PLEASE POST IMMEDIATELY

The Five SOFA Safety Advisories: We implement best when we implement together

Advisories have Remedies

…here are a few

Safety Advisory 1: 1.5 years or less of experience, or had inadequate training

***One Remedy*: adequate on-the-job training**

Safety Advisory 2: Close/no clearance

***One Remedy*: remove hazards if possible**

Safety Advisory 3: Industrial hazards

***One Remedy*: report unsafe conditions**

Safety Advisory 4: Lack of, or inadequate, job briefing

***One Remedy*: job brief when a task changes**

Safety Advisory 5: Struck by mainline train

***One Remedy*: job brief before dismounting**

***2011 SOFA Report*, electronically available at:** http://www.fra.dot.gov/Pages/1781.shtml. **Chapter 3 is must reading! Implement by working together**

Prevent future Fatalities by learning reasons and remedies
pages 17-27

SOFA Working Group (SWG) is a voluntary, non-regulatory, railroad-safety partnership comprised of representatives from: AAR, ASLRRA, BLET, FRA, and UTU

SWG seeks to prevent switching Fatalities through education based on facts about causes. SWG is not part of a rulemaking or regulatory process

Three Switching Fatalities in 2011 through September 05. By comparison, there were seven Fatalities in this period in 2010

Feb 08…….Kankakee, IL
Jul 25…..…..Bedford Park, IL
Aug 15……...Kansas City, KS
preliminary summaries, page 2

Learn about reasons and remedies

SOFA-defined Severe Injury Update

pages 13-16

- **37 Severe Injuries in first six months of 2011 compared to 35 in 2010**
- **8 Amputations in first six months of 2011 compared to 2 in 2010**

ALL HARM HAS CONCERN

Switching Fatality and Severe Injury Update – 2011 Third Quarter

Three Switching Fatality in 2011 through September 05

Preliminary summaries not based on investigation

1) February 08 – NS – Kankakee, IL

A NS conductor (age 43) 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).

Comment based on preliminary information:

'…car left out to foul…' is classified by SOFA as a *Temporary Close/No Clearance* and is addressed by **Advisory 2**. *Temporary Close/No Clearance* is defined by SOFA as: "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." For a full discussion of **Advisory 2** consult the *2011 SOFA Report*, pages 27-33.

2) July 25 – BRC – Bedford Park, IL

Conductor (age 33) was struck and killed during a remote control operation he was controlling while he was making couplings between blocks of cars on a bowl yard track. The conductor was controlling the moves using a remote control locomotive and his brakeman was on the locomotive protecting the point.

Comment based on preliminary information:

Event involved **SOFA Lifesaver/Recommendation 1**, described on the next page.

3) August 15 – BNSF – Kansas City, KS

Switchman (17 years experience) was struck and killed during a remote control operation while he was making couplings between blocks of cars on a bowl yard track. The conductor was controlling the moves using a remote control locomotive and his brakeman along with a trainee were on the locomotive protecting the point.

Comment based on preliminary information:

Event similar to Bedford Park, IL, and involved **SOFA Lifesaver/Recommendation 1**, described on the next page.

SOFA Lifesaver/Recommendation 1

Based on preliminary information, two of the three Fatalities in 2011 involved Lifesaver/Recommendation 1: Bedford Park, IL, on July 25; and Kansas City, KS, on August 15. SOFA reports contain a full discussion of Lifesaver/Recommendation 1.

Review Lifesaver/Recommendation 1 in training, and in safety and job briefings.

Recommendation 1

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

Lifesaver 1

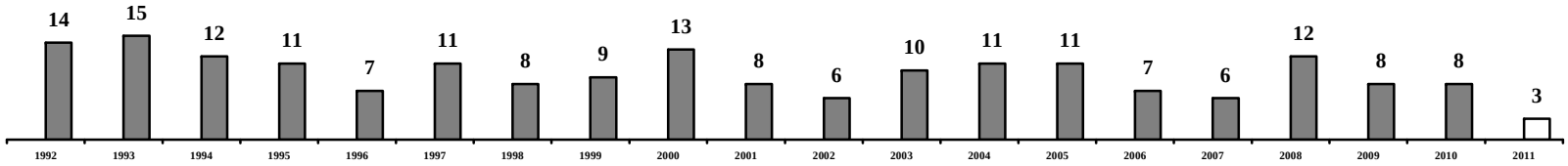
Secure equipment before action is taken.

