

## PLEASE POST IMMEDIATELY

# Save Lives...work together to implement the Five Advisories at the ballast level

2011 SOFA Report, Vol. 1 and 2

electronically available at:

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

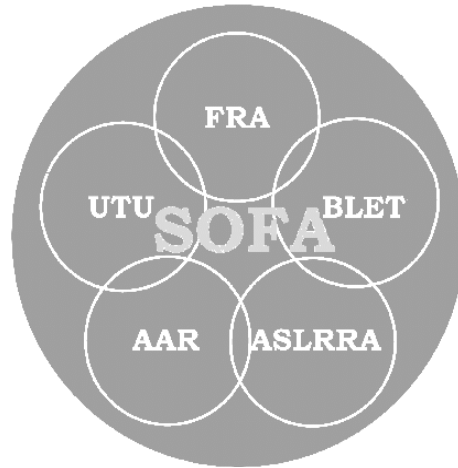
Chapter 3 , Vol. 1, is must reading!

### The Five Safety Advisories:

- Safety Advisory 1: 1.5 years or less of experience, or had inadequate training
- Safety Advisory 2: Close clearance
- Safety Advisory 3: Industrial hazard
- Safety Advisory 4: Lack of, or inadequate, job safety briefing
- Safety Advisory 5: Struck by mainline train

### Implementation:

- Use *2011 SOFA Report* as an educational tool
- Encourage non-punitive, voluntary, collaborate efforts...work together!
- Increase ballast-level awareness of causes of switching Fatalities



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

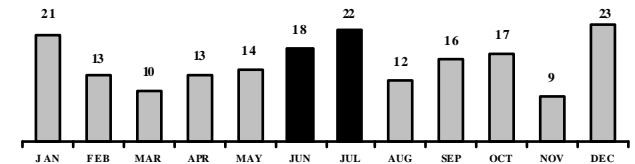
One Switching Fatalities in 2011 through June 05:

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

By comparison, there were two Fatalities through June 05 in 2010

June and July are historically high Fatality months

188 Fatalities, 1992 through June 05, 2011



**EXERCISE CARE IN SWITCHING**

### SOFA-defined Severe Injuries

- 21 SIs in first three months of 2011 v. 17 in 2010
  - 4 Amputations in first three months of 2011 v. 1 in 2010
- Severe Injury updates, pages 19-22

**ALL HARM HAS CONCERN**

## Switching Fatality and Severe Injury Update – 2011 Second Quarter, Advisory Edition

# One Switching Fatality in 2011 through June 05

Preliminary summary not based on investigation

## 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). [‘car left out to foul’ is classified by SOFA as a ‘temporary close clearance’ and is addressed in **Advisory 2**]

### Definition

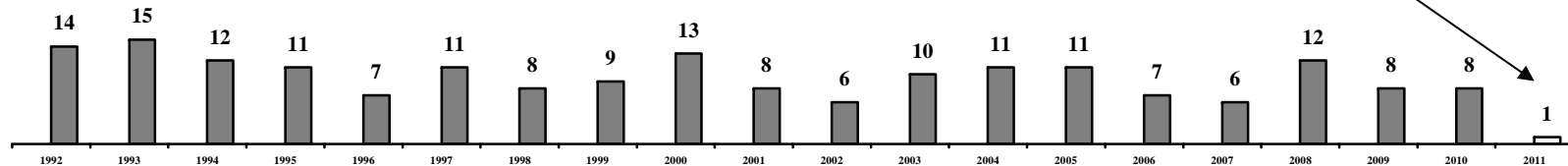
Temporary Close/No Clearance: A movable object, including equipment on or near one track fouling another track, rolling stock on an adjacent track, stacks of cross ties, construction materials, and doors or gates left open, that passes by an employee or an employee passes.

