

PLEASE POST IMMEDIATELY

Zero Switching Fatalities...implement the Five Advisories

Excerpts from the Five Advisories

Consult the new *SOFA Report*
for complete Advisory

Inexperienced Employees (SOFA 5)

- ‘Inexperienced’ also means employees not having recent familiarity with a location

Close Clearances

- For permanent: Eliminate if possible. Otherwise sign appropriately. For temporary: Watch for equipment or objects fouling track

Industrial Track Hazards

- Occur when a structure, vehicle, temporary obstruction, or other hazards (such as close/no clearances) presents risk on industrial track. Watch for hazards!

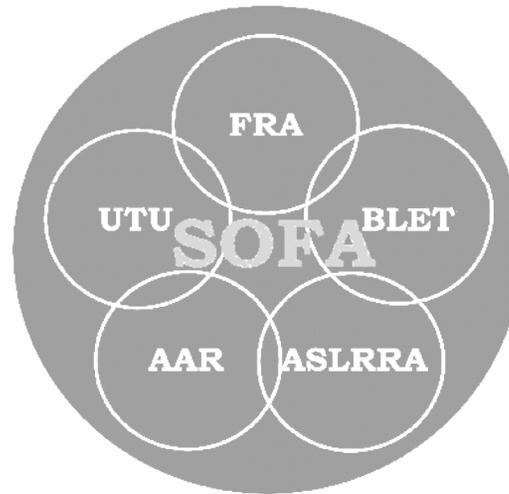
Job Briefings (SOFA 3)

- Are specific to upcoming work, and its interrelated and independent tasks. Particularly important when the nature of work changes. Monitor work for any change

Struck by Mainline Trains

- For roll-by inspections: Conduct a job briefing before exiting the cab. Exit on the field side if possible. Location and timing are critical. Stay in communication. Darkness brings additional risk

(more details, pages 5-11)



New SOFA Report

Publication and posting in March 2011. For electronic version:

<http://www.fra.dot.gov/Pages/1781.shtml>

SOFA Working Group (SWG):

A voluntary, non-regulatory railroad safety partnership comprised of representatives from: AAR, ASLRRA, BLET, FRA, and UTU

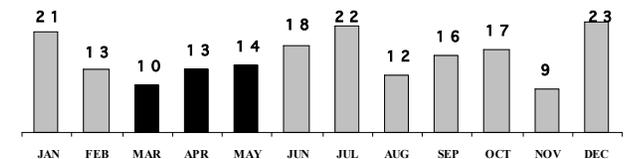
One Switching Fatalities in 2011 through March 15:

Feb 08.....Kankakee, IL
preliminary summary, page 2

There were 8 Fatalities in 2010
preliminary summaries, pages 2-3

Upcoming March, April, and May historically have fewer Fatalities... but there is still risk!

188 Fatalities, 1992 through March 15, 2011



SOFA-defined Severe Injuries 63 in 2010 v. 53 in 2009

Amputations
7 in 2010 v. 6 in 2009
update, pages 12-15

Switching Fatality and Severe Injury Update – 2011 Second Quarter

One Switching Fatality in 2011 through March 15

Preliminary Summary not based on investigation

1) February 08 – NS – Kankakee, IL

A 43-year-old NS conductor with 5 years of experience died when he was crushed between the car he was riding, and another car left out to foul, at approximately 1:30 pm (local time). (Temporary Close Clearance)

Definition

Temporary Close/No Clearance: A movable object, including equipment on or near one track fouling another track, rolling stock on an adjacent track, stacks of cross ties, construction materials, and doors or gates left open, that passes by an employee or an employee passes.

Full Discussion of Temporary Close/No Clearance

Please consult the Close Clearance Advisory contained in the new *SOFA Report*

Review: 8 Switching Fatalities occurred in 2010

Preliminary Summaries not based on investigation

1) April 23 – CSX – Riverdale, IL

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

2) May 31 – NJT – Kearny, NJ

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

3) June 10 – CSX – Doswell, VA

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

2010 Switching Fatality Review: 8 Fatalities occurred in 2010 (cont.)

Preliminary Summaries not based on investigation

4) July 01 – NS – Meridian, MS

A conductor rode the leading end of a set off move into the track where he intended to leave the cars, stopped the move, consulted with a yard job working the other end of the yard and dismounted. He instructed the engineer to begin shoving the cars into the track and, shortly thereafter, the conductor was found deceased near the track he was shoving. (SOFA Recommendations 1-5)

5) July 13 – GRS – Deerfield, MA

A 35-year-old conductor was switching cars into a track during a flat switching operation. After separating a cut, the conductor got between the cars attached to his locomotive and those that he had just cut away from and was crushed between the cars attached to his locomotive and the free rolling cars. (SOFA Recommendations 1-5)

6) September 2 – CR – Bridgeport, NJ

A conductor was switching cars into an industrial track and riding the leading end of a tank car when the tank car he was riding collided with another car that was fouling the switch he was to use. As a result of the collision, he was crushed between the cars and died. (SOFA Recommendations 1-5)