Discussion 1

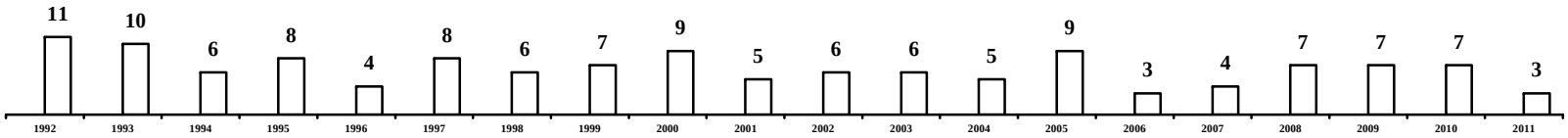
This recommendation emphasizes the importance of securing the equipment. A thorough understanding by all crew members that the area between cars is a hazardous location, whether equipment is moving or standing, is imperative.

Switching Fatality History

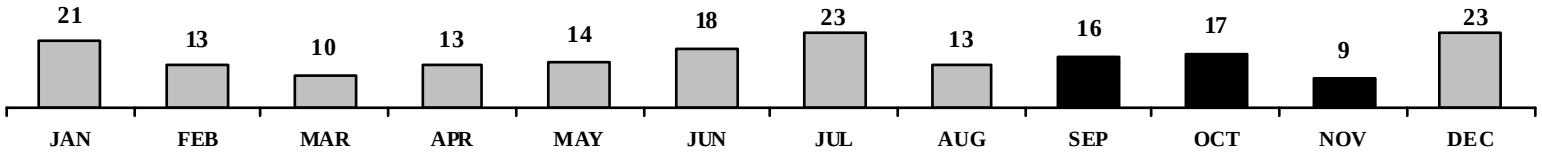
190 Switching Fatalities
1992 through 2010, full-year; 2011 through September 05



Fatality counts part year (January 01 through September 05), 1992 through 2011



190 Switching Fatalities, by month, January 01, 1992 through September 05, 2011
Historically, September and October have high levels of Fatalities…but November also has risk



Support SOFA Sustainable Safety

Go Green over Green for Switching Safety

- **Sustains lives of employees from first hiring on to retirement**
- **Protects families from premature loss of loved ones**
- **Is work-environment friendly when implemented in a non-punitive, working-together approach**
- **Conserves non-renewable industry resources – the lives of productive employees**
- **Uses 100% factual ingredients about fatality causes in making Advisories and Recommendations**
- **Is inspired by the lodge tradition – fraternity for the betterment of employees and the industry**
- **Has low-tech remedies – many are behavioral for the responsibilities of all stakeholders**
- **Other remedies, including close/no clearance removal and proper signage, are not resource intensive**
- **Does not discriminate about the responsibilities of all stakeholders**

SOFA Briefing Overview

A PowerPoint briefing for employees and managers at the ballast level can be found on the FRA's SOFA site. It contains information about the Five Safety Advisories, remedies, and implementation strategies. Download the complete briefing at http://www.fra.dot.gov/downloads/safety/071211SOFAPPPMidRev4.pdf.

The following information is an overview:

- **SOFA is a voluntary, non-regulatory, educational effort to achieve Zero Fatalities. It does not make rules or advocates evaluated discipline**

- **SOFA recently issued Five Advisories because recent Fatalities have disproportionately resulted from causes the Advisories address. And these causes were not addressed, or fully addressed, by Lifesaver/Recommendations, Special Switching Hazards, or other SOFA safety information**

- **A SOFA remedy to an Advisory-related Fatality should not be interpreted as a mandate for changing or writing new rules, or elevated discipline**

- **And a remedy is not exhaustive of all safety approaches useful in reducing specific types of Fatalities. Individual railroads may face specific conditions in need of remediation**

- **SOFA urges immediate change to any procedure or action causing undue risk to employees. (Historically, a switching Fatality occurs every six and one-half weeks.) Timely implementation saves lives**

- **The *2011* SOFA *Report* contains background and reasons for the Five Safety Advisories. Chapter 3 is must reading!**

• SOFA Briefing Overview (continued)

- **<u>Advisory 1 (inexperience)</u>: If experienced, share your knowledge. If inexperienced, or not familiar with a site, speak up and ask. Admitting lack of knowledge makes you smart and protects you and crewmembers. On-the-job training for inexperienced employees, along with other ways to gain knowledge before harm results, are critical**

- **<u>Advisory 2 (close/no clearance)</u>: For permanent, the best remedy is removal. Otherwise provide appropriate signage. Report close/no clearances through established procedures. Use a job briefing to discuss close/no clearances, both permanent and temporary. When switching, be aware of the situation and surroundings**