### Full Discussion of Temporary Close/No Clearance

Please consult **Advisory 2 (Close clearance)** contained in the *2011 SOFA Report*

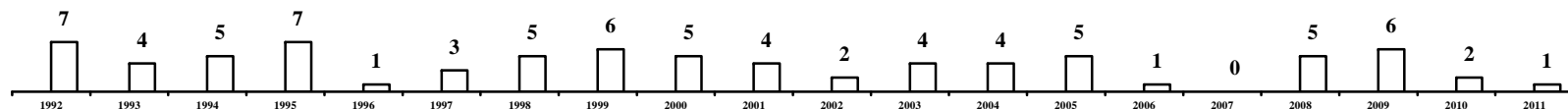
## 188 Switching Fatalities

1992 through 2010, full-year; 2011 through June 05, part year



## 188 Switching Fatalities

1992 through 2011, through June 05...approximately first five months of each year



## **Save Lives...work together to implement the Five Advisories at the ballast level**

The SOFA Working Group (SWG) has recently developed Five Advisories in need of implementation. The need exists because recent Fatalities have resulted. A complete discussion of these Advisories is contained in the *2011 SOFA Report*, available at <http://www.fra.dot.gov/Pages/1781.shtml>

In the pages following, summary information is provided about each Advisory and implementation. SWG urges the industry to become familiar with each Advisory. And to implement using a collaborative, educational, and non-punitive approach as by working together. Again, implementation is needed because recently tragic events have resulted. And, of course, SWG is not suggesting that such implementation come at the neglect of other safety efforts

### **The Five Safety Advisories**

- **1.5 years or less of experience, or had inadequate training**
- **Close clearance**
- **Industrial hazard**
- **Lack of, or inadequate, job safety briefing**
- **Struck by mainline train**

## **Save Lives...work together to implement the Five Advisories at the ballast level**

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

- All should understand the need for implementation. The Advisories can prevent Fatalities because content is based on the causes of Fatalities. Recent Fatalities have disproportionately resulted from issues addressed by these Advisories.
- All industry members should be involved in implementation.
- Empowerment has importance. As quoted from the *2011 SOFA Report*: “Safe practices in switching operations are the responsibility of all railroad industry employees. Employees must be able to make decisions on safe actions and be allowed to cease work in the interest of safety. As expressed in many of the railroad’s empowerment statements, when performing safe actions employees should be free from reprisal by discipline, discrimination, or harassment when executing those safe actions. When using discretion to choose safe actions, the employee should use that discretion appropriately. An empowered work environment allows the railroad industry to progress toward attaining the SOFA goal of Zero Fatalities.”
- Implementation should look beyond rule-based approaches. The intent of the Advisories is not to elevate discipline. Training and education are crucial, as are positive -- and not punitive -- relationships within the industry.
- Need exits for monitoring and measuring implementation progress. Importance exists for developing information, metrics, and systems to track such implementation progress. Such feedback can improve the implementation process.

## **Issues for Discussion in Implementing the Five Safety Advisories**

- **What kinds of actions are necessary for the Five Safety Advisories to be implemented so substantial safety benefits can be realized?**
- **What kinds of opportunities do you, your fellow employees, and your organizations have to positively implement these actions?**
- **How can the industry work collaboratively to implement the Advisories in an educational, non-punitive manner?**
- **What barriers exist to implementation?**
- **Are there other issues and concerns about these Five Safety Advisories?**

## Number of Five Advisories involved in Fatalities

### 179 Fatalities cases, 1992 through 2009

**A Fatality may involve one or more Advisories. As example, ‘Struck by mainline train’ and ‘Lack of, or inadequate, job safety briefing’ have both occurred in some Fatality events. Thus, the number of Advisories involved in the 179 Fatalities is greater than the number of Fatalities involving one or more Advisories. (The number of Fatalities involving one or more Advisories is shown on the next page)**

SOFA Safety Advisory	Description	Fatalities Involving Advisory, 1992 through 2009
#1	1.5 years or less of experience, or had inadequate training	32
#2	Close clearance	29
#3	Industrial track hazard	26
#4	Lack of, or inadequate, job safety briefing	23
#5	Struck by mainline train	20