7) September 4 – T ASD – Mobile, AL

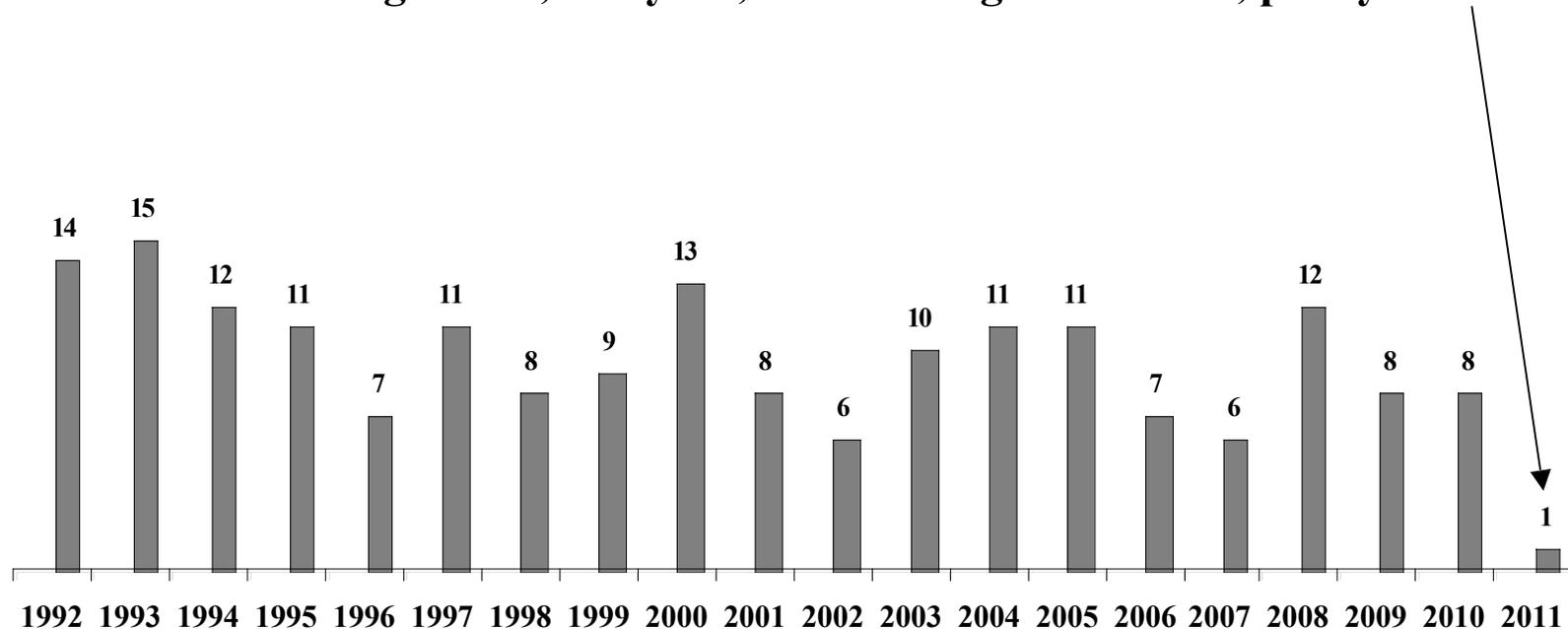
A trainman, hired on April 16 was at/on the leading end of a 94 car shove with the intent of picking up two additional cars at a coal unloading plant. The trainman was killed when he was struck and knocked into the side of the coal dumper near the point where the coupling was to take place. (SOFA 5: Inexperienced Employees; and SSH: Close Clearances)

8) October 11 – T X T X – Orange, TX

A brakeman trainee was found dead adjacent to a track that was being pulled during a conventional switching operation in an industry. (SOFA 5: Inexperienced Employees)

188 Switching Fatalities

1992 through 2010, full-year; 2011 through March 15, part year



The 8 Fatalities in 2010 occurred within 171 days

The timing of Fatality occurrence is unpredictable. And occurrences can cluster in time. As an example, there were no Fatalities in 2010 until April 23 (Riverdale, IL). Then 4 more Fatalities occurred through July 13. As a result, there were five Fatalities in 81 days

The next two Fatalities occurred within 3 days, September 2 (Bridgeport, NJ) and September 4 (Mobile, AL). The eight and final Fatality of 2010 occurred on October 11 (Orange, TX). So, these eight, 2010 Fatalities occurred within 171 days. Notwithstanding, these tragic events are preventable...implementing the Five Advisories can help. And always stay alert because the timing of Fatality risk is unpredictable.

Five Advisories in Need of Implementation

Please consult the new *SOFA Report* for complete Advisory

Release and posting in March 2011: <http://www.fra.dot.gov/Pages/1781.shtml>

The SOFA Working Group (SWG) has recently developed Five Advisories in need of implementation. The need exists because recent Fatalities have resulted. A complete discussion of these Advisories will be contained in the new *SOFA Report*, release in March 2011.

In the five pages following, summary information is provided about each Advisory. SWG urges the industry to become familiar with these Advisories. And to implement! Again, implementation is needed because recently tragic events have resulted. And, of course, SWG is not suggesting that such implementation come at the neglect of other safety efforts.

- **Inexperienced Employees (SOFA Recommendation 5)**
- **Close Clearances**
- **Industrial Track Hazards**
- **Job Briefings (SOFA Recommendation 3)**
- **Struck by Mainline Trains**

(see the next six pages for some details)

Zero Switching Fatalities... implement the Five Advisories

Inexperienced Employees (SOFA Recommendation 5)

Please consult the new *SOFA Report* for complete Advisory

- SOFA essentially classifies as *inexperienced* those Fatality events where the deceased had 1.5 years of craft experience or less.
- But *inexperienced* has a broader meaning in Fatality events. Such as whether employee (s) had sufficient and recent familiarity with a location to perform work safely.
- Inexperience may be a growing concern as hiring waves replace retiring employees. And crew size dwindles.
- Productivity expectations should adjust to employee experience.
- Crew composition should pair an inexperienced employee with experienced employees when possible. Excess risk may exist for crews with one or more inexperienced employees.
- Training should always seek improvement. Sharing of best practices is essential.
- Crafting an effective behavioral rule, practice, or procedure that can be assessed for inexperienced employee compliance is difficult. Thus, in training going beyond a rulebook approach is necessary. Developing metrics to assess training quality presents challenges.
- Principles of Crew Resource Management should be included in new employee training.
- Classroom training should be balanced with on-the-job training (OJT). OJT should nurture, providing positive instruction and feedback on inadequacies. Concerns of inexperienced employees should be considered.
- Mentoring can be challenging. It is not always possible to pair experienced with inexperienced employees, as in smaller operations. Just having experience does not necessarily translate into good mentoring. Criteria for mentors should be established. Mentors should be good listeners, and provide positive and reinforcing feedback on inadequacies. Inexperienced employees have responsibility to learn from mentors.
- Shove moves may be particularly challenging to inexperienced employees.

Close Clearances

Please consult the new *SOFA Report* for complete Advisory

- Close and no clearances involve insufficient space:
 - No Clearance: Insufficient space to avoid being struck if passing or being passed by an object, structure, or equipment.
 - Close Clearance: Insufficient space to take evasive action to avoid being struck by moving equipment that derails into an object, structure, or other equipment.
- Close and no clearances can be permanent or temporary:
 - Permanent Close/No Clearance: A fixed structure that remains in the same location from day to day, such as a building, loading dock, fence, post, beam, or other permanent structure, that an employee passes.
 - Temporary Close/No Clearance: A movable object, including equipment on or near one track fouling another track, rolling stock on an adjacent track, stacks of cross ties, construction materials, and doors or gates left open, that passes by an employee or and employee passes.
- Remedies include:
 - Eliminate when possible. This is the favorable approach.
 - Sign with standardize signage, at an appropriate distance (not too close or far) and on the same side, with instructions on how to act.
 - Improve lighting.
 - Indentify through maps, job briefings, transference of knowledge from experienced to inexperienced employees, inspection before action is taken, reporting with follow up, and reporting of close calls.
 - When operating look for close/no clearances, ride away from these hazards or dismount as appropriate, plan for possibility of a derailment with an escape strategy, and avoid distractions (unnecessary conversation, doing paperwork, or cellphone use).

