

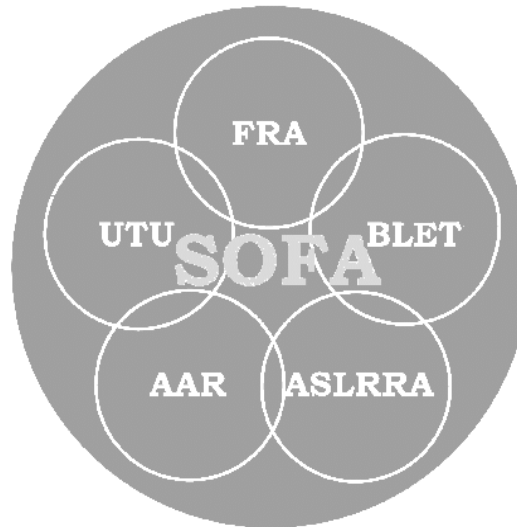
PLEASE POST IMMEDIATELY

Apply SOFA Operating Recommendations – Recognize Special Switching Hazards

Always Perform Switching Operations Safely

This *Update* is the first since the passing of James M. Brunkenhoefer on December 19, 2008.

As have so many others, the SOFA Working Group acknowledges Brokenrail's considerable contributions to the safety and betterment of railroad employees.



2009 Switching Fatalities

through February 15

JAN 16: Fort Sumner, NM

JAN 28: Council Bluffs, IA

FEB 07: Holbrook, AZ

FEB 08: Herington, KS

Near-by train movement was involved in three of these Fatalities. Preliminary summaries on *page 2*.

The SOFA Working Group is now reviewing recent Switching Fatalities with emphasis on Special Switching Hazards.

While Fatalities related to Operating Recommendations have declined in recent years, the number of Hazard-related Fatalities has not.

Special Switching Hazards are listed on *page 3*.

Switching Fatality and Severe Injury Update – 2009 First Quarter

Preliminary Summaries of 4 Switching Fatalities in 2009

(through February 15)

1. January 16 – UP – Fort Sumner, NM

A locomotive engineer operating a moving train was later found dead by the crew of a following train. He was lying along the right of way near the 17th Street crossing east of town.

Near-by train movement was involved in the next three Switching Fatalities:

2. January 28 – UP – Council Bluffs, IA

A 41-year-old switch foreman was working in the yard when he was struck and killed by a passing mainline train moving on an adjacent track.

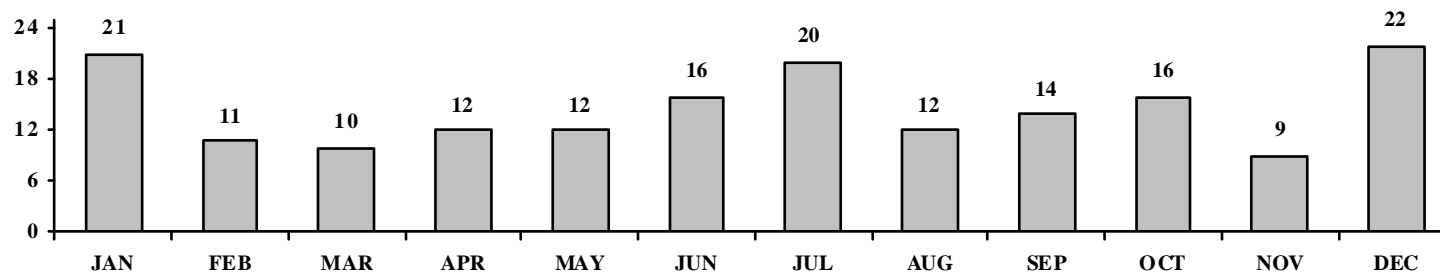
3. February 7 – BNSF – Holbrook, AZ

A conductor was releasing hand brakes on his train when he was struck and killed by another train moving on the adjacent track.

4. February 8 – UP – Herington, KS

A 26-year-old conductor was using hand signals to bring his engines back onto his train when he was struck and killed by another train moving on the adjacent track.