**Implementing the Five Safety Advisories would substantially reduce Fatality events. And represent a substantial step in achieving the Zero Fatality Goal. Full achievement will also involve continuing to apply the SOFA Recommendations and recognizing Special Switching Hazards**

## Fatalities involving one or more of the Five Safety Advisories

The SOFA study period (1992 and 2009) can be sub-divided into two, nine-year periods, defined by when the original Five SOFA Recommendations (Five Life Savers) would have a full-year effect on Fatality reduction after allowing for an adoption process throughout the industry. In the pre-SOFA period (1992-2000), there were 44 Fatalities involving one or more of the Safety Advisories, 44 percent of the 100 total Fatalities. In the post-SOFA period, there were 46 Fatalities involving one or more of the Safety Advisories, 58 percent of the 79 total Fatalities. The pre- and post-SOFA period percentage differences (44 v. 58 percent) may in part be explained by the success of SOFA Recommendations 1, 2, and 4 in reducing Fatality-event mechanisms. Thus, a higher percentage of Fatalities involving the Five Safety Advisories would be expected, having not yet been implemented. Notwithstanding, in more recent years, high percentages of Fatalities involve these Safety Advisories. Successful implementation of the Advisories will bring significant reductions in annual Fatality counts

Year	Fatalities Involving One or More Safety Advisories	Percent	Fatalities <u>Not</u> Involving One or More Safety Advisories	Percent	Total Fatalities
1992	5	36%	9	64%	14
1993	8	53%	7	47%	15
1994	5	42%	7	58%	12
1995	5	45%	6	55%	11
1996	5	71%	2	29%	7
1997	3	27%	8	73%	11
1998	3	38%	5	62%	8
1999 (October release of first <i>SOFA Report</i> )	5	56%	4	44%	9
2000	5	38%	8	62%	13
<b>pre-SOFA period (1992-2000) totals and averages</b>	<b>44</b>	<b>44%</b>	<b>56</b>	<b>56%</b>	<b>100</b>
2001	4	50%	4	50%	8
2002	3	50%	3	50%	6
2003	3	30%	7	70%	10
2004 (August release of second <i>SOFA Report</i> )	6	55%	5	45%	11
2005	9	82%	2	18%	11
2006	4	57%	3	43%	7
2007	2	33%	4	67%	6
2008	8	67%	4	33%	12
2009	7	88%	1	12%	8
<b>post-SOFA period (2001-2009) totals and averages</b>	<b>46</b>	<b>58%</b>	<b>33</b>	<b>42%</b>	<b>79</b>
<b>Combined (1992-2009) totals and averages</b>	<b>90</b>	<b>50.3%</b>	<b>89</b>	<b>49.7%</b>	<b>179</b>

**90 of 179 Fatalities, 1992 through 2009, involve one or more Advisories  
...and Advisory Fatalities are also associated with  
SOFA Recommendations and Special Switching Hazards**

- **90 (50.3 percent) of the 179 Fatalities the SOFA Working Group (SWG) has reviewed involve one or more of the Five Safety Advisories**
- **Among these 90 Fatalities, 57 Fatalities (63 percent) involve just one Advisory; 26 Fatalities (29 percent) involve two Advisories; and 7 Fatalities (8 percent) involved three Advisories. No Fatalities among the 90 cases involved four or all five of the Advisories**
- **Thus, 33 (37 percent) of the 90 Fatalities involved more than one Advisory**
- **As well, Advisories interact with SOFA Recommendations and Special Switching Hazards (SSHs) not formally addressed by the Advisories. 49 Fatalities (54 percent) of the 90 Advisory cases, involve such Recommendations and SSHs**
- **(In fact, of the 179 Fatalities SWG has reviewed, 97 Fatalities (54 percent) involved more than a single assigned cause (one Advisory, or Recommendation, or SSH)**
- **Thus, significant interactions exist in Fatality events**
- **Currently, SWG is stressing the immediacy of implementing the Five Advisories at the ballast level. Because recent Fatalities have disproportionately involved Advisories. However, this need should not come at the neglect of addressing Recommendations and SSHs. And other switching safety issues, some local in nature**
- **Implement the Five Advisories, and also continue to emphasize other reasons why Fatalities occur. Prevent interactions that aid and enable Fatalities related to the Five Advisories**