Industrial Track Hazards

Please consult the new *SOFA Report* for complete Advisory

- Industrial track hazards occur when a structure, vehicle, temporary obstruction, or other hazards (such as close/no clearances) presents risk on industrial track. Industrial plant employers and employees, and truck drivers, can create these hazards. Periodic inspections should be made of industrial conditions. Any hazards should be reported immediately.
- These hazards can include, or result from:
 - **Industrial Track Agreements:** These agreements may not be current, require notification of a change in conditions, and/or may allow conditions to become unsafe due to changes over time. Systematic review of agreements is inconsistent across the railroad industry. Shippers/receivers utilizing the same industrial lead may have different industry track agreements.
 - Remedies include, but are not limited to, removing close/no clearances; ice and snow; and objects and debris fouling track. Performing needs assessment for lighting installation and maintenance. Marking private crossing clearly. Separation of train right-of-ways and motor vehicle roads. Separation of railroad and non-railroad employees. Empowering employees to stop work in the presence of hazards. Safety should take precedence over work completion.
 - **Inconsistent training and updating of plant circumstances:** Training in plant characteristics may be inconsistent. An employee who is unfamiliar with an industrial property may not be aware of the industrial hazards. Job aids such as maps usually do not exist.
 - Remedies include providing job aids (as maps), including hazard identifications and knowledge exchange between experienced and less experienced employees in job briefings, inspecting site before switching, and sharing close-call episodes among employees.
 - **Collision with motor vehicles during shoving:** Fatalities have resulted from employees riding railroad equipment while shoving across an industrial grade crossing.
 - Remedies include advising non-railroad employees on separation of their activities and roadways from those of railroading, and installing and maintaining lighting.

Job Briefings (SOFA Recommendation 3)

Please consult the new *SOFA Report* for complete Advisory

- A job briefing is specific to upcoming work, and its interrelated and independent tasks. A safety briefing is more general, often occurring at the beginning of a shift.
- A job briefing is important in planning before work begins. And in continuing monitoring of work-in-progress for anomalies.
- At a minimum, a job briefing is needed when the nature of work changes. Or there are safety concerns
- Recognize when the nature of work changes. Think about risks that could occur when work is not being done as originally anticipated or planned.
- A job briefing involves all crew members. Everyone should understand the exact nature of work to be performed.
- All crew members should be empowered to stop work and request a job briefing. All crew members regardless of seniority should participate and be heard. Work should not begin again until safety issues are resolved.
- A job briefing cannot be standardized, generalized, or simply rule based. Switching acts can be unique to circumstances and location. A briefing must be adequate, specific to the acts. Fatalities have resulted even after a job briefing because the briefing was not adequate.
- At a minimum, a job briefing should include:
 - Who will act
 - What act is to be done
 - Where act will occur
 - When act will occur
 - Why act is being done

Struck by Mainline Trains

Please consult the new *SOFA Report* for complete Advisory

- Darkness and winter months are associated with this Fatality type. Awareness may be compromised and degraded. Darkness may impair depth perception. Use multiple warning methods (as radio, horn, bell, and headlight), both visual and auditory. A single warning from one device can be misconstrued or forgotten. Reflective clothing, and clothing that does not impair hearing and peripheral vision, are desirable.
- Mainline inspections (as locomotive, roll-by, and hotbox) can involve risks. Employees should exercise discretion about the location and timing. A job briefing should be conducted before any member exits the cab. At a minimum, a this job briefing should include:
 - Determination of a safe location to stop.
 - If inspection can be performed from the safe field side.
 - If not, can dismounting be from the field side.
 - If not, there must be awareness of all approaching movements, consideration of time to dismount, avoidance of fouling track, recognition that warnings may not be adequate, and planning of a worst-case scenario that includes and escape route.
- Communication may not be adequate when work is performed along a mainline. Effective communication must exist among crew, between crews, dispatchers, and yardmasters. Effective communication includes:
 - Utilizing established programs like Crew Resource Management.
 - Not exiting the cab without verbalizing intentions.
 - Contact with, and providing warnings, for crew members outside the cab.
 - Establishing a safe zone outside the cab for communication with the crew, other crews and movements, dispatcher, and yardmaster.

Implementing the Five Advisories

Please consult the new *SOFA Report* for complete Advisory

Only through implementation, can the Five Advisories reduce Fatalities. The SOFA Working Group believes:

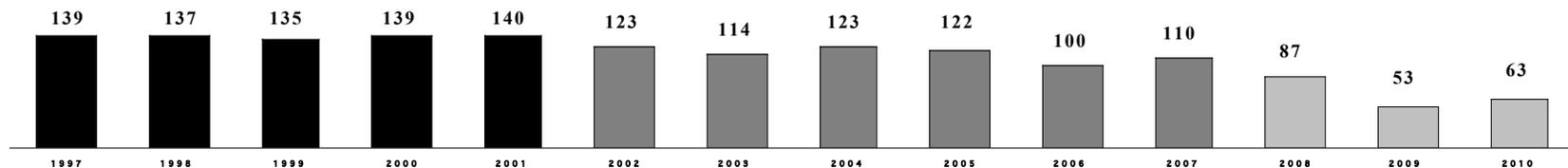
- All should understand the need for implementation. The Advisories can prevent Fatalities because content is based on the causes of Fatalities. Recent Fatalities have disproportionately resulted from issues addressed by these Advisories.
- All industry members should be involved in implementation.
- Empowerment has importance. As quoted from the upcoming new *SOFA Report*: “Safe practices in switching operations are the responsibility of all railroad industry employees. Employees must be able to make decisions on safe actions and be allowed to cease work in the interest of safety. As expressed in many of the railroad’s empowerment statements, when performing safe actions employees should be free from reprisal by discipline, discrimination, or harassment when executing those safe actions. When using discretion to choose safe actions, the employee should use that discretion appropriately. An empowered work environment allows the railroad industry to progress toward attaining the SOFA goal of Zero Fatalities.”
- Implementation should look beyond rule-based approaches. The intent of the Advisories is not to elevate discipline. Training and education are crucial, as are positive -- and not punitive -- relationships within the industry.
- Need exists for monitoring and measuring implementation progress. Importance exists for developing information, metrics, and systems to track implementation programs. Such feedback can improve the implementation process.
- Bottom line: The Advisories hold promise being based on why Fatalities occur. That promise, however, can only be realized through implementation that involves all stakeholders.

