

SOFA Information: Take a positive, non-punitive approach to implementation

SOFA Switching Fatality and Severe Injury Update – 2015 Second Quarter

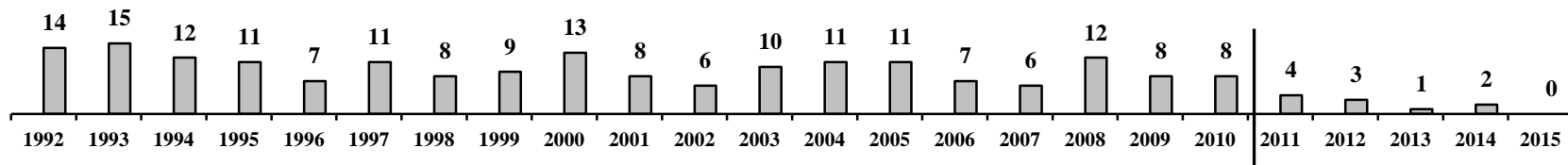
PLEASE POST IMMEDIATELY

- No switching fatalities in 2015 through June 01. Last switching fatality on October 8, 2014...236 days switching-fatality free through June 01, 2015

October 8, 2014 – BNSF – Colorado Springs, CO: A BNSF conductor was pinned between equipment while switching on industrial track. She was 42-years old with 3 years of service. [based on preliminary information]

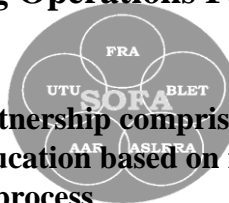
- Lower switching fatality counts since 2011

197 Fatalities, by year: 1992 through 2014, full year; 2015, part year through June 01



- Take a positive, non-punitive approach to implementing SOFA information! See pages 2-5

Switching Operations Fatality Analysis (SOFA)



- A voluntary, non-regulatory, railroad-safety partnership comprised of representatives from AAR, ASLRRRA, BLET, FRA, and UTU
- Seeks to prevent switching Fatalities through education based on facts about causes
- SOFA is not part of a rulemaking or regulatory process
- Recognizes that all have responsibility for switching safety: employees, managers, and regulators
- SOFA's goal is Zero Switching Fatalities achieved through education and non-punitive interactions among stakeholders
- Find SOFA reports and information at: <http://www.fra.dot.gov/SOFA> [accessed May 26, 2015]

SOFA Information: Take a positive, non-punitive approach to implementation

SOFA's non-Rulemaking Origins

From its inception, SOFA has taken a non-rulemaking approach to implementing its safety findings, as evidenced by its tasking letter sent by FRA's Acting Associate Administrator for Safety, Mr. George Gavalla, in February 1998:

"...the findings and recommendations from this team [the SOFA Working Group] are neither intended to be used in a rulemaking process nor to otherwise lead to formal action by FRA." – reprinted in *Findings and Recommendations of the SOFA Working Group, Vol. 2, March 2011 Update*, pgs B-1 and 2

SOFA's Approach: from reasons to remedies to non-punitive implementation

- Reasons exist for why switching fatalities occur. These tragic events are not random acts of nature, or bad luck.
- These reasons can be understood. (SOFA has reviewed 195 switching fatalities. These reviews are based on FRA investigations. SOFA is comprised of representatives from labor, management, and government. These stakeholders have formed a consensus of the reasons for each fatality.)
- Once reasons are identified, remedies can be developed to reduce risk of future occurrences.
- SOFA advocates educating all involved in switching (employees, managers, and regulators) about remedies through non-punitive interactions. See next page for SOFA memorandum of implementation guidelines.
- *"When members of a team are affected by a certain solution and they participate in the process to implement the solution, they will be more likely to accept it."* – *Findings and Recommendations of the SOFA Working Group, Vol. 2, March 2011 Update*, pg. 57

SOFA Information: Take a positive, non-punitive approach to implementation (continued)

As discussed in its 2011 report,¹ SOFA issued a memorandum, *Best Practices Guidelines for Implementing Operating Operations*, in March 2000, to encourage education and a positive, judicious approach to implementation -- **and to discourage use of the Operating Recommendations [and now as well the SOFA Advisories and other SOFA safety information] as a basis for discipline.**

These guidelines are shown below *verbatim* and continued on the next page; and are also reprinted in *Findings and Recommendations of the SOFA Working Group, Vol. 2, March 2011 Update*, K-1.