# **Safety Advisory #1:**

## **1.5 years or less service, or inadequate training**

### **Basis:**

- *Since the 1999 SOFA Report, the SWG emphasis on mentoring has not achieved a substantial reduction in SOFA 5 (Inexperienced Employee) fatalities*

### **Therefore:**

- **It is critical for the railroad industry to provide the inexperienced employee adequate On-the-Job-Training (OJT)**
- **Without abandoning the commitment to mentoring, the railroad industry should improve OJT to include targeted training for the inexperienced employee. Providing follow-up review of skills, and targeted training by the railroad industry enables an inexperienced employee to meet the demands of the job**
- **Smaller railroads in particular may benefit from a review of their OJT, and improved follow-up with inexperienced employees**

**Please consult the *2011 SOFA Report* for complete Advisory**

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

## **Additional details...Safety Advisory #1: 1.5 years or less service, or inadequate training**

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

## **Safety Advisory #2: Close clearance**

### **Basis:**

- *Removing the hazard is the best way to address close/no clearances. Yet, in many cases a close/no clearance condition will not be able to be eliminated*

### **Therefore:**

- **Proper signage should be implemented and be instructive to the employee. The sign should be an appropriate distance from the close/no clearance location and on the same side**
- **Signage must (a) announce the clearance issue and (b) instruct the employee who is controlling the movement to dismount and remain dismounted from the equipment while passing the close/no clearance location**
- **One method to determine the signage design, appropriate distance, and position may be to organize a management-labor working group**

**Please consult the *2011 SOFA Report* for complete Advisory**

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

## Additional details...Safety Advisory #2: Close clearance

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

## **Safety Advisory #3: Industrial hazard**

### **Basis:**

- *Railroads and industries need to have Industry Track Agreements, practices, or policies in place, and these should contain oversight and enforcement of the safety provisions. Railroads must provide employees with the tools and/or assistance to allow them to safely perform their work while within an industry*

### **Therefore:**

- **Employees need to be empowered to make a decision to stop work when an unsafe condition presents itself. Railroad managers must be educated to encourage employees to make a good faith effort to identify and report hazards at industries. Employees making a good faith effort to identify and report hazards will not be subject to discipline, discrimination, or harassment for doing so**
- **Employees engaged in switching operations must not ride railroad equipment through a grade crossing during a shove movement. Industries need to educate and instruct all vehicle operators concerning separation between their vehicle and railroad equipment by being attentive to movements in the industry**

**Please consult the *2011 SOFA Report* for complete Advisory**

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

## **Additional details...Safety Advisory #3: Industrial hazard**

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

## **Safety Advisory #4: Lack of, or inadequate, job safety briefing**

### **Basis:**

- *Ongoing communication is crucial among employees during the entire time switching operations are being performed, including periods when tasks are changing or when anomalies occur. A job briefing is a two-way exchange of information to reach an understanding of the tasks being performed*
- *More than half of SOFA 3 (Job Briefings) fatalities in yards occurred when a job task changed and an update to the job briefing did not occur*

### **Therefore:**

- **More progress can be made in the area of work changes. When work changes occur, the employees involved may not maintain currency with these changes; thus, they may be unaware of the tasks to be performed, and this may place them in peril**
- **RR industry must remain vigilant regarding fatalities, and when work changes occur, employees must regroup, take appropriate steps to provide protection, and not proceed until an update to the job briefing is done**

**Please consult the *2011 SOFA Report* for complete Advisory**

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

## **Additional details...Safety Advisory #4: Lack of, or inadequate, job safety briefing**

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

# **Safety Advisory #5: Struck by mainline train**

## **Basis:**

- *Communication is essential to eliminating fatalities. Fatalities occur when employees are unaware of risks associated with doing work along mainline track, particularly during darkness and winter months*