SOFA-defined Severe Injuries... All Harm to Employees is of Concern

Increase in 2010: There were 63 SOFA-defined Severe Injuries in 2010 v. 53 in 2009.

Historical trends: In 2002, SOFA-defined Severe Injuries began to decline. By 2009, these Injuries were at a 14-year low. The decline appears to have stages, as indicated by the shading in the display below. For the years, 1997 through 2001 Severe Injuries averaged 138.0 per year. For 2002 through 2007, an average of 115.3 per year occurred. In 2008, there were 87 Injuries. Then in 2009 Injuries declined further to 53, a 14-year low. In 2010, there were 63 Severe Injuries. Declines have not been consistent year-to-year.

SOFA-defined Severe Injuries by year, 1997 through 2010
(1997 is the first year these injuries can be defined based on the interests of the SWG)



Definition: Based on its interests, *Severe Injuries* are defined by the SOFA Working Group as (1) potentially life threatening; (2) having a high likelihood of permanent loss of function, permanent occupational limitation, or other permanent disability; (3) likely to result in significant work restrictions; and (4) resulting from a high-energy impact to the human body. ‘Severe Injuries’ include amputation, dislocation of the neck, loss of eye, electric shock or burn, and fracture to any bone except the lower arm, fingers, foot, and toes. 1997 is the first year these Injuries to train and engine service employees can be determined as defined by the interest of the SOFA Working Group. For more information, see *Severe Injuries to Train and Engine Service Employees: Data Description and Injury Characteristics*. July 2001. <http://www.fra.dot.gov/Pages/1781.shtml>

Importance of SOFA-defined Severe Injuries: From January 1, 1997 through December 31, 2010, there were 1,585 Severe Injuries □ 208 of which were amputations. While in recent years these Injuries have declined, the continuing existence of these Injuries □ some of which are major trauma □ indicates the importance of safety efforts devoted towards complete elimination. As with Fatalities, the SWG maintains zero tolerance of these events.

SOFA-defined Severe Injuries, by month and year, 1997 through 2010

(Note: Among *SOFA Updates*, counts previously presented may change based on revisions to FRA data. The latest month available lags the calendar month of this publication by three months.)

All Harm to Employees is of Concern

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	total	average
JAN	11	13	16	15	21	12	11	11	20	10	14	13	6	6	179	12.8
FEB	17	15	9	9	9	13	17	14	10	6	15	12	4	7	157	11.2
MAR	14	12	17	11	10	10	13	10	9	9	11	5	5	4	140	10.0
APR	8	10	6	10	12	6	9	13	10	7	8	9	5	7	120	8.6
MAY	6	12	8	8	12	14	9	6	6	8	3	7	1	7	107	7.6
JUN	9	10	8	11	8	5	10	9	7	11	5	3	6	4	106	7.6
JUL	9	14	10	8	10	7	6	10	5	12	8	1	4	4	108	7.7
AUG	13	10	11	14	8	10	7	14	10	10	13	5	4	5	134	9.6
SEP	10	11	15	10	20	12	5	4	9	6	10	12	5	3	132	9.4
OCT	12	12	16	10	5	11	9	7	11	5	11	4	2	4	119	8.5
NOV	12	9	12	11	13	14	10	10	13	8	6	8	3	6	135	9.6
DEC	18	9	7	22	12	9	8	15	12	8	6	8	8	6	148	10.6
totals	139	137	135	139	140	123	114	123	122	100	110	87	53	63	1,585	

Amputations (a type of Severe Injury), by month and year, 1997 through 2010

(Note: Among *SOFA Updates*, counts previously presented may change based on revisions to FRA data. The latest month available lags the calendar month of this publication by three months.)

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

All Harm to Employees is of Concern

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	total	average
JAN	1	0	2	1	0	0	2	2	2	0	1	1	1	0	13	0.9
FEB	0	1	0	1	0	2	1	2	0	2	1	0	0	1	11	0.8
MAR	3	4	3	2	1	1	3	1	2	1	0	1	1	0	23	1.6
APR	1	2	0	1	2	0	1	1	2	2	3	3	1	1	20	1.4
MAY	1	2	3	0	2	2	2	0	0	1	1	0	0	1	15	1.1
JUN	2	1	1	0	1	0	0	1	0	0	1	1	0	0	8	0.6
JUL	1	5	1	0	4	0	1	2	1	2	2	0	1	1	21	1.5
AUG	1	0	1	4	0	1	0	2	2	0	3	0	1	1	16	1.1
SEP	2	4	3	2	5	4	0	0	3	1	1	2	0	1	28	2.0
OCT	2	5	2	2	0	0	2	2	0	0	2	0	0	1	18	1.3
NOV	2	2	2	2	3	0	1	1	2	3	1	0	0	0	19	1.4
DEC	4	1	0	4	1	1	2	1	1	0	0	0	1	0	16	1.1
totals	20	27	18	19	19	11	15	15	15	12	16	8	6	7	208	

Switching Fatalities, SOFA-defined Severe Injuries, and Other Railroad Reportable Events, 1992 through 2010

(Source: Switching Fatalities from *SOFA Database*; all other series from FRA, accessed March 4, 2010.

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

Year	SOFA Switching Fatalities	SOFA-defined Severe Injuries	Amputations (counts are included in Severe Injuries)	All Reportable Employee Casualty to T&E Employees (includes Fatalities And Severe Injuries)	All Accidents	Human Factor Accidents	Highway-Rail Crossing Incidents	Trespasser Incidents (not at crossings)
1992	14	*		6,648	2,359	864	4,910	1,049
1993	15	*		5,649	2,611	865	4,892	1,032
1994	12	*		5,026	2,504	911	4,979	981
1995	11	*		4,215	2,459	944	4,633	955
1996	7	*		3,726	2,443	783	4,257	945
1997	11	139	20	3,489	2,397	855	3,865	**1,049
1998	8	137	27	3,642	2,575	971	3,508	**1,049
1999	9	135	18	3,835	2,768	1,031	3,489	924
2000	13	139	19	3,893	2,983	1,147	3,502	877
2001	8	140	19	3,561	3,023	1,035	3,237	915
2002	6	123	11	3,022	2,738	1,478	3,077	935
2003	10	114	15	2,936	3,019	1,230	2,977	896
2004	11	123	15	2,910	3,385	1,353	3,085	**878
2005	11	122	15	2,817	3,266	1,270	3,066	**878
2006	7	100	12	2,483	2,995	1,067	2,941	992
2007	6	110	16	2,518	2,692	1,046	2,776	877
2008	12	87	8	2,216	2,472	905	2,426	890
2009	8	53	6	1,953	1,895	650	1,924	760
2010	8	63	7	1,818	1,830	608	2,004	833

*SOFA-defined Severe Injuries are defined only back to 1997

**Counts happened to be identical for these successive years

SOFA Switching Fatality Review Section

March, April, and May

Cases that occurred in these months for the years 1992 through 2010

This section contains Switching Fatality cases for review

The Switching Fatality narrative summaries and additional case information were taken from the *SOFA Database*, which contains specifics about each case as developed by the SOFA Working Group in its review process of on-duty fatality investigations (These investigations are required by *49 U.S.C. Section 20903*).

