Please Post Immediately

Switching Fatality SF Days

There have been 5 Switching Fatalities in 2005

January						
S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	SF	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	SF	27	28	29
30	31					

February						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28					

March						
S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

April						
S	M	T	W	T	F	S
					1	2
3	4	5	SF	7	8	9
10	SF	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

May						
S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	SF	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

June						
S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

38 Severe Injuries occurred in January through March of 2005. For the same three-month period in 2004, there were 35 Severe Injuries. – Page 23.

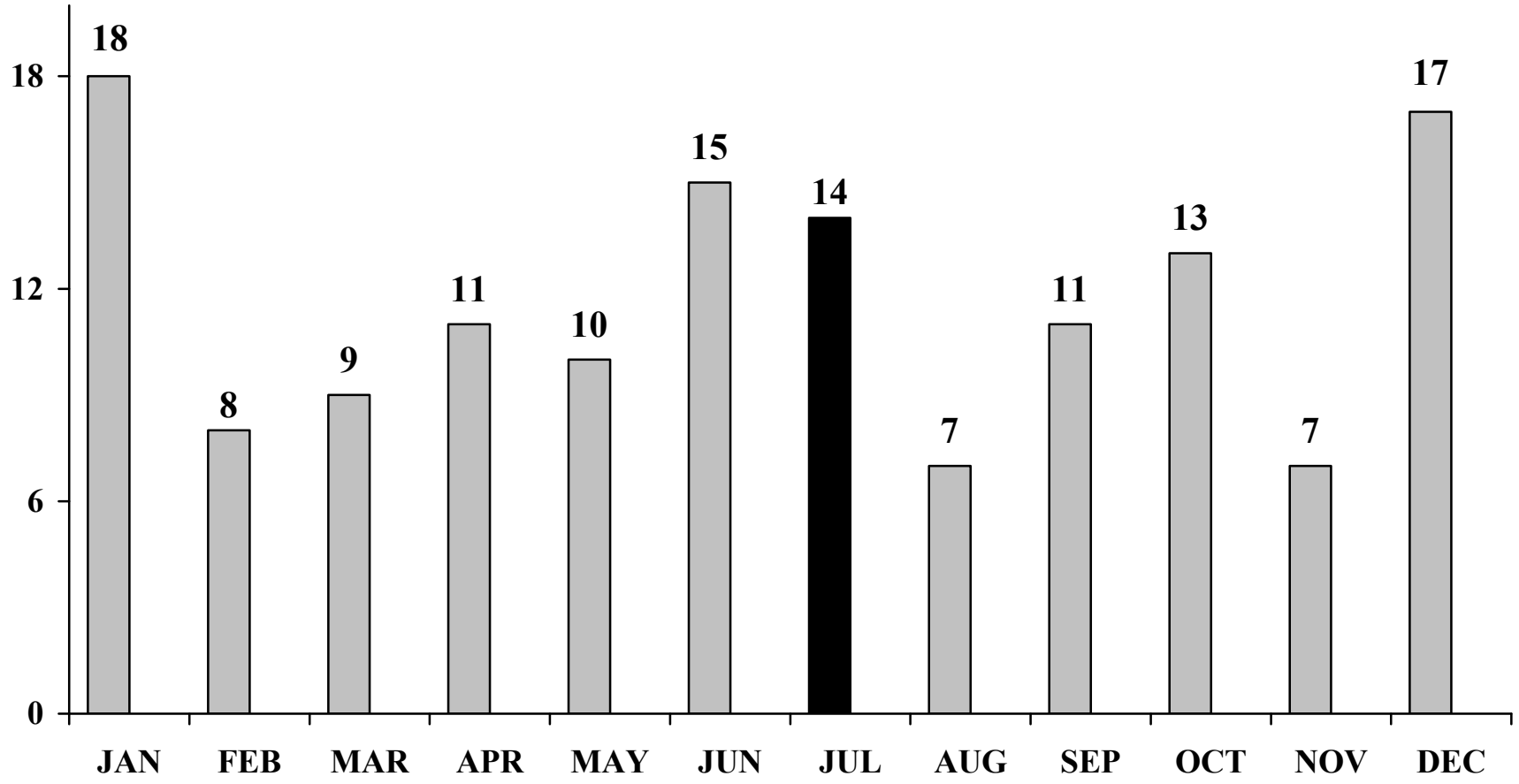
July 2005 UPDATE

Since 1992, 14 Switching Fatalities occurred in July. Only June with 15, December with 17, and January with 18 are higher. Seven of the July Switching Fatalities involved one or more SOFA Recommendations. And the seven other Switching Fatalities involved a Special Switching Hazard. The SOFA Working Group believes Switching Fatalities are preventable.

