road conductor	handbrakes, releasing	on end of car	sudden/unexpected movement of on-track equipment		**Unsecured Cars**
9	02/03/08	NS	Chicago, IL	n/a	n/a	**(Information is preliminary, and not based on the investigation.)**					**Special Switching Hazard**

Apply SOFA Operating Recommendations – Recognize Special Switching Hazards

No. 1 of 9: February 17, 1995 – CR – St. James, OH

Arbitrary change in switching operations by conductor resulted in him being unexpectedly struck and fatally injured by approaching cars while he was fouling the track.

SOFA Operating Recommendation(s):	**3, 4**
Possible Contributing Factor:	Switch improperly lined
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Radio communication, improper
Day of Week:	Friday
Time of Fatal Event:	11:15 AM
Time on Duty (hours: minutes):	4:45
Temperature (Fahrenheit):	39
Direction of Movement:	shoved
Crew's Next Move:	cut cars
Death Result of Train Movement?	yes
Track Type:	industrial/spot/load-unload/stub track
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. 2 of 9: February 24, 1995 – ATSF – Amarillo, TX

Two crews working in the same yard from opposite ends, one crew dropped ten free rolling cars in on top of the cut where the other crew's foreman was installing the E.O.T. at the opposite end. Cars impacted with sufficient force to knock down and run over the foreman.

SOFA Operating Recommendation(s):	**1, 2**
Possible Contributing Factor:	Instructions to train/yard crew improper
Day of Week:	Friday
Time of Fatal Event:	9:45 AM
Time on Duty (hours: minutes):	2:15
Temperature (Fahrenheit):	48
Direction of Movement:	free-running
Death Result of Train Movement?	yes
Other Movements Nearby?	yes
Track Type:	yard/flat/rec/dept
Hit by Own Equipment?	no
Striking Train Within Rules?	yes
Speed of Equipment (mph):	6
Deceased Regular Job?	yes
Crew Size:	4
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 3 of 9: February 02, 1997 – CR – Burns Harbor, IN

Two yard jobs working on adjacent tracks. The conductor of one is studying his switch list as the other job is shoving into the adjacent track. Conductor is struck and killed by the lead car of the adjacent track shove move.

SOFA Operating Recommendation(s):	**2**
Possible Contributing Factor:	Shoving movement, absence of a man on or at leading end of movement
Day of Week:	Sunday
Time of Fatal Event:	9:55 PM
Temperature (Fahrenheit):	30
Direction of Movement:	shoved
Crew's Next Move:	begin switching
Death Result of Train Movement?	yes
Other Movements Nearby?	yes
Track Type:	yard/flat/classification
Hit by Own Equipment?	no
Striking Train Within Rules?	no
Speed of Equipment (mph):	11
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no

No. 4 of 9: February 04, 1998 – BRC – Bedford Park, IL

Conductor and switchman making hoses on track 12, last transmission by conductor is "I think I got all the hoses after that next one…." Conductor later found to have been struck and killed by a free rolling car on the adjacent track.

SOFA Operating Recommendation(s):	**2**
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Close or no clearance
External Circumstances:	Track centerline at 13 feet
Day of Week:	Wednesday
Time of Fatal Event:	5:33 PM
Time on Duty (hours: minutes):	3:03
Temperature (Fahrenheit):	35
Direction of Movement:	free-running
Crew's Next Move:	couple track
Death Result of Train Movement?	no
Other Movements Nearby?	yes
Track Type:	yard/hump/classification
Hit by Own Equipment?	no
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 9: February 17, 1999 – BRC – Kansas City, MO

A three-person switching crew was working in a piggy-back facility and had just finished shoving a cut of cars down a track to be worked by the piggy-packers (equipment used to load and unload TOFC/COFC rail shipments). The conductor was returning to the locomotive when he was struck and killed by one of the piggy-packers.