SOFA IMPLEMENTATION GUIDELINES FOR FIVE MAJOR SAFETY RECOMMENDATIONS

The Switching Operations Fatality Analysis (SOFA) Working Group submits the following suggestions in response to Federal Railroad Administration's (FRA) Associate Administrator of Safety Gavalla's request made during the 4th SOFA Teleconference Call on March 22 [2000]. During the call, Mr. Gavalla asked that the SOFA group produce guidelines that it feels would help to more effectively implement the Five Major Safety Recommendations contained in the SOFA Report released in October 1999. Here are the suggestions:

Impact

Implementation of SOFA Recommendations should be planned, conducted, and reported in ways that encourage follow through by stakeholders, so that the likelihood that it will be effective is increased.

Political Viability

Implementation of SOFA Recommendations should be planned and conducted with anticipation of the different positions of various interest groups, so that their cooperation may be obtained; and so that possible attempts by any of these groups to curtail efforts to improve safety, or to bias or misapply the SOFA Recommendations, can be averted or counteracted.

¹ *Findings and Recommendations of the SOFA Working Group, Vol. 1, March 2011 Update*, pg. 63

SOFA Information: Take a positive, non-punitive approach to implementation (continued)

Obligations

Obligations of the formal parties to the implementation of the SOFA Recommendations (what is to be done, how, by whom & when) should be agreed to, so that these parties adhere to all specified conditions. Do not expect participation in the implementation by persons or parties who have not previously agreed to do so.

Valid Information

Ensure that the individuals who will administer or supervise (a) new particular procedure(s) are qualified and adequately prepared (in terms of knowledge, training, and practice) to do so.

Propriety (Human Interactions)

Participants should respect human dignity and worth in their interactions with other persons associated with implementation of the SOFA Recommendations, so that participants are not threatened or harmed.

And finally,

- Convey the SOFA messages in a positive manner.
- Keep rules that are not directly related to SOFA separate and apart.
- Messages should be consistent with the five SOFA Recommendations.
- SOFA should be a culture change where necessary.
- SOFA endeavors should be cooperative efforts between management, labor and FRA.
- SOFA Recommendations should be viewed as possible lifestyle changes.

SOFA Information: Take a positive, non-punitive approach to implementation (continued)

Need for Positive Implementation

- Only through implementation – and positively so – can SOFA information reduce fatalities.
- All should understand the need for implementation. SOFA information can prevent fatalities because it is based on the reasons for actual fatalities.
- All stakeholders (labor, management, government) should be involved in implementation.
- Empowerment has importance. *“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.” Findings and Recommendations of the SOFA Working Group, Vol. 1, March 2011 Update, pg. 72*
- Implementation should look beyond rule-based approaches. The intent of SOFA information 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: SOFA information holds promise being based on why fatalities occur. This promise, however, can only be realized through implementation that involves all stakeholders.
- **Limitations:** SOFA information cannot prevent all switching fatalities. General operating practice, monitoring work in progress, communication among crewmembers, knowledge of local conditions – all have importance in managing switching risk. As do other safety procedures.

DATA SECTION – 2015 Second Quarter Update

18 Recent Switching Fatality Cases, January 01, 2010 through June 01, 2015

- These 18 fatality cases occurred subsequent to the 179 cases (1992 through 2009) which formed the basis of the *2011 SOFA Report*
- The purpose in displaying these 18 cases is to identify any potential emerging issues concerning risk in switching operations (Please note the two cases marked ‘preliminary’ have not yet been reviewed by SOFA. Thus, event reasons may change upon review)
- Note: Five (5) of the 6 recent Close/No Clearance cases involve the temporary hazard of cars left afoul