- **<u>Advisory 3 (industrial hazards)</u>: Report through established procedures. If conditions at an industry change, make others aware. Brief employees who have never, or recently, switched the site. Employees should stop work when hazards present danger. Safety, not task completion, comes first. Safe separations should exist between railroad operations and trucks, loading/unloading devices, and non-railroad employees. Instruction about separation should be given to non-railroad employees**

- **<u>Advisory 4 (job briefing)</u>: Job brief any time the nature of work changes from what was planned or anticipated. Constant monitoring of work in progress, and constant communication among all crewmembers, are two good ways to determine if a job briefing is needed. When briefing, two-way communication is essential. All crewmembers should feel free to speak and be understood. There is no 'one size fits all' for the content of a briefing. Because a job briefing to be effective must address specific tasks and local conditions. However, 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, and why act is being done**

- **<u>Advisory 5 (struck by mainline train)</u>: Multiple warning methods should be used to alert employees (radio, horn, bell, headlight, etc.). Be aware that night and winter months present greater risks. When performing a roll-by inspection, determine a safe location to stop. Hold a job briefing before dismounting. Plan for an escape strategy if work does not go as planned. Dismount on the field side whenever possible**

SOFA Advisory Test
10 Questions about the Five Safety Advisories

Answers become obvious after reading the *2011 SOFA Report*, especially Chapter 3, *Vol. 1*, available at http://www.fra.dot.gov/Pages/1781.shtml

For the Zero Fatality Goal to be achieved, all answers must be correct

General Advisory Questions

1) **Why did SOFA issue the Five Safety Advisories?**

   a) **the industry requested SOFA do so**

   b) **nearly 13 years had elapsed since SOFA issued the Five Safety Lifesaver/Recommendations**

   c) **to address potential Fatality causes that could develop during switching operations, but often do not**

   d) **since 2004, a disproportional number of Fatalities have resulted from causes addressed by the Advisories. For Zero Fatalities to be achieved, these Advisories must be implemented**

2) **Who is responsible for implementing the Advisories?**

   a) **employees and their unions**

   b) **FRA**

   c) **railroad companies**

   d) **all industry stakeholders working together: employees and their unions, FRA, and railroad companies**

SOFA Advisory Test (continued)

3) Which approach is SOFA <u>not</u> advocating in implementing the Advisories?

a) working together

b) education

c) non-rule based and non-punitive

d) rule based with elevated discipline

4) What role does 'the culture of decisions about safe actions' play in implementing the Five Advisories?

a) limited

b) depends on employee and manager discretion

c) an option to consider, but other options probably should be used

d) "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." -- Quoted from the *2011 SOFA Report*, page 72, section 7.2.

5) With Advisories, what is the status of the Five SOFA Lifesaver/Recommendations?

a) obsolete

b) limited to a few specialized situations that now rarely occur in switching

c) relevant, something to be mindful of; but should not be stressed in training, safety and job briefings, and/or actual switching

d) should be stressed in training and actual switching as should Special Switching Hazards…as well as local safety conditions

SOFA Advisory Test (continued)

Advisory 1 (inexperienced employees) question

6) Which is the best strategy for dealing with inexperience?

a) pair experienced with inexperienced crewmembers whenever possible so inexperienced members can continue to receive training from positive, nurturing feedback such as how to perform shove moves which are particularly challenging to inexperienced employees

b) recognize that 'inexperience' may not just mean 1.5 years of experience or less, but lack of recent familiarity with a location

c) adjust productivity requirements for inexperienced employees and address any concerns of inexperienced employees in a positive, nurturing manner

d) all the above are good strategies that go beyond just a rulebook approach to eliminating risk associated with inexperience

Advisory 2 (close/no clearance) question

7) With the exception of elimination and appropriate signage, which is the best approach for avoiding risk from close/no clearances?

a) identify through maps, job briefings, transference of knowledge from experience to inexperienced employees, inspection before action is taken, or other methods to indentify risk before riding

b) ride on the side away from a close/no clearance or dismount as appropriate, plan an escape route in case of a derailment worst-case scenario, and avoid distractions such as unnecessary conversations and looking at paperwork

c) report any conditions affecting a safe walk-or-ride decision such as pathway debris, ice and snow, etc.

d) all the above and including recognizing that 'close/no clearance' hazards can be both permanent and temporary (i.e., can appear when least expected in the changing environment that is switching like cars or waste material left afoul)

SOFA Advisory Test (continued)

Advisory 3 (industrial hazards) question

8) What is the best way to avoid industrial hazards?