Special Switching Hazard(s):	**Struck by Motor Vehicle**
Possible Contributing Factor:	Interference (other the vandalism) with railroad operations by non- railroad employee
External Circumstances:	Poor lighting
Day of Week:	Wednesday
Time of Fatal Event:	7:05 PM
Time on Duty (hours: minutes):	4:05
Temperature (Fahrenheit):	42
Crew's Next Move:	cut off power
Death Result of Train Movement?	no
Track Type:	yard/flat/industrial
Hit by Own Equipment?	no
Striking Train Within Rules?	no
Speed of Equipment (mph):	0
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 6 of 9: February 11, 2003 – CNIC – Flat Rock, MI

A three-person crew (engineer, conductor, brakeman) were stopped and the engineer and conductor were awaiting the brakeman's return from the "Trim Shanty". During this time, another crew was in the process of shoving a cut of cars down a track that was located between where the brakeman's crew were waiting and the Shanty. The brakeman exited the Shanty and was struck by the shove move as he crossed the tracks to get to his crew. The shove move was being preceded by two of the striking train's crew who were riding in a van at the time.

SOFA Operating Recommendation(s):	**2**
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Shoving movement, absence of a man on or at leading end of movement
Possible Contributing Factor:	Other general switching rules
Possible Contributing Factor:	Poor crew utilization
External Circumstances:	Shove protected from within moving taxi rather than from the actual leading point of movement because of cool weather
Day of Week:	Tuesday
Time of Fatal Event:	4:55 PM
Time on Duty (hours: minutes):	1:30
Temperature (Fahrenheit):	21
Direction of Movement:	shoved
Crew's Next Move:	stop train
Death Result of Train Movement?	yes
Other Movements Nearby?	yes
Track Type:	yard/lead
Hit by Own Equipment?	no
Speed of Equipment (mph):	8
Deceased Regular Job?	yes
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no

No. 7 of 9: February 16, 2003 – CSX – Syracuse, NY

A two-person crew was flat switching in a yard when the switchman, needed a break. He mentioned it to the yard foreman and they decided to go to break after one last car was "kicked" into a specific track. A short time after the car had been released, the foreman's operating control unit indicated a "no poll" failure and the locomotive shut down. When the foreman couldn't contact the switchman he went looking for him. The brakeman was found struck and killed by the last car that had been "kicked".

Special Switching Hazard(s):	**Free-Rolling Railcars**
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Other extreme environmental condition
Possible Contributing Factor:	Employee physical condition, other
External Circumstances:	Slipped, tripped or fell due to climatic conditions
Day of Week:	Sunday
Time of Fatal Event:	12:24 AM
Time on Duty (hours: minutes):	1:24
Temperature (Fahrenheit):	-15
Direction of Movement:	shoved/free-running
Crew's Next Move:	switch cars
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	yard/lead
Hit by Own Equipment?	yes
Striking Train Within Rules?	yes
Speed of Equipment (mph):	8
Deceased Regular Job?	no
Had Deceased Worked There Before?	yes
Crew Size:	2
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 8 of 9: February 18, 2003 – CSX – Cheektowaga, NY

A three-person switching crew was in the process of shoving cars into a track at an industry. The switch foreman was riding the leading end of the shove and directing the move when he was struck by the cut of cars that they had left on another track and which had rolled out and into his shove move.

Special Switching Hazard(s):	**Unsecured Cars**
Possible Contributing Factor:	Failure to properly secure hand brake on car(s)
Possible Contributing Factor:	Failure to couple
Possible Contributing Factor:	Passed couplers
Day of Week:	Tuesday
Time of Fatal Event:	12:45 PM
Time on Duty (hours: minutes):	5:54
Temperature (Fahrenheit):	18
Direction of Movement:	shoved/free-running
Crew's Next Move:	spot
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. 9 of 9: February 03, 2008 – NS – Chicago, IL

(Information is preliminary, and not based on the investigation.)

A brakeman, working between cars in his train, stepped out from between two cars and into the path of a main track Canadian National train that was passing the stopped NS train.