



SOFA Switching Fatality and Severe Injury Update – 4th Quarter 2017

Switching Operations Fatality Analysis (SOFA)

- A voluntary, non-regulatory, railroad-safety partnership of representatives from AAR, ASLRRRA, BLET, FRA, and UTU-SMART-TD
- 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>

2017 SOFA Related Fatalities to date (*All information is preliminary until investigation is complete*)

- January 31 – UP – Wallula, WA: A conductor with 12 years' experience was riding an empty center beam lumber car (not on the deck) during a shove move. Last radio transmission was “2 cars”. Engineer stopped movement and conductor was found fatally struck by his own train. Weather was 30° with slight snow.
- June 27, 2017 – CSX – Washington DC: Approximately 11:18 pm EDT, a CSX Conductor with 4 years' service and a qualifying Conductor with 2 years' service, were struck from behind by a southbound Amtrak train traveling on ATK Main 3, resulting in both persons being fatally injured. At the time of the accident, they were performing a walking inspection of their assigned train on CSX Main 2. Weather at the time of the incident was dark, clear and about 61°.
- September 22, 2017 – UP – Arlington, TX: Approximately 10:45 a.m., a Union Pacific Railroad Company (UP) remote control operator (RCO) was fatally injured at the UP Great Southwest Yard, a suburb of Dallas, TX. The remote-control locomotive (RCL) crew consisted of a 61-year-old foreman with 39 years of railroad experience and a 48-year-old helper with 19 years of railroad experience. The helper was controlling an eastward shoving movement - while riding the 5th rail car to protect the point - when the RCL initiated an emergency stop and the man-down broadcast message was heard over the railroad radio. The foreman found the helper between the 4th rail car and 5th rail car. The 5th rail car (boxcar) was derailed. Weather at the time of the incident was clear and approximately 82°.



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.

Severe Injuries Year-to-Date and Previous Five Years

Full Year: Present and Past Years	2017	2016	2015	2014	2013	2012
SIs	68	47	57	76	68	47
Amputations*	9	7	5	13	8	6



2017 SOFA Severe Injuries

There were 68 SIs with 9 of those being amputations reported in 2017.

#	Month	Day	State	Age	Injury	Body Location	Description
1	January	01	CA	41	Amputation	leg or foot	Struck by moving locomotive while walking on ground at main/branch location.
2	January	04	IL	47	fracture	head or face	Slipped, fell, stumbled, other while walking on ground at yard location.
3	January	06	MO	54	fracture	leg or foot	Slipped, fell, stumbled, etc. due to climatic condition while walking on ground at main/branch location.
4	January	07	CO	54	fracture	leg or foot	Slipped, fell, stumbled, etc. due to climatic condition while walking on ground at yard location.
5	January	08	AL	52	fracture	leg or foot	Slipped, fell, stumbled, etc. due to climatic condition while walking on ground.
6	January	09	OH	51	fracture	torso	Struck by a freight train moving while walking on ground at industry location.
7	January	10	MT	53	fracture	torso	Collision/impact-auto, truck, bus, van, etc. while riding in passenger van at highway/roadway.
8	January	11	IA	40	fracture	leg or foot	Slipped, fell, stumbled, etc. due to climatic condition while walking on ground at yard location.
9	January	15	IL	60	fracture	torso	While walking from parking lot to locomotive Employee slipped on ice and injured rib.
10	January	17	TN	31	fracture	head or face	Injured from sudden release of air while coupling an air hose of freight car at yard location.
11	January	17	WY	52	fracture	leg or foot	Slipped, fell, stumbled, etc. due to climatic condition while walking on ground at siding location.
12	January	31	TX	26	Amputation	leg or foot	Knocking brakes off of train and hanging EOT device crossing tracks. Lost situational awareness and stepped in front of moving locomotive.
13	February	01	NC	52	fracture	torso	Sudden unexpected movement of a motor vehicle at a yard location.
14	February	02	WI	59	fracture	torso	The employee was walking adjacent to the tracks when he slipped on a patch of ice. He landed on his radio which was attached to his vest. He felt immediate pain in his chest area.
15	February	04	IL	65	fracture	various body parts	Engineer wasn't feeling well, so he stopped the train to go back to the 2nd unit. He fell once inside the cab, got up and as he was walking on the outside walkway of the lead unit, he passed out and fell between the walkway and the railing lading on the ground