Year	Count	Date	City	State	Reviewed or Preliminary	<u>Fatality Reasons: brief description</u> Risks other than those listed are often involved. Cases marked ‘preliminary’ are subject to revision of event reasons
2010	1	04/23/10	Riverdale	IL	reviewed	Lack or Inadequate Job Safety Briefing
	2	05/31/10	Kearny	NJ	reviewed	Close/ No Clearance (fueling structure)
	3	06/10/10	Doswell	VA	reviewed	Struck by Mainline Train; and Drugs and Alcohol
	4	07/01/10	Meridian	MS	reviewed	Employee Tripping, Slipping, or Falling
	5	07/13/10	East Deerfield	MA	reviewed	Going between Rolling Equipment
	6	09/02/10	Bridgeport	NJ	reviewed	Close/ No Clearance (cars left afoul)
	7	09/04/10	Mobile	AL	reviewed	Industrial Hazard; and Miscellaneous Causes
	8	10/11/10	Orange	TX	reviewed	Inexperience; and Employee Tripping Slipping, or Falling
2011	9	02/08/11	Kankakee	IL	reviewed	Close/ No Clearance (cars left afoul)
	10	07/25/11	Bedford Park	IL	reviewed	Going between Rolling Equipment; and Unsecured Cars
	11	08/15/11	Kansas City	KS	reviewed	Going between Rolling Equipment; and Miscellaneous Causes
	12	09/08/11	Botkins	OH	reviewed	Going between Rolling Equipment; and Unexpected Movement of Railcars
2012	13	01/30/12	Gary	IN	reviewed	Close/ No Clearance (cars left afoul); and Environment; and Industrial Hazard
	14	05/28/12	Kenmare	ND	reviewed	Close/ No Clearance (cars left afoul); and Inexperience; and Failure to Confirm Route of Movement
	15	07/31/12	Mason City	IA	reviewed	Going between Rolling Equipment; and Lack or Inadequate Job Safety Briefing; and Unexpected Movement of Railcars; and Unsecured Cars
2013	16	02/16/13	Cleveland	OH	reviewed	Inexperience; and Drugs and Alcohol; and Employee Tripping, Slipping, or Falling
2014	17	06/24/14	Birmingham	AL	preliminary	Derailment
	18	10/08/14	Colorado Springs	CO	preliminary	Close/ No Clearance (cars left afoul)
2015	--	--	--	--	--	No switching fatalities through June 01

Reasons for Switching Fatalities...as assigned by SOFA

SOFA has reviewed 195 switching fatalities (1992 through 2013). Currently, two more cases remain to be reviewed. Each case is assigned one or more general reasons pertaining to its occurrence. Altogether, the 195 cases have 348 reasons assigned. There are 19 general reasons for switching fatalities identified by SOFA, plus a miscellaneous category. More specific reasons (not shown below) are also assigned to cases as Possible Contributing Factors (PCFs).

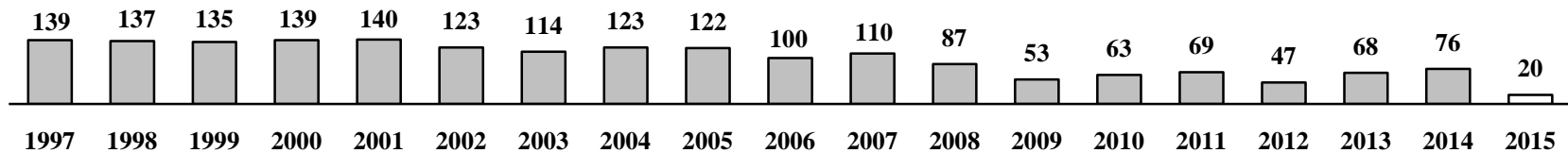
Twenty Reasons	SOFA Reasons/Type	Number of Cases	Percent of All Reasons
1	Inexperience (1.5 or less years of service)	35	10.1%
2	Close/No Clearance (both temporary and permanent)	34	9.8%
3	Industrial Hazard	28	8.0%
4	Going between Rolling Equipment (as to adjust knuckles, drawbars, etc.)	26	7.5%
5	Lack of, or inadequate, job safety briefing (particularly when the nature of work changes)	25	7.2%
6	Employee Tripping, Slipping, or Falling (unusually from equipment)	21	6.0%
7	Struck by Mainline Trains (when working along mainlines or doing a roll by inspection)	21	6.0%
8	Communicate Before Action is Taken	20	5.7%
9	Derailment	17	4.9%
10	Unsecured Cars	17	4.9%
11	Miscellaneous Causes	16	4.6%
12	Free-Rolling Railcars	14	4.0%
13	Unexpected Movement of Railcars	14	4.0%
14	Protect Employees Against Moving Equipment	13	3.7%
15	Equipment Defect	11	3.2%
16	Struck by Motor Vehicle (often at a crossing)	9	2.6%
17	Environmental Conditions	8	2.3%
18	Failure to Confirm Route of Movement	8	2.3%
19	Drugs and Alcohol	7	2.0%
20	Electronic Devices	4	1.1%
	total	348	100%