a) employees should have access to tools and/or assistance (maps, site plans, shared knowledge, etc.) to allow them to perform work safety while within an industry

b) have employees stop work when an unsafe condition is present, and not subjecting employees who make a good faith effort to identify and report hazards to discipline, discrimination, or harassment

c) not riding equipment through a grade crossing during a shove move, and educating vehicle operators on industrial sites about separation from railroad operations

d) all are good ways as are being familiar with the site before switching and reporting any unsafe industrial conditions

Advisory 4 (job briefing) question

9) Which best describes a job briefing?

a) is different from a safety briefing. A safety briefing is often more general and frequently occurs when a shift begins. A job briefing is specific to an upcoming task, or when the nature of a task changes, or an employee is not sure about work in progress. All employees should have their concerns addressed

b) at a minimum a job briefing should address: who will act, what act is to be done, where act will occur, when act will occur, and why act is being done. But unique circumstances of an upcoming task must also be discussed and planned

c) a crewmember should be empowered when appropriate to stop work and request a job briefing. Everyone should understand the work to be performed. And the concerns of all should be considered

d) all the above are aspects of a successful job briefing. While there are 'guidelines' for successful job briefings, a job briefing cannot be standardized, generalized, or be simply rule-based. Localized considerations and circumstances must be discussed in context with the task to be perform

SOFA Advisory Test (continued)

Advisory 5 (struck by mainline trains) question

10) Which is a consideration for working safely around mainline trains?

a) having a safety briefing before exiting the cab, dismounting on the safe side, and staying in communication once doing so

b) appropriate employee discretion in safely working around mainline trains…and industry support for doing so when done in a good faith manner

c) darkness, other visibility factors, and winter months

d) all the above are considerations for safely working in mainline track environments…and there other factors such as making employees aware of approaching movements with various warning methods (radio, horn, bell, headlight, etc.)

Answers become obvious after reading the *2011 SOFA* Report, especially Chapter 3, *Vol. 1*, available at http://www.fra.dot.gov/Pages/1781.shtml

Two bonus questions

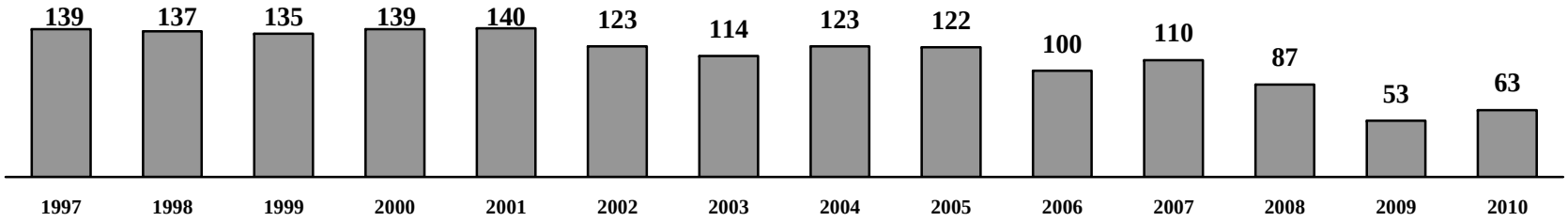
1) What can you and your organization – be it employee, management, or government – do to improve safety in switching operations?

2) Fill in the blanks: We implement best when _____ implement _____.

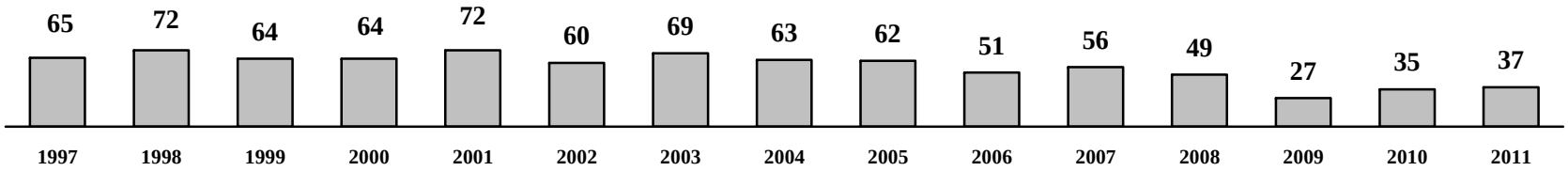
SOFA-defined Severe Injuries… All Harm to Employees has Concern

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.