**175 Switching Fatalities: by Month
January 1, 1992 through February 15, 2009**



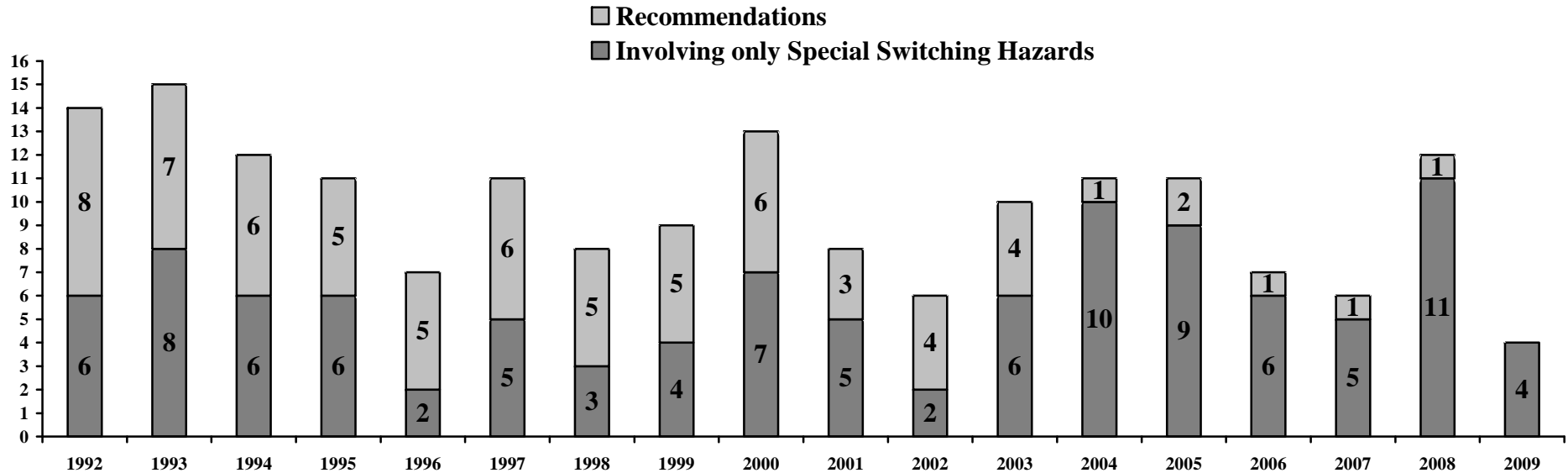
While upcoming months historically have lower numbers of Switching Fatalities, THERE IS ALWAYS RISK.

Always Perform Switching Operations Safely

Recognize Special Switching Hazards

The SOFA Working Group is now reviewing recent Switching Fatalities with emphasis on Special Switching Hazards. While Fatalities related to Operating Recommendations have declined in recent years, the number of Hazard-related Fatalities has not.

175 Switching Fatalities Classified by Type: Involving Operating Recommendations; and Involving only Special Switching Hazards, January 1, 1992 through February 15, 2009



Special Switching Hazards include:

• Close clearances	• Unexpected movement of cars
• Shoving movements	• Adverse environmental conditions
• Unsecured cars	• Equipment defects
• Free rolling rail cars	• Motor vehicles or loading devices
• Exposure to mainline trains	• Drugs and alcohol
• Tripping, slipping or falling	• Other special hazards or events

SOFA True or False Quiz

- Three of the four Switching Fatalities in 2009 (through February 15) involved near-by train movements?
- Situational awareness would help reduce risk from being struck by near-by train movements?
- Near-by train movements are an important safety issue among many. Because lives have been lost, and railroad employees are essential to the performance of the American economy?
- Switching Fatalities appear to occur in clusters. For instance, in the 24-day period, January 16 through February 8, there have been four Fatalities. Therefore, the risk for one or more Switching Fatalities in the upcoming days is low?
- Occurrence of Switching Fatalities are historically lower in March, April, and May (*page 2*). Therefore, it is unlikely a Fatality will occur in these upcoming months?
- Close clearances, shoving movements, unsecured cars, unexpected movements of cars, equipment defects, exposure to mainline trains, motor vehicles or loading devices – are included as Special Switching Hazards?
- Recognizing Special Switching Hazards – especially before work is performed – will help reduce risk?
- In recent years, Switching Fatalities involving only Special Switching Hazards have increased. Therefore, the five SOFA Operating Recommendations should be de-emphasized?

(Answers to the *SOFA True or False Quiz* can be found throughout this *Update* – or are obvious.)