Very important in reviewing...stress the Five Advisories

Cases with Inexperienced Employees (SOFA 5), Close Clearance, Industrial Track Hazards, Job Briefings (SOFA 3), and Struck by Mainline Trains involve the Five Advisories. Please emphasize!

Classification of Fatalities

The classification of Switching Fatalities is based on a new system which recognizes that a Fatality event can involve one or more SOFA Recommendations 1-5; as well as one or more Special Switching Hazards (SSHs). As well, some of these Fatalities involve the Five Advisories.

In respect

Intent is that review will prove preventive. In reviewing, please be mindful that these employees lost their lives in railroad service, and that their families will forever bear the burden of this loss.

Where to find more information

The new *SOFA Report* will be released and posted in March 2011. This, and previous SOFA reports, will be (are) available at:

<http://www.fra.dot.gov/Pages/1781.shtml>

Zero Switching Fatalities...implement the Five Advisories

10 March Fatalities, 1992 through 2010

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
Special Switching Hazard:	Derailment
Special Switching Hazard:	Equipment defect
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
Remarks:	Appeared to de-train before impact
Job Description:	Yard Conductor/Foreman
Age:	36
Length of Service (yrs):	16
Time in Occupation (yrs):	--
Hours on Duty Before Incident:	6.25
Time of Fatal Event:	1:15 am
Direction of Movement:	shoved
Track Type:	yard/classification/flat
Deceased Regular Job?	no
Had Deceased Worked There Before?	no
Striking Train Within Rules?	yes
Speed of Equipment (mph):	5
Deceased Regular Job?	no
Had Deceased Worked There Before?	no
Crew Size:	2

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:	Employee Tripping
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Failure to release hand brakes on car(s) railroad employee
External Circumstances:	Snow, ice, mud, gravel, coal etc. on the track
Job Description:	Freight Brakeman/Flagman
Age:	39
Length of Service (yrs):	19
Time in Occupation (yrs):	--
Hours on Duty Before Incident:	1.00
Time of Fatal Event:	12:30 PM
Direction of Movement:	pulled
Crew's Next Move:	couple track
Track Type:	yard/flat/classification
Striking Train Within Rules?	no
Speed of Equipment (mph):	2
Crew Size:	4

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
Job Description:	Brakeman
Age:	46
Length of Service (yrs):	22
Time in Occupation (yrs):	--
Hours on Duty Before Incident:	2.25
Time of Fatal Event:	9:44 AM
Direction of Movement:	shoved
Track Type:	main
Striking Train Within Rules?	yes
Speed of Equipment (mph):	1
Crew Size:	3
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:	Miscellaneous (fouling track)
Possible Contributing Factor:	Employee on or fouling track
External Circumstances:	Employee physical condition, other
Job Description:	Conductor
Age:	55
Length of Service (yrs):	24
Time in Occupation (yrs):	--
Hours on Duty Before Incident:	1.67
Time of Fatal Event:	8:40 AM
Direction of Movement:	shoved
Crew's Next Move:	coupling
Track Type:	industrial/outside/stub/track
Striking Train Within Rules?	yes
Speed of Equipment (mph):	4
Deceased Regular Job?	yes
Crew Size:	3

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
Special Switching Hazard:	Unsecured Cars
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Failure to apply handbrakes on car(s)
External Circumstances:	Crew experience
Job Description:	Conductor
Age:	28
Length of Service (yrs):	0.34
Time in Occupation (yrs):	0.34
Hours on Duty Before Incident:	0.42
Time of Fatal Event:	11:25 PM
Direction of Movement:	free-running
Crew's Next Move:	couple track
Track Type:	classification
Striking Train Within Rules?	yes
Speed of Equipment (mph):	1
Crew Size:	3

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
Special Switching Hazard:	Unsecured Car
Possible Contributing Factor:	Failure to provide adequate space between equipment
Possible Contributing Factor:	Failure to apply handbrakes on car(s) (railroad employee)
Possible Contributing Factor:	Employee on or fouling track
Job Description:	Engine Foreman
Age:	43
Length of Service (yrs):	24
Time in Occupation (yrs):	24
Hours on Duty Before Incident:	5.08
Time of Fatal Event:	4:20 AM
Direction of Movement:	free-running
Crew's Next Move:	pull track
Track Type:	hump/classification
Striking Train Within Rules?	no
Speed of Equipment (mph):	1
Deceased Regular Job?	yes
Crew Size:	3

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
Special Switching Hazard:	Environment
Special Switching Hazard:	Unsecured Cars
Possible Contributing Factor:	Employee on or fouling track
Possible Contributing Factor:	Snow, ice, mud, gravel, coal etc. on the track (3' of snow)
Job Description:	Switchman
Age:	36
Length of Service (yrs):	3.75
Time in Occupation (yrs):	3.75
Hours on Duty Before Incident:	3.75 (Time just happens to be equal to two previous entries)
Time of Fatal Event:	7:15 PM
Direction of Movement:	pulled/free-running
Crew's Next Move:	couple to another track
Track Type:	yard/flat/classification
Speed of Equipment (mph):	7
Deceased Regular Job?	yes
Crew Size:	3

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:	Close Clearance
Special Switching Hazard:	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
Job Description:	Engineer
Age:	45
Length of Service (yrs):	13
Time in Occupation (yrs):	--
Hours on Duty Before Incident:	2.43
Time of Fatal Event:	12:24 PM
Direction of Movement:	pulled
Crew's Next Move:	brake test
Track Type:	main
Striking Train Within Rules?	yes
Speed of Equipment (mph):	110
Deceased Regular Job?	yes
Crew Size:	2

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

A three-person crew switching in the yard was building commuter trains. During a shove movement the brakeman aligned a power operated switch for a shoving movement, gave instructions to the engineer to make the shove, failed to confirm the route of movement, fouled the live track, and was struck by the movement. The engineer observed the movement was going down the wrong track but did not stop the movement until it struck equipment on the track. The engineer looked forward following the impact and saw the brakeman lying between the gauge of the rail.