July 2005: Switching Fatalities

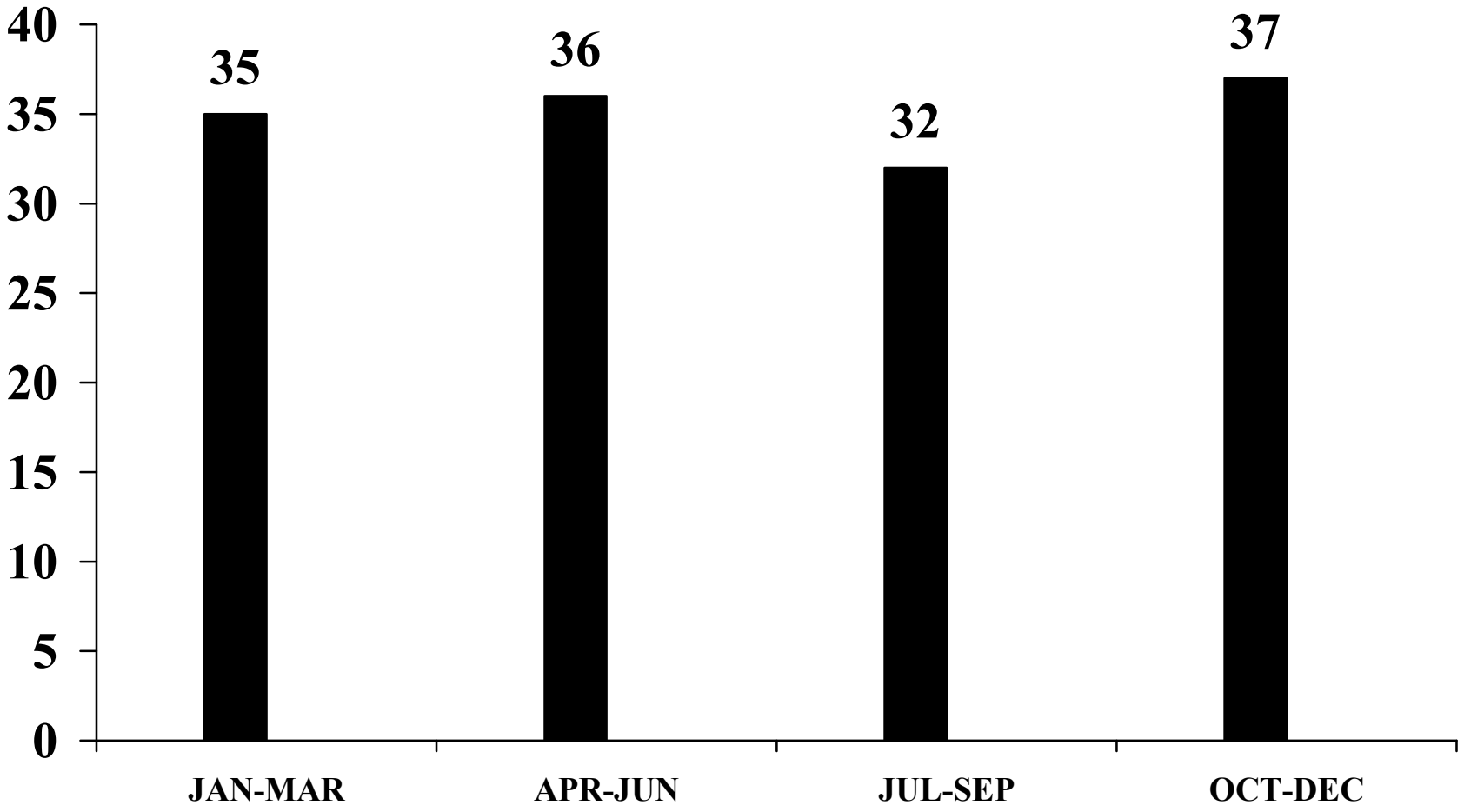
14 of 140 Switching Fatalities since 1992 Occurred in July

(Current through June 07, 2005)



10.4 Switching Fatalities occur each year on average

140 Switching Fatalities by Quarters of Year
(Current through June 07, 2005)

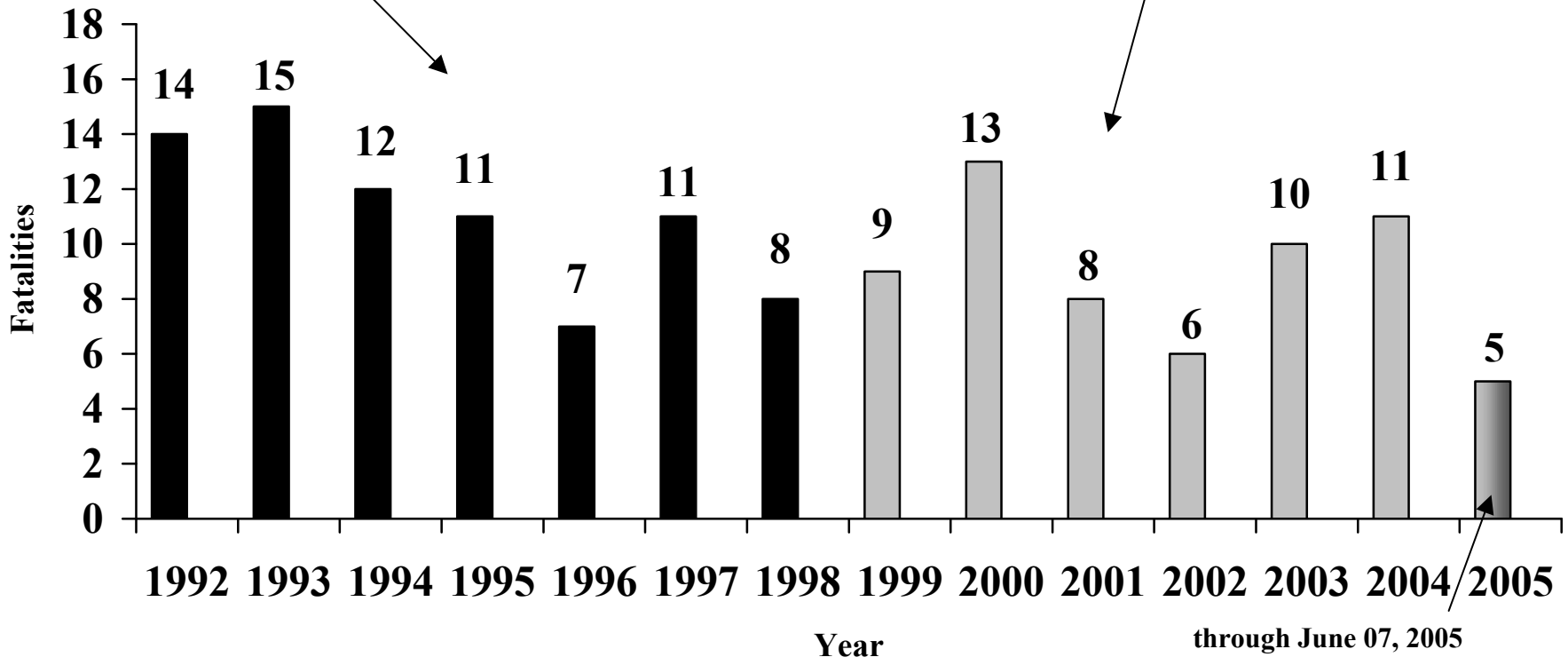


Since 1992, variation exists among the number of Switching Fatalities by month. August and November were the lowest fatality months with 7. December and January were the highest fatality months with 17 and 18 respectively. But by quarter years, Switching Fatalities have far less variation. And combining the first and second quarter Fatalities nearly equals those of the third and fourth quarter – 71 vs. 69 – almost suggesting that the number of Switching Fatalities in January through June 'predict' the number of Fatalities in July through December. However, Switching Fatalities happen for identifiable reasons and are preventable. **The present does not have to repeat the past**.