Always Perform Switching Operations Safely

SOFA-defined Severe Injuries

January 1992 through November 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	12	124	10.3
OCT	12	12	16	10	5	11	9	7	11	5	11	5	114	9.5
NOV	12	9	12	11	13	14	10	10	13	8	6	6	124	10.3
subtotals	121	128	128	117	128	114	106	108	110	92	104	78		111.2
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		1,460	

- **138.0** **Severe Injuries per year on average: 1997 through 2001**
- **115.0** **Severe Injuries per year on average: 2002 through 2007**
- **104** **Severe Injuries in 2007, January through November**
- **78** **Severe Injuries in 2008, January through November**

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 February 15, 2009]

Amputations

January 1992 through November 2008

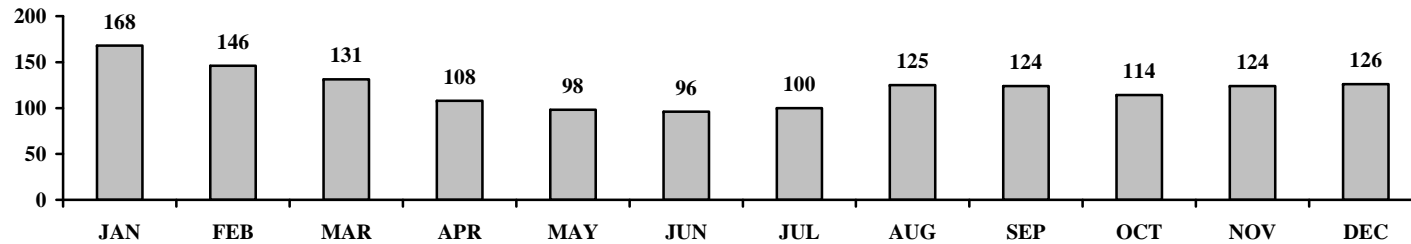
(Note: Among SOFA Updates, counts previously presented may change based on revisions of FRA data.)

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	2	27	2.3
OCT	2	5	2	2	0	0	2	2	0	0	2	0	17	1.4
NOV	2	2	2	2	3	0	1	1	2	3	1	0	19	1.6
subtotals	16	26	18	15	18	10	13	14	14	12	16	8		17.0
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		195	

- **20.6** **Amputations per year on average: 1997 through 2001**
- **13.6** **Amputations per year on average: 2002 through 2007**
- **16** **Amputations in 2007, January through November**
- **8** **Amputations in 2008, January through November**

1,460 SOFA-defined Severe Injuries: by Month January 1, 1997 through November 30, 2008



While upcoming months historically have lower numbers of SOFA-defined Severe Injuries, **THERE IS ALWAYS RISK.**

610 of 1,460 of SOFA-defined Severe Injuries – 41.7 percent – resulted from slipped, fell, stumbled, etc. (FRA Circumstance Event Codes # 51-54, 70), January 1997 through November 2008. From year to year, there is variation about the 41.7 percent, overall average.

Year	All Severe Injuries	Slipped, etc	Percent of Total	All Other Types	Percent of Total
1997	139	46	33.1%	93	66.9%
1998	137	45	32.8%	92	67.2%
1999	135	60	44.4%	75	55.6%
2000	139	70	50.4%	69	49.6%
2001	140	47	33.6%	93	66.4%
2002	123	58	47.1%	65	52.9%
2003	114	52	45.6%	62	54.4%
2004	123	41	33.3%	82	66.7%
2005	122	54	44.3%	68	55.7%
2006	100	48	48.0%	52	52.0%
2007	110	53	48.2%	57	51.8%
2008*	78	36	46.2%	42	53.8%
totals	1,460	610		850	

*Year 2008 is for months January through November. All other years are for 12 months

Preliminary Summaries of the 12 Switching Fatalities in 2008

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 Pacific 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.

Preliminary Summaries of the 12 Switching Fatalities in 2008 (continued)

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.

Switching Fatality Review Section

This section contains:

- **Switching Fatality Cases for Review: March, April, and May.** 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 February 15, 2009]