Special Switching Hazard:

Possible Contributing Factor:

Possible Contributing Factor:

Possible Contributing Factor:

Job Description:

Age:

Length of Service (yrs):

Time in Occupation (yrs):

Hours on Duty Before Incident:

Time of Fatal Event:

Failure to Confirm Route of Movement

Employee on or fouling track

Failure to confirm route of movement (Brakeman pushed button on machine, failed to verify route)

Radio communication, failure to comply (Movement should not have started without proper radio communications)

Yard Brakeman

46

27

28

2.75

12:45 AM

No. 10 of 10: March 05, 2008 – WSOR – Random Lake, WI

A three-person crew (engineer, conductor, and student conductor) arrived at an industrial spot where they were required to spot 2 loads. This industry had not been spotted for about a month and three inches of accumulated snow was covering packed ice on the spur track. The conductor rode the leading end of the first car adjacent to the standing train on the main track and the student conductor rode the opposite side of the same car, controlling the movement by radio. Due to the build-up of packed ice and mud in the flange-way the car derailed into the side of cars left standing on the main track, and the conductor was crushed between the cars.

Special Switching Hazard:

Special Switching Hazard:

Special Switching Hazard:

Special Switching Hazard:

Possible Contributing Factor:

Derailment

Environment

Close Clearance

Industrial Hazard

Snow, ice, mud, gravel, coal, etc. on track (One month since last spot at this industry. Ice and snow build up.)

Job Description:

Age:

Length of Service (yrs):

Time in Occupation (yrs):

Hours on Duty Before Incident:

Time of Fatal Event:

Freight Conductor

55

0.5

10

5.25

9:15 PM

13 April Fatalities, 1992 through 2010

No. 1 of 13: 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:

Possible Contributing Factor:

Possible Contributing Factor:

External Circumstances:

Job Description:

Age:

Length of Service (yrs):

Time in Occupation (yrs):

Hours on Duty Before Incident:

Time of Fatal Event:

Direction of Movement:

Crew's Next Move:

Track Type:

Striking Train Within Rules?

Speed of Equipment (mph):

Crew Size:

Free-Rolling Railcars

Switching movement, excessive speed

Other general switching rules (Unsafe move with number of crew members)

Other roadbed defects (Walkway conditions)

Freight Brakeman

54

13

--

4.65

2:39 PM

free-running

couple to train

main/storage

no

10

3

No. 2 of 13: 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:

Possible Contributing Factor:

Possible Contributing Factor:

External Circumstances:

Job Description:

Age:

Length of Service (yrs):

Time in Occupation (yrs):

Hours on Duty Before Incident:

Time of Fatal Event:

Direction of Movement:

Crew's Next Move:

Death Result of Train Movement?

Other Movements Nearby?

Track Type:

Hit by Own Equipment?

Striking Train Within Rules?

Speed of Equipment (mph):

Crew Size:

Struck by Mainline Trains

Employee on or fouling track

Malfunction, improper operation of train activated...

Shocked by crossing gate arm

Freight Brakeman/Flagman

44

16

--

5.42

6:40 PM

pulled

run around train

yes

yes

main

no

yes

18

3

No. 3 of 13: 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:	Close Clearance
Possible Contributing Factor:	Close or no clearance
Remarks:	7.5" clearance
Job Description:	Yard Conductor/Foreman
Age:	62
Length of Service (yrs):	37
Time in Occupation (yrs):	22
Hours on Duty Before Incident:	8.75
Time of Fatal Event:	7:45 AM
Direction of Movement:	pulled
Crew's Next Move:	make cut
Death Result of Train Movement?	yes
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

No. 4 of 13: April 06, 1995 – WC – Argoe, 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:	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)
Possible Contributing Factor:	Failure to apply sufficient number of hand brakes on car(s)
Job Description:	Conductor
Age:	45
Length of Service (yrs):	7
Time in Occupation (yrs):	15
Hours on Duty Before Incident:	7.18
Time of Fatal Event:	1:56 AM
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 13: 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
Remarks:	Unable to establish employee activity at time of FE from reported information
Job Description:	Brakeman
Age:	54
Length of Service (yrs):	21
Time in Occupation (yrs):	21
Hours on Duty Before Incident:	6.63
Time of Fatal Event:	1:03 PM
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

No. 6 of 13: 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:	Equipment
Possible Contributing Factor:	Failure to stop train in clear
Possible Contributing Factor:	Locomotive defect
Possible Contributing Factor:	Failure to communicate unsafe condition
Job Description:	Conductor
Age:	58
Length of Service (yrs):	39
Time in Occupation (yrs):	39
Hours on Duty Before Incident:	3.5
Time of Fatal Event:	9:30 PM
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

No. 7 of 13: 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:

Possible Contributing Factor:
External Circumstances:

Free-Rolling Railcars

Employee on or fouling track
Windy

Job Description:

Engine Foreman

Age:

60

Length of Service (yrs):

32

Time in Occupation (yrs):

--

Hours on Duty Before Incident:

1.48

Time of Fatal Event:

9:28 AM

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

No. 8 of 13: 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:

Possible Contributing Factor:
Possible Contributing Factor:
failure to control

Miscellaneous

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

Job Description:

Conductor

Age:

35

Length of Service (yrs):

3.75

Time in Occupation (yrs):

3.75

Hours on Duty Before Incident:

1.8

Time of Fatal Event:

9:18 PM

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

No. 9 of 13: 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
Special Switching Hazard:	Derailment
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
Job Description:	Conductor
Age:	55
Length of Service (yrs):	23
Time in Occupation (yrs):	10
Hours on Duty Before Incident:	10.65
Time of Fatal Event:	10:43 PM
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

No. 10 of 13: April 6, 2005 – NS – Selma, AL

A road train after contacting the yard switcher, obtained permission to enter the yard to set out 24 cars. When the road train cleared the yard, the switcher train resumed switching activities in the yard, and following a shove movement toward a yard track, the conductor on the yard switcher saw the body of road train's brakeman between the rails in front of the yard switcher locomotive.