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



SOFA-defined Severe Injuries by year, 1997 through 2011, first six months, the latest months available for 2011
(1997 is the first year these injuries can be defined based on the interests of SWG)



SOFA-defined Severe Injuries, by month and year, January 1997 through June 2011

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

All Harm to Employees has Concern

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	total	average
JAN	11	13	16	15	21	12	11	11	20	10	14	13	6	6	8	187	12.5
FEB	17	15	9	9	9	13	17	14	10	6	15	12	4	7	9	166	11.1
MAR	14	12	17	11	10	10	13	10	9	9	11	5	5	4	5	145	9.7
APR	8	10	6	10	12	6	9	13	10	7	8	9	5	7	5	125	8.3
MAY	6	12	8	8	12	14	9	6	6	8	3	7	1	7	8	115	7.7
JUN	9	10	8	11	8	5	10	9	7	11	5	3	6	4	2	108	7.2
first six months	**65**	**72**	**64**	**64**	**72**	**60**	**69**	**63**	**62**	**51**	**56**	**49**	**27**	**35**	**37**		
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**		**1,622**	**113.2**

Amputations (a type of Severe Injury), by month and year, January 1997 through June 2011

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 has Concern

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	total	average
JAN	1	0	2	1	0	0	2	2	2	0	1	1	1	0	2	15	1.0
FEB	0	1	0	1	0	2	1	2	0	2	1	0	0	1	2	13	0.9
MAR	3	4	3	2	1	1	3	1	2	1	0	1	1	0	0	23	1.5
APR	1	2	0	1	2	0	1	1	2	2	3	3	1	0	1	20	1.3
MAY	1	2	3	0	2	2	2	0	0	1	1	0	0	1	2	17	1.1
JUN	2	1	1	0	1	0	0	1	0	0	1	1	0	0	1	9	0.6
first six months	**8**	**10**	**9**	**5**	**6**	**5**	**9**	**7**	**6**	**6**	**7**	**6**	**3**	**2**	**8**		
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**	**6**		**215**	**14.8**

Switching Fatalities, SOFA-defined Severe Injuries, and Other Railroad Reportable Events, 1992 through 2010, full year; 2011, first six months

S*ource*: Switching Fatalities from *SOFA Database*; all other series from FRA, accessed September 03, 2011
***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	2,818	3,266	1,270	3,066	**878
2006	7	100	12	2,484	3,000	1,068	2,942	992
2007	6	110	16	2,518	2,694	1,047	2,777	877
2008	12	87	8	2,215	2,478	909	2,431	890
2009	8	53	6	1,963	1,902	652	1,926	762
2010	8	63	6	1,861	1,884	634	2,013	830
2010, Jan-Jun	3	35	2	915	957	321	1,004	377
2011, Jan-Jun	1	37	8	861	998	359	914	368

***SOFA-defined Severe Injuries are defined only back to 1997** ****Counts happened to be identical for these successive years**

SOFA Review and Learning Section

In the past, this section has presented Fatality cases for review, usually for upcoming months. Past *Updates* contain all 179 cases, 1992 through 2009, that SOFA has review. Thus past *Updates* can be referenced for these cases.

SOFA is now placing additional emphasis on education about the reasons and remedies for switching Fatalities. In keeping with this enhanced educational effort, this section now presents selective cases that emphasize particular reasons and remedies. For this *Update*, the Five Advisories. Studying these past cases may prevent future ones.

Learn Reasons and Remedies Interactively

SOFA only suggests a teaching and learning approach in reviewing these cases. Individuals – be they employees or training instructors – may devise better approaches.

1. **Recreate Event:** After reading a short case narrative, recreate the switching environment before the task began. Describe how the environment may have changed as the switching task progressed. Describe how the final event occurred. Usually, it is an impact with moving equipment. (Note: the narrative may not contain all the needed information. You may have to make some assumptions.)

2. **Relate Event to Your Experience:** Relate your recreation to situations you and your crew have encountered.

3. **SOFA Reasons and Remedies:** Understand what SOFA thinks was involved and potential remedies. These are presented after the narrative in the form of Advisories, Lifesavers/Recommendations, and Special Switching Hazards.

4. **Your Reasons and Remedies:** Now think of what you believe was involved, and how you and your crew might have prevented this event.

In Respect: *Intent is that education 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*.