SOFA-defined Severe Injury Update

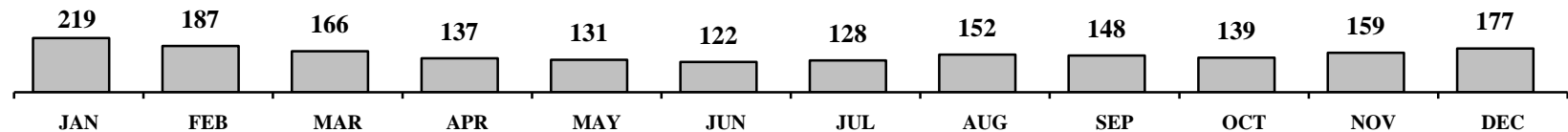
Definition: Based on its interests (i.e., potentially involving the same factors as fatalities), *Severe Injuries* are defined by the SOFA Working Group as (1) potentially life threatening; (2) having a high likelihood of permanent loss of function, permanent occupational limitation, or other permanent 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.

Note: The definition of *SOFA-defined Severe Injuries* is not to suggest that other injuries and illnesses resulting from operations are not also ‘severe’ and/or cause hardship to employees.

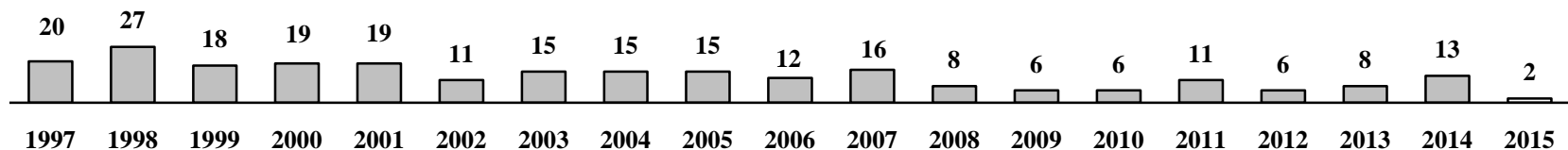
1,865 SOFA-defined Severe Injuries, by year: 1997 through 2014, full year; 2015, through March



1,865 SOFA-defined Severe Injuries, by month: January 1997 through March 2015



247 Amputations (counts are included in Severe Injuries), by year: 1997 through 2014, full year; 2015, through March



SOFA-defined Severe Injuries, by month and year January 1997 through March 2015

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. Information used in this table was extracted on May 29, 2015, from FRA's publically available data.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	totals	average
JAN	11	13	16	15	21	12	11	11	20	10	14	13	6	6	8	9	8	6	9	219	11.5
FEB	17	15	9	9	9	13	17	14	10	6	15	12	4	7	9	2	5	10	4	187	9.8
MAR	14	12	17	11	10	10	13	10	9	9	11	5	5	4	5	6	3	5	7	166	8.7
to date	42	40	42	35	40	35	41	35	39	25	40	30	15	17	22	17	16	21	20		
APR	8	10	6	10	12	6	9	13	10	7	8	9	5	7	5	2	4	6		137	7.6
MAY	6	12	8	8	12	14	9	6	6	8	3	7	1	7	8	4	5	7		131	7.3
JUN	9	10	8	11	8	5	10	9	7	11	5	3	6	4	2	6	2	6		122	6.8
JUL	9	14	10	8	10	7	6	10	5	12	8	1	4	4	5	3	7	5		128	7.1
AUG	13	10	11	14	8	10	7	14	10	10	13	5	4	5	5	1	5	7		152	8.4
SEP	10	11	15	10	20	12	5	4	9	6	10	12	5	3	4	5	4	3		148	8.2
OCT	12	12	16	10	5	11	9	7	11	5	11	4	2	4	4	1	6	9		139	7.7
NOV	12	9	12	11	13	14	10	10	13	8	6	8	3	6	9	3	5	7		159	8.8
DEC	18	9	7	22	12	9	8	15	12	8	6	8	8	6	5	5	14	5		177	9.8
totals	139	137	135	139	140	123	114	123	122	100	110	87	53	63	69	47	68	76		1,865	101.4

Amputations (a type of Severe Injury), by month and year January 1997 through March 2015

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 the counts of SOFA-defined Severe Injuries (shown on previous page). Information used in this table was extracted on May 29, 2015, from FRA's publically available data.