140 Switching Fatalities Since 1992 (through June 07, 2005)

The Switching Operations Fatality Analysis (SOFA) Group reviews each Switching Fatality after the Federal Railroad Administration completes its investigation. There have been 140 fatalities since 1992. There were 11 fatalities in 2004. Five fatalities have occurred in 2005 through June 07.

In the seven-year period, 1992 to 1998, there were 78 Switching Fatalities. In the six-year and 5-month period, 1999 to May 2004, there were 62 Switching Fatalities. If no more Switching Fatalities occurred in 2005, a 20.5 percent reduction would exist between the seven-year periods. SOFA is working towards the Zero Switching Fatality Goal.



City Locations of 140 Switching Fatalities

January 1992 to June 07, 2005

Aiken, SC
Alexandria, NY
Amarillo, TX
Amarillo, TX
Anderson, IN
Argoe, WI
Atlanta, GA
Bainbridge, GA
Bassett, CA
Bay City, MI
Bedford Park, IL
Bedford Park, IL
Bedford Park, IL
Bensenville, IL
Boise, ID
Bonlee, NC
Bowdoin, MT
Brook Park, OH
Buechel, KY
Buena Vista, AR
Burns Harbor, IN
Campbell Hall, NY
Carlsbad, NM
Cedar Springs, GA
Charlotte, NC
Cheektowaga, NY
Chester, SC
Cheto, AZ
Chicago, IL
Chicago, IL
Cicero, IL
Cincinnati, OH
Clark, OK
Clayburn, KY
Claymont, DE
Clear Site, AK
Cleveland, OH
Clinton, IA
Clovis, NM
Conlen Siding, TX
Dallas, TX
Dearborn, MI
Detroit, MI
Devon, PA
Donaldsonville, LA
Dublin, GA
Dupo, IL
Durrant, MS
Dwale, KY
Eagle Pass, TX
Eden, NC
El Paso, TX
Elko, NV
Elwood, IN
Emporia, KS
Escondido, CA
Essex, MT
Evandale, TX
Evansville, IN
Fall City, NE
Farewell, TX
Flat Rock, MI
Fort Pierce, FL
Fresno, CA
Fulton, KY
Galesburg, IL
Gillette, WY
Guadalupe, CA
Hapeville, GA
Harrisburg, PA
Hastings, NE
Henderson, KY
Hershey, PA
Houston, TX
Houston, TX
Houston, TX
Indianapolis, IN
Kankakee, IL
Kansas City, MO
Keokuk, IA
Kingsport, TN
Laurel, MT
Leal, ND
Lincoln, NE
Leangles, CA
Lubbock, TX
Lynchburg, VA
Macon, GA
Madisonville, KY
Mason City, IA
Maysville, KY
Memphis, TN
Monroe, NC
Northlake, IL
Ogden, UT
Ogden, UT
Omaha, NE
Omaha, NE
Painted Post, NY
Pine Bluff, AR
Pine Bluff, AR
Pocatello, ID
Polk County, FL
Port Newark, NJ
Portland, OR
Portland, OR
Port of Leangles, CA
Pryor, OK
Radium, CO
Redding, CA
Richland, WA
Richmond, VA
Riverdale, IL
Riverdale, IL
Rowesville, SC
S Fontana, CA
Saline, MI
San Antonio, TX
Seattle, WA
Selma, AL
Sidney, IN
Skagway, AK
South Fork, PA
Springfield, IL
St. James, OH
St. Louis, MO
Stamford, CT
Stamford, CT
Sturgis, MI
Syracuse, NY
Teague, TX
Thorton, CA
Toledo, OH
Tracy, CA
Van Buren, AK
Waseca, MN
Wichita, KS
Willmar, MN
Willmar, MN
Wisconsin Rapids, WI

State Locations of 140 Switching Fatalities

January 1992 to June 07, 2005

Alaska
Clear Site
Skagway

Alabama
Selma

Arkansas
Buena Vista
Pine Bluff
Pine Bluff
Van Buren

Arizona
Cheto

California
Bassett
Escondido
Fresno
Guadalupe
Los Angeles
Port of Los Angeles
Redding
S Fontana
Thorton
Tracy

Colorado
Radium

Connecticut
Stamford
Stamford

Delaware
Claymont

Florida
Fort Pierce
Polk County

Georgia
Atlanta
Bainbridge
Cedar Springs
Dublin
Hapeville
Macon

Iowa
Clinton
Keokuk
Mason City

Idaho
Boise
Pocatello

Illinois
Bedford Park
Bedford Park
Bedford Park
Bensenville
Chicago
Chicago
Cicero
Dupo
Galesburg
Kankakee
Northlake
Riverdale
Riverdale
Springfield

Indiana
Anderson
Burns Harbor
Elwood
Evansville
Indianapolis
Sidney

Kansas
Emporia
Wichita

Kentucky
Buechel
Clayburn
Dwale
Fulton
Henderson
Madisonville
Maysville

Louisiana
Donaldsonville

Michigan
Bay City
Dearborn
Detroit
Flat Rock
Saline
Sturgis

Minnesota
Waseca
Willmar
Willmar

Missouri
Kansas City
St. Louis

Mississippi
Durrant

Montana
Bowdoin
Essex
Laurel

North Carolina
Bonlee
Charlotte
Eden
Monroe

North Dakota
Leal

Nebraska
Fall City
Hastings
Lincoln
Omaha
Omaha

New Jersey
Port Newark

New Mexico
Carlsbad
Clovis

Nevada
Elko

New York
Alexanderia
Campbell Hall
Cheektowaga
Painted Post
Syracuse

Ohio
Brook Park
Cincinnati
Cleveland
St. James
Toledo

Oklahoma
Clark
Pryor

Oregon
Portland
Portland

Pennsylvania
Devon
Harrisburg
Hershey
South Fork

South Carolina
Aiken
Chester
Rowesville

Tennessee
Kingsport
Memphis

Texas
Amarillo
Amarillo
Conlen Siding
Dallas
Eagle Pass
El Paso
Evandale
Farewell
Houston
Houston
Houston
Lubbock
San Antonio
Teague