Information Source: The Switching Fatality narrative summaries and additional case information were taken from the *SOFA Database*, which contains specifics about each case as developed by SWG in its review of on-duty fatality investigations (These investigations are required by *49 U.S.C. Section 20903*). The *2011 SOFA Report* contains information about Advisories, Lifesavers/Recommendations, and Special Switching Hazards. This and previous SOFA reports are available at: http://www.fra.dot.gov/Pages/1781.shtml

Five Advisory #1 (Inexperienced employee) Cases

For each of these five Advisory #1 cases, which may also involve other Advisories, Lifesavers/Recommendations, and Special Switching Hazards:

1. **Recreate Event**
2. **Relate Event to Your Experience**
3. **SOFA Reasons and Remedies (**listed at end of narrative)
4. **Your Reasons and Remedies**

#1 FE-1993-40 SOO Leal, ND Freight Brakeman/Flagman Age: 43

A three-person train crew was in the process of picking up 18 cars off a siding. The trainman had 10 weeks of experience, forgot to remove the derail, and was killed when the leading car he was riding derailed on top of him. During the stop, the conductor remained in the cab of the lead locomotive with the engineer.

SOFA Reasons and Remedies:
Advisory # 1: FE had 1.5 years of experience or less or had inadequate training
Special Switching Hazard: Derailment

#2 FE-1993-47 GC Macon, GA Yard Conductor/Foreman Age: 47

Trainmaster became involved with crew performing switching in class yard without knowledge of the conductor who was coupling air hoses on a cut of cars. Cars were shoved without his knowledge while he was in the foul of the movement. Movement ran over conductor and killed him.

SOFA Reasons and Remedies:
Advisory #1: FE had 1.5 years of experience or less or inadequate training
Advisory #4: Lack of or inadequate job safety briefing
Special Switching Hazard: Unexpected movement of railcars

#3 FE-2005-36 BNSF Burlington, IA Brakeman Age: 34

A three person switch crew held a job briefing with the intent to deliver 125 car loads of coal onto five (5) industry tracks. Only the engineer was familiar with the industry plant and its tracks. The engineer offered to operate the locomotive into the plant to allow the rest of the crew to become more familiar with the work area; the other crew members declined. The track passes under an overhead walkway with only 5 1/2 inch clearance between the part of the car on which the brakeman was riding, and a support beam of the walkway. The brakeman failed to take heed of this situation and was fatally injured when he was crushed between the car and the support member.

SOFA Reasons and Remedies:
Advisory #1: FE had 1.5 years of experience or less or had inadequate training
Advisory #2: Close clearance
Advisory #5: Industrial hazard

#4 FE-1994-31 CR Campbell Hall, NY Brakeman Trainee Age: 28

The brakeman trainee was on the caboose to direct the shove move of the three engines, three cars and a caboose toward Track 1 in the yard. The shove move continued although the only radio transmission after getting the move started was "the derail is off." The movement, which reached approximately 19 mph, struck standing equipment after diverging through two mis-aligned switches and killed the brakeman trainee.

SOFA Reasons and Remedies:
Advisory #1: FE had 1.5 years of experience or less or had inadequate training
Lifesaver/Recommendation #2: Struck by equipment other than their own on yard or industry track
Lifesaver/Recommendation #4: Move controlled by a combination of hand and radio signals or specific distances were not given

#5 FE-1995-29 CSXT Riverdale, IL Conductor Age: 39

Crew performing switching in class yard. Switch foreman placed himself between the rails to adjust a mis-aligned coupler on the fifteenth car after the cut was stretched. Switch foreman was facing the coupler with his back to a cut of seven cars that rolled in on top of him and coupled him up.

SOFA Reasons and Remedies:
Advisory #1: FE had 1.5 years of experience or less or had inadequate training
Lifesaver/Recommendation #1: Adjusting knuckles, adjusting drawbars, or installing EOT

Five Advisory (Close Clearance) #2 Cases

For each of these five Advisory #2, which may also involve other Advisories, Lifesavers/Recommendations, and Special Switching Hazards:

1. **Recreate Event**
2. **Relate Event to Your Experience**
3. **SOFA Reasons and Remedies (**listed at end of narrative)
4. **Your Reasons and Remedies**

#1 FE-1994-06 UP Fall City, NE Freight Conductor Age: 44

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

SOFA Reasons and Remedies:
Advisory #2: Close clearance.
Lifesaver/Recommendation #2: Struck by equipment other than their own on yard or industry track
Special Switching Hazard: Free-rolling railcars

#2 FE-1994-12 SP Houston, TX Yard Conductor/Foreman Age: 62

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 forth leading car, and was later pronounced dead at the hospital.