2017 SOFA Severe Injuries (cont'd)

#	Month	Day	State	Age	Injury	Body Location	Description
16	February	08	WA	52	fracture	leg or foot	Slipped, fell, stumbled while walking at a yard location.
17	March	05	CO	36	fracture	torso	Struck by on-track equipment while walking between tracks.
18	March	06	NY	32	fracture	head or face	Conductor heard noise on the roof of the locomotive and attempted to look on the roof by sticking his head out the window. This resulted in him striking his head on an overhead catenary support bracket.
19	March	07	MS	48	fracture	leg or foot	Employee was walking beside the north end leak track at Nissan when he stepped in a rut or hole causing him to twist his ankle and fall.
20	March	15	IA	58	fracture	leg or foot	Slipped, fell, stumbled getting off side of moving freight car at a yard location.
21	March	19	LA	32	fracture	torso	Employee was standing between tracks 213 and 214 to watch cars on track 213. He was unaware that he fouled the track on 214 with a locomotive approaching.
22	March	21	WI	60	fracture	torso	Employee was climbing the locomotive stairs when he slipped and fell off the locomotive to the ground.
23	March	29	PA	39	Amputation	leg or foot	Slipped, fell, stumbled while riding on side of a moving freight car at a yard location.
24	March	30	IL	44	fracture	leg or foot	Tripped on metal pipe.
25	April	2	LA	55	fracture	torso	Missed handhold, grab iron, step, etc. while getting off ladder of a standing freight car at a yard location.
26	April	8	MT	47	fracture	torso	Engineer on 0655 T/W remote turned to see how much room he had made. He turned around to look at co-worker again, he impacted. He was standing on the bottom step, (fireman's side) of the locomotive and was thrown to the ground.
27	April	10	WV	55	fracture	leg or foot	While dismounting a car, conductor caught his right foot between the ladder and the car causing him to lose balance and fall from the car.
28	April	14	IL	46	fracture	leg/foot	Slipped, fell, stumbled, other while riding a moving locomotive at a yard location.
29	April	14	PA	23	fracture	torso	Hurt in derailment while riding in/on a moving locomotive at a yard location.
30	April	28	NC	29	fracture	torso	Employee was dismounting the leading end of a tank car on an industrial track. Employee's high-risk vest caught on the car's defect card holder and pulled him by a shed support column close to the track.
31	April	28	TX	31	fracture	leg/foot	Hurt while riding a moving freight train from slack action



2017 SOFA Severe Injuries (cont'd)

#	Month	Day	State	Age	Injury	Body Location	Description
32	April	29	TX	36	Injury	various	Employee stated he was feeling ill and decided to walk to the restroom on the second locomotive. He states he encountered a strong wind as he stepped to the other engine and he fell from the train.
33	May	09	PA	20	Amputation	arm/hand	Employee's middle finger tip (left hand) was pinched between spike and tie plate when trying to remove a tie plate after inserter operator instructed the employee he was prohibited from doing so. Fingertip amputated.
34	May	18	NY	45	fracture	torso	Injured from a derailment while standing in a moving passenger at a main/branch location.
35	May	23	AL	58	fracture	torso	Lost balance while releasing handbrakes on side of car of a standing freight train at a main/branch location.
36	May	28	CA	53	fracture	torso	Slipped, fell, stumbled while riding a freight train moving at a main/branch location.
37	May	31	WI	59	Fracture	Various	As the employee was climbing up the railcar he missed the handhold causing him to fall in between the two railcars landing on one side of the rail resulting in fractures to his left posterior 10th and 11th rib and L2, L3, and L4 vertebrae.
38	June	02	TX	65	Amputation	leg/foot	Struck by on-track equipment while getting on ladder of a moving freight car at a main/branch location.
39	June	05	AZ	29	fracture	torso	Pushed/shoved into/against ground while riding on side of a car of a moving freight train at an industrial location.
40	June	17	MO	45	fracture	leg/foot	Slipped, fell, stumbled while walking beside track at a main/branch location.
41	June	18	OK	50	fracture	leg/foot	Slipped, fell, stumbled while getting off the side of a standing locomotive at a main/branch location.
42	June	19	MA	47	fracture	leg/foot	Employee fractured an ankle while stepping off coach stairs onto an uneven area on the platform.
43	June	20	KS	44	fracture	torso	Slipped, fell, stumbled from ladder of standing freight car.
44	June	23	MO	35	fracture	leg/foot	Employee was stepping off a railcar after applying a handbrake. As the employee stepped on the ground, he felt his ankle twist.
45	July	09	NY	29	fracture	leg/foot	Slipped, fell, stumbled due to object while walking.
46	July	10	OH	33	fracture	leg/foot	Slipped, fell, stumbled on oil or grease while walking.
47	July	20	TX	24	burns	Various	Exposed to chemicals while walking on ground near on-track equipment at an industrial location.