Utah
Ogden
Ogden

Virginia
Lynchburg
Richmond

Washington
Richland
Seattle

Wisconsin
Argoe
Wisconsin Rap

Wyoming
Gillette

14 July Switching Fatalities, January 1992 through December 2004

#	Date	RR	Location	Age	Service (yrs)	Employee's Job	Employee Act	Employee Location	Fatal Event	SOFA Recommendation	Special Switching Hazard
1	07/07/92	SSW	Conlen Siding, TX	58	12	road engineer	walking	between tracks	struck by on-track equipment		**Struck by Mainline Trains**
2	07/24/92	GBW	Wisconsin Rapids, WI	34	13	road brakemen	coupling air hose	on track	struck by on-track equipment	**2,3**	
3	07/25/92	UP	Portland, OR	54	28	road brakemen	walking	between tracks	struck by on-track equipment	**4**	
4	07/15/93	CR	Anderson, IN	43	25	yard brakeman	coupling air hose	on track	struck by on-track equipment	**4**	
5	07/05/94	BN	Essex, MT	59	35	road brakemen	operating	between cars/loc	crushed while operating hand brake		**Free-Rolling Railcars**
6	07/21/95	CR	Hershey, PA	61	40	yard conductor	riding	between cars/loc	fell from equipment		**Employee Tripping**
7	07/07/96	NS	Sidney, IN	29	1	yard conductor	standing	on track	struck by on-track equipment	**5**	
8	07/18/97	MNCW	Stamford, CT	40	7.6	road conductor	flagging	on track	struck by on-track equipment		**Struck by Mainline Trains**
9	07/01/98	NS	Buechel, KY	54	30	misc.	riding	on side of car	rolled between car and platform handrail		**Close Clearance**
10	07/07/00	CKRY	Wichita, KS	39	19	road conductor	adjusting coupler	on track	struck by on-track equipment	**1**	
11	07/24/00	PARN	Skagway, AK	55	22	yard conductor	walking	on track	struck by on-track equipment	**4**	
12	07/28/00	UP	St. Louis, MO	48	27	yard brakeman	walking	near on-track equip-on ground	other impacts-on track equipment		**Close Clearance**
13	07/13/01	CPRS	Bensenville, IL	55	32	yard conductor	riding	on side of car	collision between on-track equipment		**Free-Rolling Railcars**
14	07/16/02	NS	Bonlee, NC	55	34	road conductor	standing	in/on loc	collision between on-track equipment	**4**	

Narratives of the 14 July Switching Fatalities

SOFA Recommendation and/or Special Switching Hazard

1…July 07, 1992 – SSW – Colen Siding, TX **Struck by Mainline Trains**
Possible Contributing Factor(s)
Employee on or fouling track

A two-person crew was called to deadhead to a siding and bring the train that was there and tied down into the yard. Upon arrival at the train, the conductor began releasing handbrakes on the train and the engineer began releasing handbrakes and inspecting the four head end locomotives. An approaching 60 MPH mainline train whistled for a highway crossing at grade and the conductor stopped what he was doing and positioned himself to do a roll by train inspection. His engineer was killed when he was struck by the passing train as he stepped out from between two of his units and began walking adjacent to, and in the foul of, the main track.

****

2…July 24, 1992 – GBW – Wisconsin Rapids, WI **Recommendation 2 and 3**
Possible Contributing Factor(s)
Employee on or fouling track
Employee's radio harness strap caught equipment

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.

****

3…July 25, 1992 – UP – Portland, OR **Recommendation 4**
Possible Contributing Factor(s)
Employee on or fouling track

A three-person crew had arrived at the yard, pulled their train into a track, cut off the engines and were given permission to return to the other end of the yard via an adjacent clear track. The conductor remained on the end originally entered and the brakeman stayed with the engineer. The brakeman got what he thought was the proper switch, instructed the engineer by radio to back up and, apparently turned his back on the move. Before the brakeman had a chance to mount the returning locomotives, he was struck and killed by the movement that continued for 400 feet before stopping when the engineer noticed the brakeman between the gauge of the rail in front of the locomotives.

****

SOFA Recommendation and/or Special Switching Hazards

4…July 15, 1993 – CR – Anderson, IN **Recommendation 4**
Possible Contributing Factor(s)
Employee on or fouling track
Employee falling from moving equipment
Poor intra-crew communication about work in progress
Radio communication, improper

After the brakeman had tied the locomotives onto a cut of cars in the yard, the engineer received an instruction, via radio, from the brakeman to "shove to hold more cars." The engineer began to shove and didn't stop until he was on the other end of the track. The brakeman was run over by the shove move. There was no evidence of any other radio transmissions concerning the shove move.
****

5…July 05, 1994 – BN – Essex, MT **Free-Rolling Railcars**
Possible Contributing Factor(s)
Failure to control speed of car using hand brake
Crew thought they had 14 empties, had 5 partial loads - extra 52 tons

A three-person work train crew was in the process of dropping 14 cars they thought were empty into a quarry-loading track. The brakeman was riding the leading and brake end of the car. As the cars were separated from the engine, he set the high brake on the car he was riding. However, because there were residual materials in many of the cars, the weight added momentum to the cars and the brakeman got off and back on between two other cars in an attempt to set more hand brakes. When the cut of cars collided with a ballast pile, used as a bumping post, that was located at the end of the track, he was crushed to death between the two cars he was trying to apply hand brakes.
****

6…July 21, 1995 – CR – Hershey, PA **Employee Tripping, Slipping, Falling**
Possible Contributing Factor(s)
Employee falling from moving equipment