SOFA Reasons and Remedies:
Advisory #2: Close clearance

#3 FE-1995-34 CSXT Monroe, NC Conductor Age: 54

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

SOFA Reasons and Remedies:
Advisory #2: Close clearance

#4 FE-2005-25 ATN Ragland, AL Brakeman Age: 56

A two person switching crew conducted a job briefing associated with switching operations at an industry plant. The crew coupled 10 empty covered hopper cars and commenced the move with the conductor riding the B- end of a covered hopper. The car being shoved struck a drainage grate lying in the gage of the track and swerved off the track onto a concrete apron of the same height as the track. The conductor was trapped between the car and the concrete wall and dragged along the wall for a distance of 16 feet, killing him. Clearance between the wall and car was 27 inches; The US Department of Labor requires a minimum clearance of 30 inches unless the lesser clearance is conspicuously marked, which it wasn't.

SOFA Reasons and Remedies:
Advisory #2: Close clearance
Advisory #1: FE had 1.5 years of experience or less or had inadequate training
Advisory #5: Industrial hazard
Special Switching Hazard: Derailment

#5 FE-1993-27 UP Pryor, OK Freight Brakeman/Flagman Age: 42

A three person industrial switching crew was shoving three cars down a track. The conductor was on the ground, ahead of the move and the brakeman was riding the side of the leading end of the leading car. A bush created a clearance issue and the brakeman stepped around the side of the leading car to the end of the car just as it began to derail. The brakeman was killed when he fell from the derailing car.

SOFA Reasons and Remedies:
Advisory #2: Close clearance
Advisory #3: Industrial hazard
Special Switching Hazard: Derailment

Five Advisory #3 (Industrial Hazard) Cases

For each of these five Advisory #3, which may also involve other Advisories, Lifesavers/Recommendations, and Special Switching Hazards:

1. **Recreate Event**
2. **Relate Event to Your Experience**
3. **SOFA Reasons and Remedies (**listed at end of narrative)
4. **Your Reasons and Remedies**

#1 FE-1994-28 PTRA Houston, TX Yard Brakeman/Helper Age: 31

Yard switch crew, engineer, conductor and brakeman, spotting paper mill. FE (brakeman) instructed by conductor to de-train and stay at road crossing while he spotted track. FE found in nearby wood chip auger/conveyer system after mill crew started up the system while crew searched for missing FE. Mill crew was instructed by conductor not to start equipment until FE was located. FE was not familiar with the dangers associated with this mill process. FE had 5 months experience.

SOFA Reasons and Remedies:
Advisory #3: Industrial hazard
Advisory #1: FE had 1.5 years of experience or less or had inadequate training

#2 FE-2003-12 CSXT Kingsport, TN Brakeman Age: 35

A three person industrial switching crew was shoving one car on a track that ran down the middle of a two-lane road and that was located in an industrial area. The conductor was riding on one side of the car and the brakeman was riding on the other. As the move approached a standing eighteen wheel truck awaiting permission to back into the same area that the railroad was servicing, the driver began to back up, jack-knifed the trailer, and struck the brakeman crushing him between the truck box and the car he was riding.

SOFA Reasons and Remedies:
Advisory #3: Industrial hazard
Special Switching Hazard: Struck or struck by motor vehicle

#3 FE-2000-16 CSX Richmond, VA Brakeman Age: 38

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.

SOFA Reasons and Remedies:
Advisory #3: Industrial hazard
Advisory #2: Close clearance

#4 FE-2004-14 NS Elwood, IN Freight Brakeman Age: 35

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.

SOFA Reasons and Remedies:
Advisory #3: Industrial hazard
Special Switching Hazard: Struck or struck by motor vehicle

#5 FE-1995-33 NS Toledo, OH Brakeman Age: 53

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

SOFA Reasons and Remedies:
Advisory #3: Industrial hazard
Advisory #2: Close clearance

Five Advisory #4 (Inadequate Job Briefing) Cases

For each of these five Advisory #4, which may also involve other Advisories, Lifesavers/Recommendations, and Special Switching Hazards:

1. **Recreate Event**
2. **Relate Event to Your Experience**
3. **SOFA Reasons and Remedies (**listed at end of narrative)
4. **Your Reasons and Remedies**

#1 FE-1992-30 GBW Wisconsin, WI Freight Brakeman/Flagman Age: 34

The road job's brakeman was trying to help the switch crew make up his train. The brakeman was in between cars on an active track being used by the switch crew and was killed when the cars he was between moved upon being struck by a cut of free rolling cars.

SOFA Reasons and Remedies:
Advisory #4: Lack of or inadequate job safety briefing
Lifesaver/Recommendation #2: Struck by equipment other than their own on yard or industry track
Special Switching Hazard: Unexpected movement of railcars

#2 FE-1993-23 IC Fulton, KY Yard Brakeman/Helper Age: 49

Crew performing switching duties in class yard failed to have a clear understanding of movements being made. Results were that the rear brakeman was run over by moving equipment. There were no witnesses, but a hand brake was applied. It was thought that the brakeman had gone between the equipment on the ground to release the low hand brake.