Special Switching Hazard:	Miscellaneous
Possible Contributing Factor:	Employee on or fouling track (FE found perpendicular to the track)
External Circumstances:	Employee physical condition, other (State ME report comments that employee may have died of a heart disease)
Job Description:	Brakeman
Age:	48
Length of Service (yrs):	26
Time in Occupation (yrs):	26
Hours on Duty Before Incident:	11.50.65
Time of Fatal Event:	5:06 AM

No. 11 of 13: April 11, 2005 – UP – Ogden, UT

A remote control assignment was switching on the east end of the yard. While making a shove movement into a yard track with a helper riding on the leading end of a tank car, the movement struck 28 standing cars in the track causing the helper to fall from the tank car, which then ran over the helper.

SOFA Operating Recommendation(s):	3, 5
Possible Contributing Factor:	Shoving movement, absence of man on or at leading end (Fatally injured employee was 19 cars from locomotive and 25 cars from end of equipment)
Possible Contributing Factor:	Lack of skill or practical wisdom gained by personal...
Possible Contributing Factor:	Poor intra-crew communication about work in progress (Foreman and helper failed to job brief with the second helper after pulling cars back out of track)
Possible Contributing Factor:	Failure to stretch cars before shoving (Crew only stretched the cars 41 feet and did not stretch the cars enough to see rear car)
Job Description:	Switchman
Age:	38
Length of Service (yrs):	0.7
Time in Occupation (yrs):	0.7
Hours on Duty Before Incident:	4.7
Time of Fatal Event:	3:40 AM

No. 12 of 13: April 02, 2006 – LSI – Palmer, MI

A road switcher was shoving 60 cars toward cars previously moved. The conductor, riding the cars, gave the locomotive engineer shoving distances via radio. Following the last transmission, the locomotive engineer felt the distance was incorrect, but continued the shove while attempting to communicate with the conductor. Failing to contact the conductor, the engineer stopped the movement and walked along the cars until he found the conductor's body wedged between the wheels of a car. The conductor was fatally injured.

Special Switching Hazard:	Employee Tripping, Slipping, or Falling
Possible Contributing Factor:	Slack action
Possible Contributing Factor:	Employee falling from moving equipment
Remarks:	A combination of normal slack action and possibility that FE did not maintain three points of contact. There was no testing on new rule on riding location. However, not sufficient to nominate PCF for local supervision.
Job Description:	Freight Conductor
Age:	51
Length of Service (yrs):	11
Time in Occupation (yrs):	1.7
Hours on Duty Before Incident:	7.5
Time of Fatal Event:	6:30 AM

No. 13 of 13: April 23, 2010 – CSX – Riverdale, IL
(Information is preliminary, and not based on investigation)

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

14 May Fatalities, 1992 through 2010

No. 1 of 14: 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:

Possible Contributing Factor:
Possible Contributing Factor:

Remarks:

Job Description:

Age:
Length of Service (yrs):
Time in Occupation (yrs):
Hours on Duty Before Incident:

Time of Fatal Event:

Crew's Next Move:
Death Result of Train Movement?
Track Type:
Hit by Own Equipment?
Speed of Equipment (mph):
Crew Size:

Miscellaneous

Highway user inattentiveness
Interference (other than vandalism) with railroad operations by non-railroad employee
Excessive speed on part of truck driver

Yard Conductor/Foreman

46
27
--
--

10:30 AM
spot cars
no
spot(load/unload)/outside/stub track
no
0
3

No. 2 of 14: 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):

Possible Contributing Factor:
Possible Contributing Factor:
External Circumstances:
Remarks:

Job Description:

Age:
Length of Service (yrs):
Time in Occupation (yrs):
Hours on Duty Before Incident:

Time of Fatal Event:

Direction of Movement:
Crew's Next Move:
Death Result of Train Movement?
Other Movements Nearby?
Track Type:
Hit by Own Equipment?
Speed of Equipment (mph):
Crew Size:

2
Employee on or fouling track
Shoving movement, absence of man on or at leading end
Two radio channels used
Bleeder lined movement/informed FE of movement

Conductor

52
32
--
3.00
5:55 PM
shoved
switch car
yes
yes
yard/lead/classification
no
5
3

No. 3 of 14: 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
Special Switching Hazard:	Unsecured Cars
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
Remarks:	Incomplete (20 minute delay?) information on ER
Job Description:	Yard Conductor/Foreman
Age:	57
Length of Service (yrs):	36
Time in Occupation (yrs):	6
Hours on Duty Before Incident:	1.05
Time of Fatal Event:	7:33 AM
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

No. 4 of 14: May 19, 1999 – NS – Cincinnati, OH

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

SOFA Operating Recommendation(s):	5
Possible Contributing Factor:	Cars left afoul.
Possible Contributing Factor:	Shoving movement, man on or at leading end of movement, failure to control
Possible Contributing Factor:	Insufficient training
External Circumstances:	Lack of defined foul point
Remarks:	Crew resource management concerns with other crew, KC21 Failure to change ends of control unit(s) or wye power
Job Description:	Conductor
Age:	36
Length of Service (yrs):	1
Time in Occupation (yrs):	1
Hours on Duty Before Incident:	1.83
Time of Fatal Event:	5:30 PM
Time on Duty (hours: minutes):	1:50
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

No. 5 of 14: May 22, 2000 – CSX – Richmond, VA

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

Special Switching Hazard:	Close Clearance
Special Switching Hazard:	Industrial Hazard
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
Remarks:	Unfamiliar with location
Job Description:	Brakeman
Age:	38
Length of Service (yrs):	2
Time in Occupation (yrs):	2
Hours on Duty Before Incident:	10.5
Time of Fatal Event:	11:30 AM
Direction of Movement:	shoved
Crew's Next Move:	spot cars
Death Result of Train Movement?	yes
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 14: 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:	Miscellaneous
Possible Contributing Factor:	Switch improperly lined
Possible Contributing Factor:	Shoving movement, man on or at leading end of movement, failure to control
Remarks:	Hand signs should have been used instead of radio
Job Description:	Engine Foreman
Age:	47
Length of Service (yrs):	2
Time in Occupation (yrs):	2
Hours on Duty Before Incident:	3.27
Time of Fatal Event:	3:15 AM
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

No. 7 of 14: 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
Special Switching Hazard:	Unsecured Cars
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
Job Description:	Switchman
Age:	53
Length of Service (yrs):	2.5
Time in Occupation (yrs):	2.5
Hours on Duty Before Incident:	1.67
Time of Fatal Event:	8:40 AM
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

No. 8 of 14: May 13, 2004 – MSO – Sturgis, MI

A two person road switching crew was making a shoving movement with the trainmen crossing over on the brake platform of the lead end of the lead car. The conductor fell from the car and was run over by own equipment. The conductor tested positive for THC.