2017 SOFA Severe Injuries (cont'd)

48	August	07	MA	30	Amputation	“Employee opening door and trap coach slipped and his leg went under train causing loss of limb.
49	August	15	NM	62	fracture	Slipped, fell, stumbled, other while stepping down from a standing locomotive at a main/branch location.
51	September	14	NY	45	Amputation	Struck by moving freight train while walking between the siding and #1 track.
52	September	17	TX	45	fracture	Slipped, fell, stumbled, other, while jumping from a ladder on a moving freight car at a yard location.
53	September	23	WI	61	fracture	Slipped, fell, stumbled, etc., due to irregular surface while walking beside track at an industrial location.
54	October	08	PA	47	fracture	“Employee was walking on the catwalk to the second unit when the slack ran out and he fell.
55	October	19	IL	61	Amputation	Caught, crushed, pinched, opening door of a standing passenger train at a main/branch location.
56	October	24	WA	40	fracture	Slipped, fell, stumbled, etc. on oil or grease on stairs of a standing locomotive at a yard location.
57	October	28	IN	48	fracture	Slipped, fell, stumbled, etc. due to object while walking beside track at a yard location.
58	November	03	FL	56	fracture	“Employee was riding car when it derailed at the switch and the employee was thrown from the car to the ground.
59	November	10	PA	29	fracture	Struck by on-track equipment while walking near track at a yard location.
60	November	13	AL	28	fracture	Was riding on ladder of moving freight train that derailed at a yard location.
61	December	18	UT	40	fracture	Slipped, fell, stumbled, etc., due to object while walking near track at a yard location.
62	December	18	WA	48	fracture	Injured during derailment while standing in/on locomotive at a main/branch location.
63	December	18	WA	56	fracture	Injured during derailment while operating a moving locomotive at a main/branch location.
64	December	24	MI	48	fracture	Slipped, fell, stumbled, etc., due to climatic conditions condition while walking on ground at a yard location.
65	December	27	CA	35	fracture	Caught, crushed, pinched while riding on side of car of a moving freight train at an industry location.
66	December	28	AL	28	fracture	Lite locomotive traveling north collided with a set of locomotives traveling south.
67	December	28	AL	42	fracture	Lite locomotive traveling north collided with a set of locomotives traveling south.
68	December	28	AL	54	fracture	Lite locomotive traveling north collided with a set of locomotives traveling south.



Switching Fatalities SOFA-defined Severe Injuries and Other Reportable Events

Year	SOFA Switching Fatalities	Employee On-duty Fatalities	T&E Employee On-duty Fatalities	SOFA-defined Severe Injuries	Amputations (Included in SOFA-defined Severe Injuries)	T&E Employees Reportable Casualties (includes Fatalities and Severe Injuries)	Train Accidents	Human Factor Accidents	Percent of Human Factor Train Accidents
2007	6	17	4	110	16	2,520	2,693	1,047	39 %
2008	12	26	4	87	8	2,217	2,481	910	37 %
2009	8	16	2	53	6	1,972	1,912	656	34 %
2010	8	20	5	63	6	1,883	1,902	650	34 %
2011	4	21	11	69	11	1,735	2,032	752	37 %
2012	3	16	4	47	6	1,553	1,765	666	38 %
2013	1	14	2	68	8	1,742	1,851	712	38 %
2014	2	10	4	76	13	1,912	1,887	743	39 %
2015	3	11	4	57	5	1,727	1,931	761	39 %
2016	3	16	9	47	7	1,483	1,671	643	38 %
2017	3	12	6	68	9	1,696	1,686	639	38 %

Source: Information extracted from FRA’s publicly available data. Additional known SOFA related fatality counts added into this table and are not reflected in the publicly available data.

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