Always Perform Switching Operations Safely

Apply SOFA Operating Recommendations – Recognize Special Switching Hazards

10 March Switching Fatalities

#	Date	RR	Location	Age	Service (yrs)	Employee's Job	Employee Act	Employee Location	Fatal Event	SOFA Recommendation(s)	Special Switching Hazard
1	03/11/92	FEC	Fort Pierce, FL	36	16	yard conductor	riding	near on-track equip-on ground	derailments	4	
2	03/27/93	SP	Guadalupe, CA	39	19	road brakemen	riding	on end of car	struck by object		Employee Tripping
3	03/02/95	NS	Aiken, SC	46	22	road brakemen	adjusting coupler	on track	struck by on-track equipment	1, 3	
4	03/21/95	SP	Bassett, CA	55	24	road brakemen	walking	on track	struck by on-track equipment		Miscellaneous
5	03/20/96	BRC	Bedford Park, IL	28	0.34	yard conductor	adjusting coupler	between cars/loc	struck by on-track equipment	1, 5	
6	03/09/00	IHB	Riverdale, IL	43	24	yard conductor	crossing between	between cars/loc	sudden/unexpected movement of on-track equipment	1	
7	03/03/01	BNSF	Willmar, MN	36	3.75	yard brakeman	standing	between cars/loc	struck by on-track equipment	1	
8	03/21/02	NS	Claymont, DE	45	13	road engineer	getting on	near on-track equip-on ground	struck by on-track equipment		Close Clearance and Struck by Mainline Trains
9	03/10/04	MNCW	Stamford, CT	46	na	(Information is preliminary, and not based on investigation)					Involved Operating Recommendation(s)
10	03/05/08	WSOR	Random Lake, WI	50	na	(Information is preliminary, and not based on investigation)					Special Switching Hazard

Always Perform Switching Operations Safely

Apply SOFA Operating Recommendations – Recognize Special Switching Hazards

No. 1 of 10: March 11, 1992 – FEC – Fort Pierce, FL

This case involved the conductor riding a car into Track 8. The car derailed at the spiked switch and the conductor was subsequently killed. The conductor's last radio transmission was "...we're lined in eight rail, three or four cars to a joint." Movement stopped after car had derailed and side swiped adjacent car.

SOFA Operating Recommendation(s):	4
Possible Contributing Factor:	Switch point gapped (between switch point and stock rail)
Possible Contributing Factor:	Damaged flange or tread (build up)
External Circumstances:	Track conditions
Day of Week:	Wednesday
Time of Fatal Event:	1:15 AM
Time on Duty (hours: minutes):	6:15
Temperature (Fahrenheit):	71
Direction of Movement:	shoved
Crew's Next Move:	couple
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	yard/classification/flat
Hit by Own Equipment?	yes
Striking Train Within Rules?	yes
Speed of Equipment (mph):	5
Deceased Regular Job?	no
Had Deceased Worked There Before?	no
Crew Size:	2
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 2 of 10: March 27, 1993 – SP – Guadalupe, CA

A four-person crew (engineer, conductor, 2 brakemen) were in the process of pulling one track out and then intended to shove back into another track to pick up more cars. The head brakeman was in control of the move. The rear brakeman was found dead adjacent to the track that was pulled. Evidence suggests that the rear brakeman may have mounted, or tried to mount the car that ran him over as the cut was pulled out of the track.

Special Switching Hazard(s):	Employee Tripping
Possible Contributing Factor:	Employee on or fouling track
External Circumstances:	Snow, ice, mud, gravel, coal etc. on the track
Day of Week:	Saturday
Time of Fatal Event:	12:30 PM
Time on Duty (hours: minutes):	1:00
Temperature (Fahrenheit):	60
Direction of Movement:	pulled
Crew's Next Move:	couple track
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):	2
Crew Size:	4
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 3 of 10: March 02, 1995 –NS – Aiken, SC

Switch crew was pulling a cut of cars out of an industry. Brakeman stepped in track gauge to open knuckle on the rear car at the same time crew shoved back to kick two cars that ran over the brakeman.

SOFA Operating Recommendation(s):	1, 3
Possible Contributing Factor:	Failure to provide adequate space between equipment
Possible Contributing Factor:	Poor intra-crew communication about work in progress
Day of Week:	Thursday
Time of Fatal Event:	9:44 AM
Time on Duty (hours: minutes):	2:15
Temperature (Fahrenheit):	45
Direction of Movement:	shoved
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	main
Hit by Own Equipment?	yes
Striking Train Within Rules?	yes
Speed of Equipment (mph):	1
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	6 minutes to tell dispatcher, 30 min. for EMS arrival

No. 4 of 10: March 21, 1995 – SP – Bassett, CA

A three-person crew was called to operate a road local and arrived at a location where some plant switching was to take place. After lining up their cars, the two locomotives and two cars began a shove move on the brakeman's radio command. The brakeman was walking adjacent to the track on which the cars were being shoved and had his back to the move. He was killed when he suddenly crossed the tracks in front of the movement and was struck. The move stopped immediately. Post accident investigation revealed that the brakeman was concerned about the results of a medical examination that were due the next day.