A three-person crew was switching an industry. The conductor had directed a few switching moves and then instructed the engineer to haul out of the plant. The conductor was observed by a plant employee riding on the trailing end of the first of two tank cars being pulled out of the plant. Moments later the conductor fell between the cars and was killed when he was run over by the trailing car in the two car move.
****

Narratives of 14 July Switching Fatalities (continued)

SOFA Recommendation and/or Special Switching Hazards

7…July 07, 1996 – NS – Sidney, IN **Recommendation 5**
Possible Contributing Factor(s)
Employee on or fouling track
Metal stress over physical exam/lack of sleep

Road crew, engineer and conductor, while stopped on siding track to meet an opposing train, FE (conductor) detrained to perform a roll-by inspection of other train. FE stepped off his train shortly before opposing trains arrival then stood in that trains track while trying to adjust his portable radio. Opposing train struck FE at this point. FE had one year of experience.
****

8…July 18, 1997 – MNCW – Stamford, CT **Struck by Mainline Trains**
Possible Contributing Factor(s)
Employee on or fouling track

A conductor/flagman was assigned to protect contractor workers that were installing construction poles near a passenger station platform. To better observe the work, the conductor/flagman placed himself within the gauge of a "live" main track and was struck and killed by a passing train.
****

9…July 01, 1998 – NS – Buechel, KY **Close Clearance**
Possible Contributing Factor(s)
Poor intra-crew communication about work in progress
Close or no clearance

A three-person local switching crew (conductor, engineer and utility employee) had just begun to pull five cars out of an industrial loading dock while the conductor and the utility employee began to walk toward the door providing egress out of the dock area. Suddenly, according to the conductor, the utility employee allegedly tripped on some material on the dock, grabbed the side of the outgoing cut of cars and was pulled between the car he was holding onto and the handrail structure that accompanied the stairs leading from the platform to the door. He died two weeks later.
****

Narratives of 14 July Switching Fatalities (continued)

SOFA Recommendation and/or Special Switching Hazards

10…July 07, 2000 – CKRY – Wichita, KS **Recommendation 1**

Possible Contributing Factor(s)
Employee on or fouling track
Other general switching rules

Employee was struck by his own train when he tripped and fell onto the rail as he stepped in between moving equipment to open a knuckle while walking backwards.

****

11…July 24, 2000 – PARN – Skagway, AK **Recommendation 4**

Possible Contributing Factor(s)
Employee on or fouling track
Poor intra-crew communication about work in progress
Radio communication, improper

A two-person yard switching crew was in the process of moving their light locomotives to a track where it was to be stored for the night. The conductor was on the leading end of the unit and directing the move by radio communication. After instructing the engineer to stop, the conductor got off the locomotive, lined two switches and told the engineer to back up. The engineer backed up until he placed the unit at the location where it is always left without further radio contact from his conductor. The conductor was struck and killed by the locomotive and found, by the engineer, under the locomotive's fuel tanks.

****

12…July 28, 2000 – UP – St. Louis, MO **Close Clearance**

Possible Contributing Factor(s)
Close or no clearance
Failure to communicate unsafe condition

A three-person local switching crew was in the process of setting cars into a track within an industry. The switchman was riding the side ladder of the leading end of the leading car as it went into the building. The doorway would not clear a man riding on the side of the car and the trainman was killed as he was compressed between it and the car he was riding.

****

Narratives of 14 July Switching Fatalities (continued)

SOFA Recommendation and/or Special Switching Hazards

13…July 13, 2001 – CPRS – Bensenville, IL **Free-Rolling Railcars**

Possible Contributing Factor(s)
Car left afoul
Shoving movement, man on or at leading end of movement, failure to control

The three-person crew had just finished kicking a flat car into a clear track and the conductor was about to mount the leading end of a cut of cars to be kicked into another track further down the lead. As the conductor issued instructions to the engineer to begin the move, and to the crew, the flat car had not cleared the fouling point to the lead. The shove move rode up onto the flat car derailing the car the conductor was riding on which crushed him to death.

****

14…July 16, 2002 – NS - Bonlee, NC **Recommendation 4**

Possible Contributing Factor(s)
Other miscellaneous causes

While shoving lite engines back to train on mainline, employees failed to control the movement by radio, resulting in a collision with a standing train.

The Five Lifesavers

- **Secure equipment before action is taken.**
- **Protect employees against moving equipment.**
- **Discuss safety at the beginning of a job or when a project changes.**
- **Communicate before action is taken.**
- **Mentor less experienced employees to perform service safely.**

5 Switching Fatalities in 2005. Most recent May 13

(Information on 2005 Switching Fatalities is preliminary pending formal investigation.)

1. **JAN 10 at Buena Vista, AR**… A 53-year-old, Union Pacific (UP) conductor was struck and killed by lite engines that were running down the main track to the head end of his train, which was standing on the siding, to deliver a locomotive unit.