Special Switching Hazard:	Drugs and Alcohol
Special Switching Hazard:	Employee Tripping, Slipping, or Falling
Possible Contributing Factor:	Local supervision issues (Management failed to conduct efficiency testing and monitor crew performance)
Possible Contributing Factor:	Impairment of efficiency or judgment because of drugs or alcohol (Toxicology revealed presence of THC)
External Circumstances:	Snow, ice, mud, gravel, coal, etc. on track (Ground conditions muddy)
Job Description:	Conductor
Age:	38
Length of Service (yrs):	2
Time in Occupation (yrs):	2
Hours on Duty Before Incident:	6.9
Time of Fatal Event:	2:56 PM

No. 9 of 14: May 18, 2004 – NS – Elwood, IN

Three-person crew was spotting cars at industry, when a highway-user (semi-tractor) backed out of an unloading location. After completing the backing movement the highway-user pulled forward into side of train movement, striking and killing brakeman who was riding the side of equipment.

Special Switching Hazard:	Struck or Struck Motor Vehicle
Special Switching Hazard:	Industrial Hazard
Possible Contributing Factor:	Highway user inattentiveness
Job Description:	Freight Brakeman
Age:	35
Length of Service (yrs):	6
Time in Occupation (yrs):	6
Hours on Duty Before Incident:	11.8
Time of Fatal Event:	5:50 AM

No. 10 of 14: May 13, 2005 – DC – Detroit, MI

A 24-year-old conductor with 3 months experience died of injuries he sustained when the car he was riding on derailed and he was crushed between the car and a steel I-beam.

SOFA Operating Recommendation(s):	5
Special Switching Hazard:	Derailment
Special Switching Hazard:	Close Clearance
Special Switching Hazard:	Industrial Hazard
Possible Contributing Factor:	Poor inter-crew communication
Possible Contributing Factor:	Lack of skill or practical wisdom...
Possible Contributing Factor:	Other miscellaneous causes (Car mover 'dog' malfunction causing derailment; multiple incidents of malfunctioning hydraulic 'dog')
Possible Contributing Factor:	Close or no clearance (Unknown if close clearance sign was required by regulation and if proper sign)
External Circumstances:	Other miscellaneous causes (Debris in industrial walking path industry housekeeping]
Job Description:	Yard Conductor
Age:	24
Length of Service (yrs):	0.2
Time in Occupation (yrs):	0.2
Hours on Duty Before Incident:	7.5
Time of Fatal Event:	3:05 PM

No. 11 of 14: May 26, 2008 – CSX – Lumberton, NC

A three person train crew operated a freight train consisting of three locomotives and 97 loaded coal hoppers. The conductor had one year of experience – interrupted by a four month furlough – and a student engineer were a part of the train crew. The train crew began shoving to spot the coal hoppers into a generating plant. The conductor had not work in this plant previously but was told plant employees would help if needed. The conductor rode the shove movement giving car counts via radio. The last radio transmission from the conductor to the student engineer, who was operating the train, was “give me all you’ve got, then “stop.” The lead two cars had plowed through a large pile of coal knocking the conductor from the car, crushing the conductor.

SOFA Operating Recommendation(s):	5
Special Switching Hazard:	Close Clearance
Special Switching Hazard:	Industrial Hazard
Possible Contributing Factor:	Object or equipment on or fouling track (Coal pile at shaker shed over the rail)
Possible Contributing Factor:	Close or no clearance
Possible Contributing Factor:	Local supervision issues (Should have a pilot for the first time)
External Circumstances:	Lack of skill or practical wisdom. Insufficient training
Job Description:	Freight Conductor
Age:	46
Length of Service (yrs):	1.1
Time in Occupation (yrs):	0.75
Hours on Duty Before Incident:	7.5
Time of Fatal Event:	12:08 PM

No. 12 of 14: May 29, 2008 – UP – Amarillo, TX

A four person switching crew free-rolled four loaded ingot cars toward track three with the conductor, who was to operate the handbrake, riding the leading end of the lead car. When the cars did not stop where they should the crew took the locomotive down track three to find the conductor. The vertical handbrake support bracket had broken off at the deck of the car and caused the conductor to fall and be run over by the cars. The support bracket, which should have been bolted to the car, had been welded and the weld failed.

Special Switching Hazard:	Equipment
Special Switching Hazard:	Free-rolling Railcars
Special Switching Hazard:	Employee Tripping, Slipping, or Falling
Possible Contributing Factor:	Other brake defects, cars (The hand brake upright support was not mechanically attached (bolted) it was welded to...
Possible Contributing Factor:	Human factors – motive power and equipment (The car was in the shop twice with the same problem reported)
Possible Contributing Factor:	Employee falling from moving equipment (FE was riding on leading end of car during move not the trailing end)
Job Description:	Yard Conductor
Age:	35
Length of Service (yrs):	10
Time in Occupation (yrs):	10
Hours on Duty Before Incident:	2.77
Time of Fatal Event:	9:45 AM

No. 13 of 14: May 10, 2009 – CSX – Selkirk, NY

A lone remote control operator was working in a yard track coupling cars together to pull to place on a departure track. All cars had not coupled properly when switched into the track, and one car had the knuckle missing on the end of the car. The operator replaced the knuckle, then began movement to couple the track. Shortly after beginning the move to couple, the operator made a radio transmission for help when crushed between equipment because drawbars by-passed.

SOFA Operating Recommendation(s):

Special Switching Hazard:

Possible Contributing Factor:

Possible Contributing Factor:

External Circumstances:

1

Equipment

Employee on or fouling

Passed couplers

Instruction to train/yard crew improper (CSX safety rules regarding knuckle replacement conflict with OCU usage). Knuckle broken or defective (RCO was not provided with a complete knuckle replacement kit). Poor crew utilization (Known mechanical condition should have triggered a need to assist the lone RCO). Local supervision issues (Known mechanical condition should have triggered a need to assist the lone RCO)

Job Description:

Age:

Length of Service (yrs):

Time in Occupation (yrs):

Hours on Duty Before Incident:

Time of Fatal Event:

Yard Conductor

33

8

8

4.1

6:38 AM

No. 14 of 14: May 31, 2010 – NJT – Kearny, NJ

(Information is preliminary, and not based on investigation)

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