Special Switching Hazard(s):	Other Special Hazard or Event (fouling track)
Possible Contributing Factor:	Employee on or fouling track
External Circumstances:	Employee physical condition, other
Day of Week:	Friday
Time of Fatal Event:	8:40 AM
Time on Duty (hours: minutes):	1:40
Direction of Movement:	shoved
Crew's Next Move:	coupling
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	industrial/outside/stub/track
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

No. 5 of 10: March 20, 1996 – BRC – Bedford Park, IL

Three-person crew was switching in class yard, coupling between sixth and seventh car failed to couple. Conductor stopped locomotive and went between the cars to straighten the drawbar, and twenty-three cars rolled in behind him and coupled him up.

SOFA Operating Recommendation(s):	1, 5
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Failure to apply handbrakes on car(s)
External Circumstances:	Crew experience
Day of Week:	Wednesday
Time of Fatal Event:	11:25 PM
Time on Duty (hours: minutes):	0:25
Temperature (Fahrenheit):	28
Direction of Movement:	free-running
Crew's Next Move:	couple track
Death Result of Train Movement?	yes
Track Type:	classification
Hit by Own Equipment?	yes
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. 6 of 10: March 09, 2000 – IHB – Riverdale, IL

The employee was struck by an unsecured cut of cars that rolled into him while he was attempting to adjust the coupler or drawbar.

SOFA Operating Recommendation(s):	1
Possible Contributing Factor:	Failure to provide adequate space between equipment
Possible Contributing Factor:	Failure to apply handbrakes on car(s)
Possible Contributing Factor:	Employee on or fouling track
Day of Week:	Thursday
Time of Fatal Event:	4:20 AM
Time on Duty (hours: minutes):	5:05
Temperature (Fahrenheit):	54
Direction of Movement:	free-running
Crew's Next Move:	pull track
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	hump/classification
Hit by Own Equipment?	yes
Striking Train Within Rules?	no
Speed of Equipment (mph):	1
Deceased Regular Job?	yes
Crew Size:	3
Drugs Present?	no

No. 7 of 10: March 03, 2001 – BNSF – Willmar, MN

The switchman of a three-person yard switching crew made a cut on a block of cars sitting on a yard track and told the engineer to pull the cars out. Apparently, as the cars were being pulled out, the switchman stepped between the gauge of the track and was struck and killed by the remaining cars on the track that had begun to roll in the same direction as the cars being pulled out of the track.

SOFA Operating Recommendation(s):	1
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Snow, ice, mud, gravel, coal etc. on the track
External Circumstances:	3' of snow
Day of Week:	Saturday
Time of Fatal Event:	7:15 PM
Time on Duty (hours: minutes):	3:45
Temperature (Fahrenheit):	30
Direction of Movement:	pulled/free-running
Crew's Next Move:	couple to another track
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	yard/flat/classification
Hit by Own Equipment?	yes
Speed of Equipment (mph):	7
Deceased Regular Job?	yes
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 8 of 10: March 21, 2002 – NS – Claymont, DE

A locomotive engineer had been dropped off at the head end of his train while the conductor was taken to the rear to check on the REM. After crossing over the ATK corridor mainline tracks, and beginning to board his locomotive, the engineer was dragged off the stairs of the locomotive and killed by a passing 110 MPH passenger train.

Special Switching Hazard(s):	Close Clearance and Struck by Mainline Trains
Possible Contributing Factor:	Close or no clearance
Possible Contributing Factor:	Other miscellaneous causes
Possible Contributing Factor:	Speed, other
External Circumstances:	Struck by 111 mph train at night
Day of Week:	Thursday
Time of Fatal Event:	12:24 PM
Time on Duty (hours: minutes):	2:26
Direction of Movement:	pulled
Crew's Next Move:	brake test
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):	110
Deceased Regular Job?	yes
Crew Size:	2
Drugs Present?	no
Drugs a Factor?	no

No. 9 of 10: March 10, 2004 – MNCW – Stamford, CT

(Information is preliminary, and not based on investigation)

A 46-year old Metro North Commuter Rail (MNCW) conductor, with 27-years service, killed when struck by his own equipment at the Metro North Stamford Yard, Stamford, CT.

No. 10 of 10: March 05, 2004 – WSOR – Random Lake, WI

(Information is preliminary, and not based on investigation)

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.