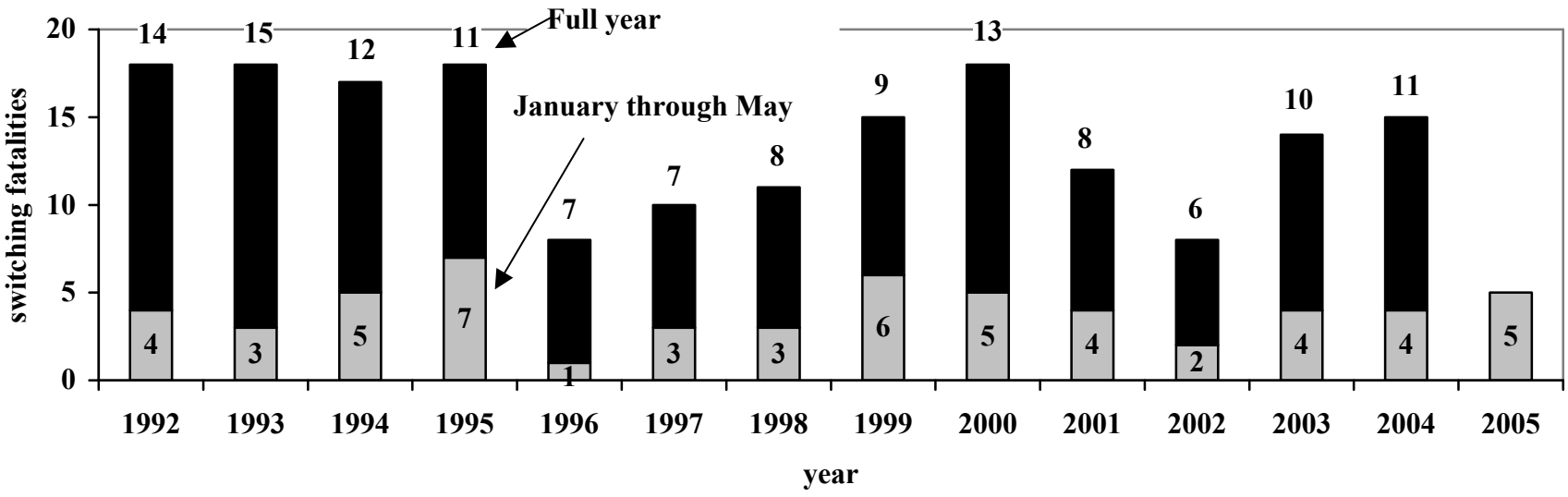
2. **JAN 26 at Los Angeles, CA** … A 52-year-old, Pacific Harbor Lines (PHL) conductor was struck and killed by his own cut of cars when he lined switches, thought the cars were going to one track, turned his back, and the cars came down the track he was fouling.

3. **APR 06 at Selma, AL** …A Norfolk Southern (NS) brakeman, part of a road crew, was assisting in and working with the local yard assignment in putting his train away. During a shove move, the brakeman was struck and killed by the leading end of a cut of cars the local yard assignment was moving.

4. **APR 11 at Ogden, UT**…A Union Pacific (UP) switchman was riding on a car that was located at other than the leading end of a shove move and giving radio commands to the RCL operator who was controlling the locomotive being used to shove the cars into a track. Radio communication ceased, the move stopped and the switchman was found dead adjacent to the track being shoved.

5. **MAY 13 at Detroit, MI**… A 24-year-old, Delray Connecting Railroad (DCRR) conductor died of injuries sustained when the car he was riding derailed. He was crushed between the car and a cement abutment.

Switching Fatalities, January through May, and Full Year, 1992 to 2005



Switching Fatality Prevention

July Switching Fatalities Involved SOFA Recommendation 1

Wichita, KS

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.

July Switching Fatalities Involved SOFA Recommendation 2

Wisconsin Rapids, WI

Recommendation 2

When two or more train crews are simultaneously performing work in the same yard or industry tracks, extra precautions must be taken:

SAME TRACK

- Two or more crews are prohibited from switching into the same track at the same time, without establishing direct communication with all crew members involved.

ADJACENT TRACK

- Protection must be afforded when there is the possibility of movement on adjacent track(s). Each crew will arrange positive protection for (an) adjacent track(s) through positive communication with yardmaster and/or other crew members.

Lifesaver 2

Protect employees against moving equipment.

Discussion 2

FE-06-94 and FE-31-94 both involved standing equipment left by another crew. In both cases, it can be argued that there was no possibility of either piece of equipment being moved. However, the fact that both pieces of equipment contributed to the fatalities and in both cases the respective crews had no knowledge that the equipment had been moved into the work area and that the physical layout expected by each fatality had changed contributed to the incident. Compliance with and an understanding of this recommendation would have prevented the other seven fatalities.

July Switching Fatalities Involved SOFA Recommendation 3

Wisconsin Rapids, WI

Recommendation 3

At the beginning of each tour of duty, all crew members will meet and discuss all safety matters and work to be accomplished. Additional briefings will be held any time work changes are made and when necessary to protect their safety during their performance of service.

Lifesaver 3

Discuss safety at the beginning of a job or when a project changes.

Discussion 3

Safe switching operations require teamwork and accountability among all crew members. Each crew member takes responsibility for their own and their fellow crew member's safety. Team work begins with a detailed, effective job briefing, but includes continued updates to all crew members describing the current state of each move as it is executed.

July Switching Fatalities Involved SOFA Recommendation 4

Portland, OR **Anderson, IN** **Skagway, AK** **Bonlee, NC**

Recommendation 4

When using radio communication, locomotive engineers must not begin any shove move without a specified distance from the person controlling the move. Strict compliance with "distance to go" communication must be maintained.
When controlling train or engine movements, all crew members must communicate by hand signals or radio signals. A combination of hand and radio signals is prohibited. All crew members must confirm when the mode of communication changes.

Lifesaver 4

Communicate before action is taken.

Discussion 4

The SOFA group believes that the key to radio use when backing, shoving or pushing a train or cut of cars is the communication between the locomotive engineer and the train crew. The crew must develop the discipline to remain stopped until specific car counts are given by the ground person, rather than to begin moving and then expect to receive the count. If this is done, fatalities related to improper radio communication can be substantially reduced. Additionally, mixing radio and hand signals causes confusion, reduces the chance that other members of the crew would hear of a change in the switching operations, thereby greatly increasing misunderstandings, and, has directly led to fatalities studied by the SOFA Group.

July Switching Fatalities Involved SOFA Recommendation 5

Sidney, IN

Recommendation 5

Crew members with less than one year of service must have special attention paid to safety awareness, service qualifications, on-the-job training, physical plant familiarity, and overall ability to perform service safely and efficiently. Programs such as peer review, mentoring, and supervisory observation must be utilized to insure employees are able to perform service in a safe manner.

Lifesaver 5

Mentor less experienced employees to perform service safely.

Discussion 5

While classroom training time has increased, in general, the SOFA group has focused on experience and on-the-job training. We have found that limited training and experience continues to factor into many switching operation fatalities. Additional on-the-job training and experience, while working with more experienced peers, may help reduce fatalities among crew members with limited service.