## **Therefore:**

- **Insist upon consistent use of multiple methods to warn employees about oncoming on-track movements**
  - Warnings should be made to the approaching on-track movement of an employee's location when a crew member is outside of the locomotive cab
  - Consider improving employee visibility when performing work on the ground
- **Use job briefing procedures before locomotive dismount or work along mainline track to establish a safe method for performing work**
  - When possible, employees must dismount to the safe side
- **Empower employees to establish a safe location when stopping and/or performing work when on or near mainline track**
  - The RR industry must support employees in the use of individual discretion as part of an effort to determine a safe location to perform work

**Please consult the *2011 SOFA Report* for complete Advisory**

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

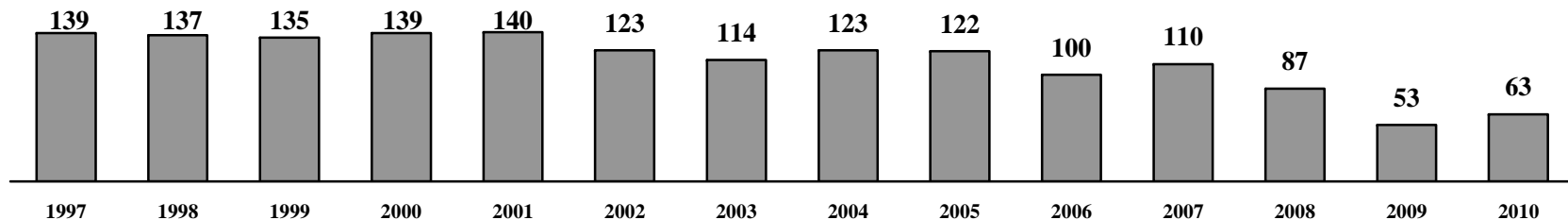
## **Additional details...Safety Advisory #5: Struck by mainline train**

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

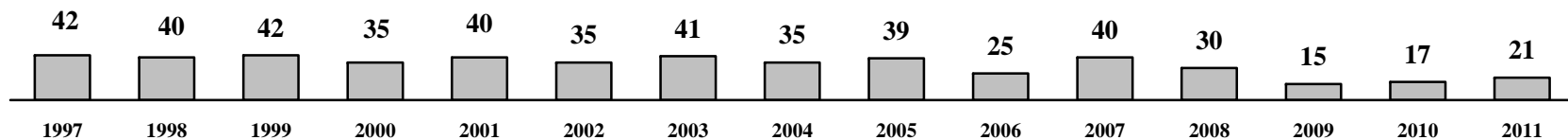
# SOFA-defined Severe Injuries... All Harm to Employees has Concern

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

**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 three months of year, 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 March 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 publication 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
<b>JAN</b>	11	13	16	15	21	12	11	11	20	10	14	13	6	6	8	187	12.5
<b>FEB</b>	17	15	9	9	9	13	17	14	10	6	15	12	4	7	9	166	11.1
<b>MAR</b>	14	12	17	11	10	10	13	10	9	9	11	5	5	4	4	144	9.6
<b>First three months</b>	<b>42</b>	<b>40</b>	<b>42</b>	<b>35</b>	<b>40</b>	<b>35</b>	<b>41</b>	<b>35</b>	<b>39</b>	<b>25</b>	<b>40</b>	<b>30</b>	<b>15</b>	<b>17</b>	<b>21</b>		<b>33.1</b>
<b>APR</b>	8	10	6	10	12	6	9	13	10	7	8	9	5	7		120	8.6
<b>MAY</b>	6	12	8	8	12	14	9	6	6	8	3	7	1	7		107	7.6
<b>JUN</b>	9	10	8	11	8	5	10	9	7	11	5	3	6	4		106	7.6
<b>JUL</b>	9	14	10	8	10	7	6	10	5	12	8	1	4	4		108	7.7
<b>AUG</b>	13	10	11	14	8	10	7	14	10	10	13	5	4	5		134	9.6
<b>SEP</b>	10	11	15	10	20	12	5	4	9	6	10	12	5	3		132	9.4
<b>OCT</b>	12	12	16	10	5	11	9	7	11	5	11	4	2	4		119	8.5
<b>NOV</b>	12	9	12	11	13	14	10	10	13	8	6	8	3	6		135	9.6
<b>DEC</b>	18	9	7	22	12	9	8	15	12	8	6	8	8	6		148	10.6
<b>totals</b>	<b>139</b>	<b>137</b>	<b>135</b>	<b>139</b>	<b>140</b>	<b>123</b>	<b>114</b>	<b>123</b>	<b>122</b>	<b>100</b>	<b>110</b>	<b>87</b>	<b>53</b>	<b>63</b>		<b>1,606</b>	<b>113.2</b>