12 April Switching Fatalities

#	Date	RR	Location	Age	Service (yrs)	Employee's Job	Employee Act	Employee Location	Fatal Event	SOFA Recommendation(s)	Special Switching Hazard
1	04/09/92	ATSF	Cheto, AZ	54	13	road engineer	opening/closing angle cock	near on-track equip-on ground	struck by on-track equipment		Free-Rolling Railcars
2	04/13/93	CSX	Dwale, KY	44	16	road brakemen	walking	on track	struck by on-track equipment		Struck by Mainline Trains
3	04/12/94	SP	Houston, TX	62	37	yard conductor	riding	on side of car	struck against object		Close Clearance
4	04/06/95	WC	Argoe, WI	45	7	road conductor	riding	on end of car	collision between on-track equipment		Unsecured Cars
5	04/02/99	DME	Waseca, MN	54	21	yard brakeman	coupling air hose	between cars/loc	struck by on-track equipment	3	
6	04/09/99	UP	Richland, WA	58	39	road conductor	standing	in/on loc	collision between on-track equipment		Equipment
7	04/21/00	BNSF	Galesburg, IL	60	32	yard conductor	standing	beside track	struck by on-track equipment		Free-Rolling Railcars
8	04/08/01	BNSF	Clark, OK	35	3.75	road conductor	riding	on side of car	collision between on-track equipment		Miscellaneous
9	04/11/03	UP	Pocatello, ID	55	23	road conductor	riding	on end of car	derailments	3	
10	04/06/05	NS	Selma, AL	na	na	(Information is preliminary, and not based on investigation)					Special Switching Hazard
11	04/11/05	UP	Ogden, UT	na	na	(Information is preliminary, and not based on investigation)					Special Switching Hazard
12	04/02/06	LSI	Palmer, MI	na	na	(Information is preliminary, and not based on investigation)					Tripping, Slipping, Falling

No. 1 of 12: April 09, 1992 – ATSF – Cheto, AZ

A three-person crew was called to operate a road local and arrived at a location where an eight-car drop would be necessary. After a job briefing, the engineer was at the throttle, the conductor at the switch and the brakeman was riding the first car of the drop, “A” end. The engineer began to pull, the brakeman lifted the pin, the engineer accelerated the locomotive beyond the switch, the conductor got the switch and the cars began free rolling into the yard. However, the speed of the movement would not allow the brakeman to safely dismount and, just before impact with another cut of cars, the brakeman attempted to dismount from the car he was riding and was killed as the cars rolled over him.

Special Switching Hazard(s):

Possible Contributing Factor:
External Circumstances:

Free-Rolling Railcars

Switching movement, excessive speed
Walkway conditions

Day of Week:	Thursday
Time of Fatal Event:	2:39 PM
Time on Duty (hours: minutes):	4:39
Direction of Movement:	free-running
Crew's Next Move:	couple to train
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	main/storage
Hit by Own Equipment?	yes
Striking Train Within Rules?	no
Speed of Equipment (mph):	10
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 2 of 12: April 13, 1993 – CSX - Dwale, KY

A three-person crew reported for duty and was transported to a location where they took control of a mainline train. En-route, their work included swapping rear end marking devices. The brakeman apparently became confused, stepped into and began walking within the gauge of the main track, and was struck in the back by a passing mainline train.

Special Switching Hazard(s):

Possible Contributing Factor:
External Circumstances:

Struck by Mainline Trains

Employee on or fouling track
Shocked by crossing gate arm

Day of Week:	Tuesday
Time of Fatal Event:	6:40 PM
Time on Duty (hours: minutes):	5:25
Direction of Movement:	pulled
Crew's Next Move:	run around 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):	18
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no

No. 3 of 12: April 12, 1994 – SP – Houston, TX

A three-person switching crew was in the process of switching out the car repair shop. The foreman had taken a position on the trailing end of the third leading car as the move was being shoved into a track having a close clearance condition that involved a protective grate that covered a winch. The foreman was knocked off the car by the covering, fell in front of the leading wheels of the fourth leading car, and was later pronounced dead at the hospital.

Special Switching Hazard(s):	Close Clearance
Possible Contributing Factor:	Close or no clearance
Day of Week:	Tuesday
Time of Fatal Event:	7:45 AM
Time on Duty (hours: minutes):	8:45
Direction of Movement:	pulled
Crew's Next Move:	make cut
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	repair/storage/inside
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. 4 of 12: April 06, 1995 – WC – Argos, WI

A two-person crew was switching at a siding in single-track territory. The conductor left a portion of his train on the mainline and went into the siding with a cut of cars. While in on the siding, the cars left on the mainline and, as post accident investigation revealed, had been left with the air “bottled”, rolled away. The crew chased the runaway cars with the conductor riding the leading end of the lead car and the engineer, 23 cars away, shoving as directed by radio commands from the conductor. The shove move struck the runaway cars and the conductor was crushed to death as a result of the collision.