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	totals	average
JAN	1	0	2	1	0	0	2	2	2	0	1	1	1	0	2	0	0	0	1	16	0.8
FEB	0	1	0	1	0	2	1	2	0	2	1	0	0	1	2	0	1	1	1	16	0.8
MAR	3	4	3	2	1	1	3	1	2	1	0	1	1	0	0	1	0	1	0	25	1.3
to date	4	5	5	4	1	3	6	5	4	3	2	2	2	1	4	1	1	2	2		
APR	1	2	0	1	2	0	1	1	2	2	3	3	1	0	1	0	0	0		20	1.1
MAY	1	2	3	0	2	2	2	0	0	1	1	0	0	1	2	0	2	2		21	1.2
JUN	2	1	1	0	1	0	0	1	0	0	1	1	0	0	1	0	0	1		10	0.6
JUL	1	5	1	0	4	0	1	2	1	2	2	0	1	1	0	0	1	2		24	1.3
AUG	1	0	1	4	0	1	0	2	2	0	3	0	1	1	0	0	1	1		18	1.0
SEP	2	4	3	2	5	4	0	0	3	1	1	2	0	1	0	2	0	1		31	1.7
OCT	2	5	2	2	0	0	2	2	0	0	2	0	0	1	1	1	2	2		24	1.3
NOV	2	2	2	2	3	0	1	1	2	3	1	0	0	0	1	0	0	2		22	1.2
DEC	4	1	0	4	1	1	2	1	1	0	0	0	1	0	1	2	1	0		20	1.1
totals	20	27	18	19	19	11	15	15	15	12	16	8	6	6	11	6	8	13		247	13.5

Switching Fatalities, SOFA-defined Severe Injuries, and Other Reportable Events

Source: Switching fatalities from SOFA Database; all other information used in this table was extracted on May 29, 2015, from FRA's publically available data. 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 SOFA-defined Severe Injuries)	All Employee On-duty Fatalities less SOFA Switching Fatalities	T&E Employee On-duty Fatalities less SOFA Switching Fatalities	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	*	*	20	6	6,648	2,359	864	4,910	1,049
1993	15	*	*	32	16	5,649	2,611	865	4,892	1,032
1994	12	*	*	19	9	5,026	2,504	911	4,979	981
1995	11	*	*	23	10	4,215	2,459	944	4,633	955
1996	7	*	*	26	15	3,726	2,443	783	4,257	945
1997	11	139	20	26	10	3,489	2,397	855	3,865	**1,049
1998	8	137	27	19	8	3,642	2,575	971	3,508	**1,049
1999	9	135	18	22	12	3,835	2,768	1,031	3,489	924
2000	13	139	19	11	2	3,893	2,983	1,147	3,502	877
2001	8	140	19	14	6	3,561	3,023	1,035	3,237	915
2002	6	123	11	14	3	3,022	2,738	1,050	3,077	935
2003	10	114	15	9	3	2,935	3,019	1,230	2,977	896
2004	11	123	15	14	9	2,910	3,385	1,353	3,085	**878
2005	11	122	15	14	7	2,817	3,266	1,270	3,066	**878
2006	7	100	12	9	0	2,483	2,998	1,068	2,942	992
2007	6	110	16	11	4	2,520	2,693	1,047	2,778	877
2008	12	87	8	14	4	2,217	2,481	910	2,429	889
2009	8	53	6	8	2	1,972	1,912	656	1,933	760
2010	8	63	6	12	5	1,882	1,902	650	2,052	830
2011	4	69	11	17	11	1,735	2,022	746	2,061	772
2012	3	47	6	13	4	1,547	1,760	661	1,986	824
2013	1	68	8	13	2	1,762	1,824	693	2,098	863
2014	2	76	13	8	2	1,901	1,758	677	2,285	915
JAN-MAR 2014	0	21	2	1	0	533	458	181	614	182
JAN-MAR 2015	0	20	2	4	0	461	490	184	531	201
<i>change</i>	0 vs. 0	20 vs. 21	2 vs. 2	4 vs. 1	0 vs. 0	-13.5%	7.0%	1.7%	-13.5%	10.4%

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

**Counts happened to be identical for these successive years