July Switching Fatalities Involving Special Switching Hazards

"In addition to the Five Operating Recommendations, the SWG (SOFA Working Group) wants to make those engaged in switching operations aware of Special Switching Hazards. In its review of each of the 124 fatalities, the SWG identified a number of fatalities involving close clearances (10 fatalities), being struck by mainline trains (8 fatalities), and occurring during shove movements (61 fatalities). The number of fatalities involving close clearance and being struck by mainline trains would be greater if those classified both as a Special Switching Hazard and an Operating Recommendation were included in these fatality counts." - from *Findings and Recommendations of the SOFA Working Group: August 2004 Update*. p. xiv.

Colen Siding, TX	**Exposure to Mainline Trains**
Stamford, CT	**Exposure to Mainline Trains**
Bensenville, IL	**Free Rolling Railcars**
Essex, MT	**Free Rolling Railcars**
Hershey, PA	**Tripping, Slipping, or Falling Exposures**
Buechel, KY	**Close Clearances**
St. Louis, MO	**Close Clearances**

List of Special Switching Hazards Identified by SOFA Working Group…

- Close Clearances*
- Free Rolling Railcars
- Exposure to Mainline Trains
- Tripping, Slipping, or Falling Exposures
- Adverse Environmental Conditions
- Shoving Movements
- Unsecured Cars
- Unexpected Movement of Cars
- Equipment Defects
- Motor Vehicles or Loading Devices
- Drugs and Alcohol

* The SOFA Working Group has broadened the traditional definition of 'close clearances' to include situations "When an employee is passing, or being passed, by an object or equipment and the conditions are such that there is not enough room for the employee to avoid being struck." From *Findings and Recommendations of the SOFA Working Group: August 2004 Update*. p.48-50.

July 2005: SOFA-defined Severe Injuries

SOFA-defined Severe Injuries [1]

Injuries

Amputations [2]

January 1992 to March 2005

	1997	1998	1999	2000	2001	2002	2003	2004	2005
JAN	11	13	16	15	21	12	11	11	20
FEB	17	15	9	9	9	13	17	14	10
MAR[3]	14	12	17	11	10	10	13	10	8
YEAR TO DATE	**42**	**40**	**42**	**35**	**40**	**35**	**41**	**35**	**38**
APR	8	10	6	10	12	6	9	13	
MAY	6	12	8	8	12	14	9	6	
JUN	9	10	8	11	8	5	10	9	
JUL	9	14	10	8	10	7	6	10	
AUG	13	10	11	14	8	10	7	14	
SEP	10	11	15	10	20	12	5	4	
OCT	12	12	16	10	5	11	9	7	
NOV	12	9	12	11	13	14	10	10	
DEC	18	9	7	22	12	9	8	15	
totals	**139**	**137**	**135**	**139**	**140**	**123**	**114**	**123**	

	1997	1998	1999	2000	2001	2002	2003	2004	2005
	1	0	2	1	0	0	2	2	2
	0	1	0	1	0	2	1	2	0
	3	4	3	2	1	1	3	1	4
YEAR TO DATE	**4**	**5**	**5**	**4**	**1**	**3**	**6**	**5**	**6**
	1	2	0	1	2	0	1	1	
	1	2	3	0	2	2	2	0	
	2	1	1	0	1	0	0	1	
	1	5	1	0	4	0	1	2	
	1	0	1	4	0	1	0	2	
	2	4	3	2	5	4	0	0	
	2	5	2	2	0	0	2	2	
	2	2	2	2	3	0	1	1	
	4	1	0	4	1	1	2	1	
totals	**20**	**27**	**18**	**19**	**19**	**11**	**15**	**15**	

1 *Severe Injuries* were defined by the SOFA Working Group as (1) potentially life threatening; (2) high likelihood of permanent loss of function, permanent occupational limitation, or other permanent disability; (3) likely to result in significant work restrictions; and (4) result from a high-energy impact to the human body. 'Severe Injuries' include amputation, dislocation of the neck, loss of eye, electric shock or burn, and fracture to any bone except the lower arm, fingers, foot, and toes, See *Severe Injuries to Train and Engine Service Employees: Data Description and Injury Characteristics*. July 2001. This report may be found on the FRA's website.

2 Amputations are a type of SOFA-defined Severe Injury and are counted in 'Injuries'. Amputations are broken out separately because of the extreme nature of trauma to employees engaged in switching operations, and the potential for permanent occupational limitation.

3 March 2005 is the latest month of Severe Injuries available from the Federal Railroad Administration's electronic files.

74 SOFA-defined Severe Injuries (including amputations) in July
(January 1997 to March 2005)

Note: March 2005 is the latest month available from the Federal Railroad Administration's electronic files.