SOFA Reasons and Remedies:
Advisory #4: Lack of or inadequate job safety briefing
Special Switching Hazard: Unexpected movement of railcars

#3 FE-1994-29 CR Painted Post, NY Freight Brakeman/Flagman Age: 57

Crew switching in class yard failed to establish and maintain effective communications. Subsequent changes in switching line-up by the conductor resulted in trainman who was in the foul of Track 7 being struck by unexpected movement of equipment.

SOFA Reasons and Remedies:
Advisory #4: Lack of or inadequate job safety briefing
Lifesaver/Recommendation #4: Move controlled by a combination of hand and radio signals or specific distances were not given
Special Switching Hazard: Unexpected movement of railcars

#4 FE-1999-01 CR Port Newark, NJ Conductor Age: 54

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

SOFA Reasons and Remedies:
Advisory #4: Lack of or inadequate job safety briefing
Lifesaver/Recommendation #4: Move controlled by a combination of hand and radio signals or specific distances were not given
Special Switching Hazard: Failure to confirm route of movement

#5 FE-2008-33 CSX Darby, PA Freight Conductor Age: 46

After reaching their destination, a two person crew was instructed to secure their freight train at a location beyond the normal crew change point. The location was on double track on a bridge near a parking lot where a relief crew could reach the train. The conductor left the cab of the locomotive without job-briefing with the Engineer and without his hand-held radio. He crossed in front of the locomotive and walked eastward across the bridge between the two tracks. There was poor footing and almost no clearance between the two tracks. An eastbound approaching train, operating at 26 mph, observed the conductor, sounded the whistle, turned the head lights to bright, and tried to stop. The eastbound train struck and killed the conductor who was walking in the foul.

SOFA Reasons and Remedies:
Advisory #4: Lack of or inadequate job safety briefing
Advisory #2: Close clearance
Advisory #5: Struck by mainline train

Five Advisory #5 (Struck by Mainline Train) Cases

For each of these five Advisory #5 cases (also involving other Advisories, Lifesavers/Recommendations, and Special Switching Hazards):

1. **Recreate Event**
2. **Relate Event to Your Experience**
3. **SOFA Reasons and Remedies (**listed at end of narrative)
4. **Your Reasons and Remedies**

#1 FE-1997-36 BNSF Emporia, KS Freight Conductor Age: 50

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

SOFA Reasons and Remedies:
Advisory #5: Struck by mainline train

#2 FE-2000-32 UP Dupo, IL Switchman Age: 52

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

SOFA Reasons and Remedies:
Advisory #5: Struck by mainline train

#3 FE-2008-03 NS Chicago, IL Freight Conductor Age: 28

A conductor and engineer were transported to their train on main track two and boarded. The ground conditions between main tracks two and one were very poor. The ground was covered by 5 inches of snow; however, the ambient lighting was good. On the south side of the standing train, the footing was good, but the lighting was poor. After receiving 3-Point Protection, the conductor dismounted the lead locomotive and proceeded to walk west, between the two main tracks, on the north side of his standing train, to untie handbrakes. An approaching westbound freight train sounded the whistle for the conductor walking in the foul and the conductor ducked between two freight cars to clear the oncoming movement. The conductor then reemerged from his safe location foul of the adjacent main track. He was struck by the westbound train and died 42 hours later.

SOFA Reasons and Remedies:
Advisory #5: Struck by mainline train

#4 FE-2009-06 UP Council Bluffs, IA Yard Foreman Age: 41

A four person yard switching crew was pulling cars up to make a shoving movement into a yard track, while a road train was approaching in the same direction on the main track adjacent to the switching lead. The conductor riding in the second locomotive of the yard switcher exited the cab and got off on the live side next to the main track, fouling the main track, and was struck by the passing road train.

SOFA Reasons and Remedies:
Advisory #5: Struck by mainline train
Advisory #2: Close clearance

#5 FE-2009-09 UP Herington, KS Freight Conductor Age: 26

A two person road train crew was doubling back to their train on main track one with the conductor walking between main track one and main track two giving hand signals to the engineer. The conductor was fouling main track two when another train operating on main track two struck and killed the conductor. A van driver located across from the conductor's position attempted to warn the conductor by yelling at him.

SOFA Reasons and Remedies:
Advisory #5: Struck by mainline train
Special Switching Hazard: Miscellaneous