Special Switching Hazard(s):	Unsecured Cars
Possible Contributing Factor:	Failure to properly secure hand brake on car(s) railroad employee
Possible Contributing Factor:	Improper operation of train line air connections (bottling the air)
Possible Contributing Factor:	Failure to comply with restricted speed (engineer had history of speeding)
Day of Week:	Thursday
Time of Fatal Event:	1:56 AM
Time on Duty (hours: minutes):	7:11
Temperature (Fahrenheit):	18
Direction of Movement:	shoved
Crew's Next Move:	coupling
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):	14
Deceased Regular Job?	yes
Crew Size:	2
Emergency Response Procedures Followed?	yes; 30 min. EMS response time

No. 5 of 12: April 02, 1999 – DME – Waseca, MN

A three-person yard switching crew was switching and the conductor was pulling pins while the brakeman was taking orders from him and working the yard tracks during a flat switching operation. The conductor cut off three cars that rolled into other cars on the track. The brakeman was run over by these cars.

SOFA Operating Recommendation(s):	3
Possible Contributing Factor:	Employee on or fouling track
Day of Week:	Monday
Time of Fatal Event:	1:03 PM
Time on Duty (hours: minutes):	6:38
Temperature (Fahrenheit):	60
Direction of Movement:	free-running
Crew's Next Move:	switch cars
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	yard/flat/classification
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. 6 of 12: April 09, 1999 – UP – Richland, WA

A three-person road switcher was in the process of dropping a car into a track. However, the locomotive was fouling the track the car was to enter. The brakeman, realizing this, jumped from the trailing end of the car and ran to the leading end to try and stop the car. The conductor, who was standing near the fouling corner of the locomotive, started up the stairwell of the locomotive when he realized what was happening. However, the stairwell was obstructed with a metal rod that had been welded into place and prevented the conductor an escape route. He was subsequently crushed between the striking car and the metal rod.

Special Switching Hazard(s):	Equipment
Possible Contributing Factor:	Failure to stop locomotive in clear
Possible Contributing Factor:	Locomotive defect
Possible Contributing Factor:	Failure to communicate unsafe condition
Day of Week:	Friday
Time of Fatal Event:	9:30 PM
Time on Duty (hours: minutes):	3:30
Temperature (Fahrenheit):	45
Direction of Movement:	free-running
Crew's Next Move:	line switch
Death Result of Train Movement?	yes
Other Movements Nearby?	yes
Track Type:	main/lead/industrial
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. 7 of 12: April 21, 2000 – BNSF – Galesburg, IL

A three-person switching crew was in the process of hauling cars over the hump and the foreman of the crew was observing the move from between his track and another track that was being used by another yard job. The foreman was killed when he fouled and then was struck by a free rolling car on the adjacent track.

Special Switching Hazard(s):

Possible Contributing Factor:
External Circumstances:

Free-Rolling Railcars

Employee on or fouling track
Windy

Day of Week:	Friday
Time of Fatal Event:	9:28 AM
Time on Duty (hours: minutes):	1:29
Temperature (Fahrenheit):	43
Direction of Movement:	free-running
Crew's Next Move:	pull track
Death Result of Train Movement?	yes
Other Movements Nearby?	yes
Track Type:	yard/hump/classification
Hit by Own Equipment?	no
Striking Train Within Rules?	yes
Speed of Equipment (mph):	7
Deceased Regular Job?	yes
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 8 of 12: April 08, 2001 – BNSF – Clark, OK

The conductor of a road switcher pulled his train into a yard, got off, made a cut behind three cars and told the engineer to pull ahead to clear a crossover switch he intended to use. After getting the crossover, he mounted the leading end of the move and told the engineer to come back seven cars. Three car lengths later, the movement passed through one end of another crossover switch in reverse position and diverted the movement into the side of a standing cut of cars crushing the conductor to death.