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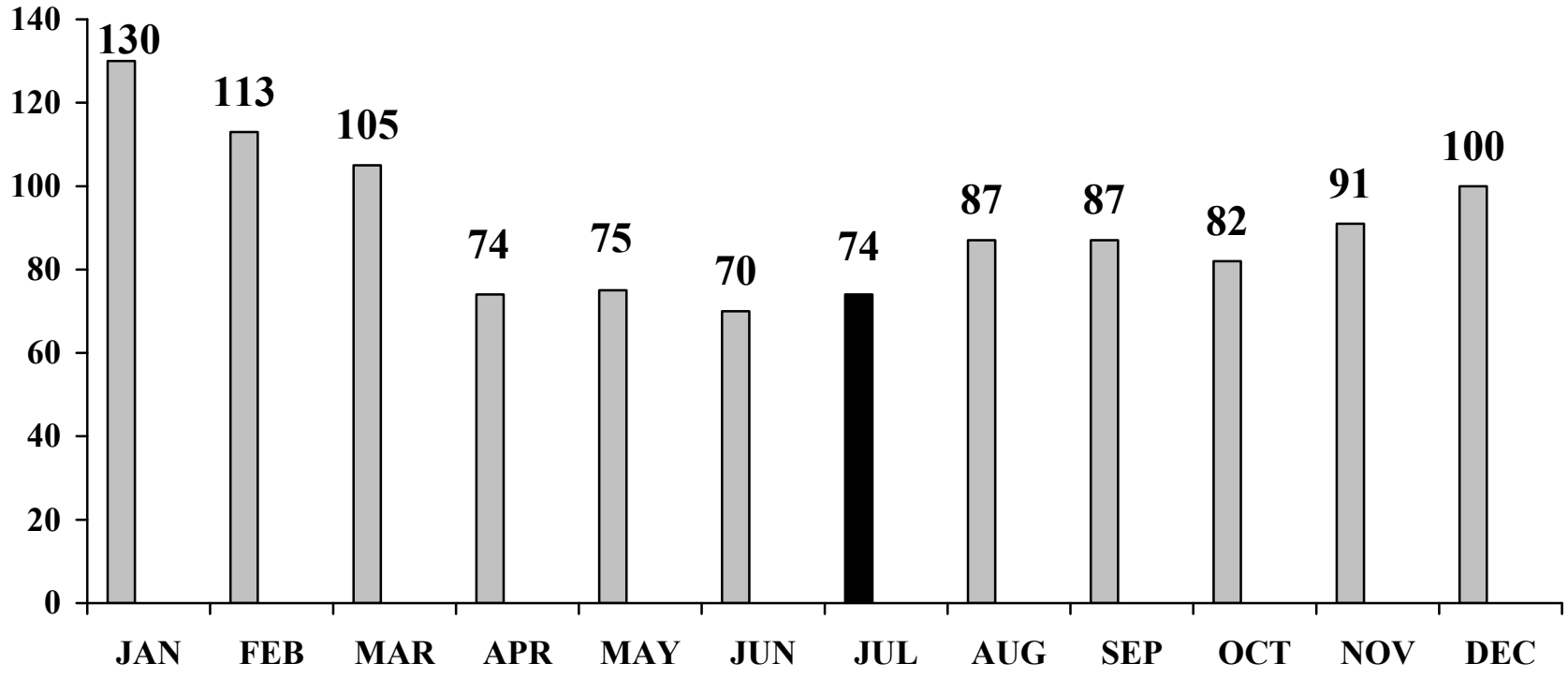
(January, February, and March represent 9 years of Severe Injuries. All other months are 8 years.)



1088 Severe Injuries occurred from January 1997 through March 2005

131.3 Severe Injuries occur each year on average

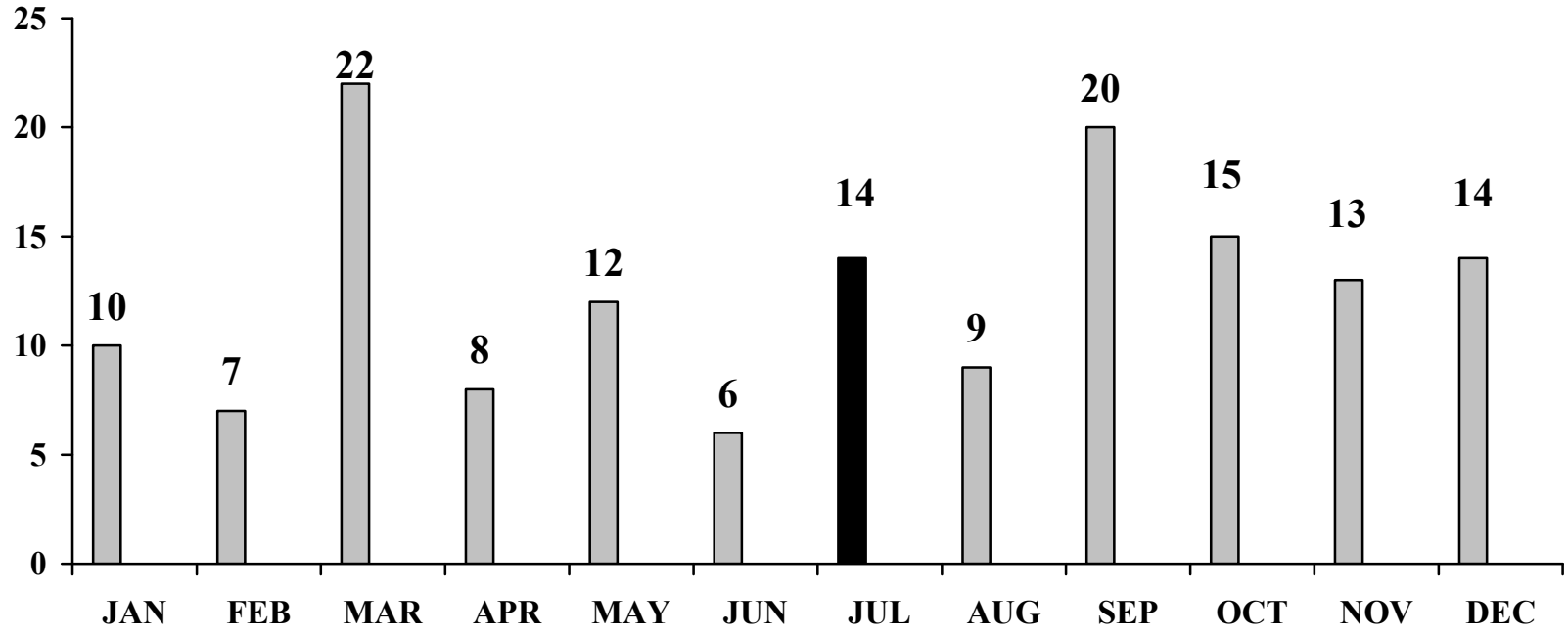
14 Amputations (a type of Severe Injury) in July

(January 1997 to March 2005)

Note: March 2005 is the latest month available from the Federal Railroad Administration's electronic files.

- **Amputations are a type of SOFA-defined Severe Injury and are counted in Severe Injuries.**
- **Amputations are displayed separately because of the extreme nature of trauma to employees engaged in switching operations, and the potential for permanent occupational limitation.**

(January, February, and March represent 9 years of Severe Injuries. All other months are 8 years.)



150 Amputations occurred from January 1997 through March 2005

18.1 Amputations occur each year on average