Special Switching Hazard(s):

Possible Contributing Factor:
Possible Contributing Factor:
failure to control

Miscellaneous

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

Day of Week:	Sunday
Time of Fatal Event:	9:18 PM
Time on Duty (hours: minutes):	1:48
Temperature (Fahrenheit):	70
Direction of Movement:	shoved
Crew's Next Move:	couple to standing cars
Death Result of Train Movement?	yes
Other Movements Nearby?	no
Track Type:	yard/flat/industrial
Hit by Own Equipment?	no
Striking Train Within Rules?	no
Speed of Equipment (mph):	1
Deceased Regular Job?	yes
Crew Size:	3
Drugs Present?	no
Drugs a Factor?	no
Emergency Response Procedures Followed?	yes

No. 9 of 12: April 11, 2003 – UP – Pocatello, ID

A road conductor was riding the point of a 122-car shove down a track that was partially out of service. The out of service portion was marked by a red flag and derail. The crew was not able to stop the movement before the car being ridden by the conductor went over the derail, landed on its side and crushed the conductor to death.

SOFA Operating Recommendation(s):	3
Possible Contributing Factor:	Shoving movement, man on or at leading end of movement, failure to control
Possible Contributing Factor:	Emergency brake application to avoid accident
Possible Contributing Factor:	Poor intra-crew communication about work in progress
External Circumstances:	Buffing or slack action excessive, train make-up
Day of Week:	Friday
Time of Fatal Event:	10:43 PM
Time on Duty (hours: minutes):	10:39
Temperature (Fahrenheit):	55
Direction of Movement:	shoved
Crew's Next Move:	spot train
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):	8
Deceased Regular Job?	yes
Crew Size:	2
Drugs Present?	no
Drugs a Factor?	no

No. 10 of 12: April 5, 2005 – NS – Selma, AL

(Information is preliminary, and not based on investigation)

A Norfolk Southern (NS) brakeman, part of a road crew, was assisting in and working with the local yard assignment in putting his train away. During a shove move, the brakeman was struck and killed by the leading end of a cut of cars the local yard assignment was moving.

No. 11 of 12: April 11, 2005 – UP – Ogden, UT

(Information is preliminary, and not based on investigation)

An Union Pacific (UP) switchman was riding on a car that was located at other than the leading end of a shove move and giving radio commands to the RCL operator who was controlling the locomotive being used to shove the cars into a track. Radio communication ceased, the move stopped and the switchman was found dead adjacent to the track being shoved.

No. 12 of 12: April 02, 2006 – LSI – Palmer, MI

(Information is preliminary, and not based on investigation)

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.

Always Perform Switching Operations Safely

12 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	na	(Information is preliminary, and not based on investigation)					Special Switching Hazard
9	05/18/04	NS	Elwood, IN	35	na	(Information is preliminary, and not based on investigation)					Special Switching Hazard
10	05/13/05	DCRR	Detroit, MI	24	na	(Information is preliminary, and not based on investigation)					Special Switching Hazard
11	05/26/08	CSX	Lumberton, NC	45	na	(Information is preliminary, and not based on investigation)					Special Switching Hazard
12	05/29/08	UP	Amarillo, TX	na	na	(Information is preliminary, and not based on investigation)					Special Switching Hazard

No. 1 of 12: 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 than 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 12: 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 12: 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.

SOFA Operating Recommendation(s):	1
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 12: 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 to late that the move would not clear the standing equipment. He was crushed between the handrail of his locomotive and the standing locomotive.

SOFA Operating Recommendation(s):	5
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 12: May 22, 2000 – CSX – Richmond, VA

A three-person road switching crew was in the process of spotting loaded coal cars at a 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):	Close Clearance
Possible Contributing Factor:	Close or no clearance
Possible Contributing Factor:	Poor intra-crew communication about work in progress
Possible Contributing Factor:	Failure to communicate unsafe condition
Possible Contributing Factor:	Shoving movement, man on or at leading end of movement, failure to control
External Circumstances:	Close clearance
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 12: 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):	Other Special Hazards or Events
Possible Contributing Factor:	Switch improperly lined
Possible Contributing Factor:	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 12: 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 fourth and fifth head cars, the switchman went in to align the couplers. The switchman was coupled up when unsecured cars rolled in on him.

SOFA Operating Recommendation(s):	1
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 12: May 13, 2004 – MSO – Sturgis, MI (Information is preliminary, and not based on investigation)

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

No. 9 of 12: May 18, 2004 – NS – Elwood, IN (Information is preliminary, and not based on investigation)

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 12: May 13, 2005 – DCRR – Detroit, MI (Information is preliminary, and not based on investigation)

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.

No. 11 of 12: May 26, 2008 – CSX – Lumberton, NC (Information is preliminary, and not based on investigation)

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.

No. 12 of 12: May 29, 2008 – UP – Amarillo, TX (Information is preliminary, and not based on investigation)

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.

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