# Amputations (a type of Severe Injury), by month and year, January 1997 through March 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
<b>JAN</b>	1	0	2	1	0	0	2	2	2	0	1	1	1	0	2	15	1.0
<b>FEB</b>	0	1	0	1	0	2	1	2	0	2	1	0	0	1	2	13	0.9
<b>MAR</b>	3	4	3	2	1	1	3	1	2	1	0	1	1	0	0	23	1.5
<b>First three months</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>4</b>		<b>3.4</b>
<b>APR</b>	1	2	0	1	2	0	1	1	2	2	3	3	1	0		19	1.4
<b>MAY</b>	1	2	3	0	2	2	2	0	0	1	1	0	0	1		15	1.1
<b>JUN</b>	2	1	1	0	1	0	0	1	0	0	1	1	0	0		8	0.6
<b>JUL</b>	1	5	1	0	4	0	1	2	1	2	2	0	1	1		21	1.5
<b>AUG</b>	1	0	1	4	0	1	0	2	2	0	3	0	1	1		16	1.1
<b>SEP</b>	2	4	3	2	5	4	0	0	3	1	1	2	0	1		28	2.0
<b>OCT</b>	2	5	2	2	0	0	2	2	0	0	2	0	0	1		18	1.3
<b>NOV</b>	2	2	2	2	3	0	1	1	2	3	1	0	0	0		19	1.4
<b>DEC</b>	4	1	0	4	1	1	2	1	1	0	0	0	1	0		16	1.1
<b>totals</b>	<b>20</b>	<b>27</b>	<b>18</b>	<b>19</b>	<b>19</b>	<b>11</b>	<b>15</b>	<b>15</b>	<b>15</b>	<b>12</b>	<b>16</b>	<b>8</b>	<b>6</b>	<b>6</b>		<b>211</b>	<b>14.8</b>

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

**Source: Switching Fatalities from SOFA Database; all other series from FRA, accessed June 02, 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	2,995	1,067	2,941	992
2007	6	110	16	2,518	2,692	1,046	2,776	877
2008	12	87	8	2,217	2,478	909	2,430	890
2009	8	53	6	1,959	1,900	651	1,926	761
2010	8	63	6	1,850	1,859	621	2,013	833
2010, Jan-Mar	2	17	1	472	508	164	549	147
2011, Jan-Mar	1	21	4	442	481	170	502	154

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

\*\*Counts happened to be identical for these successive years

# **SOFA Switching Fatality Review Section**

## **90 cases associated with one or more of the Five Advisories**

### **Fatality cases that occurred 1992 through 2009**

#### **This section contains Switching Fatality cases for review**

These cases involve one or more of the recently developed Five Advisories. Normally in this section, SWG presents cases that occurred in upcoming months from the date of the *SOFA Update* release. However, due to the importance of implementing the Five Advisories, SWG believes these Advisory cases have immediacy for review.

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

#### **Important in reviewing**

These Advisory cases often also involve the 5 SOFA Recommendations (Five Life Savers) and Special Switching Hazards.

#### **In respect**

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

#### **Where to find more information**

Chapter 3, *Vol. 1*, of the *2011 SOFA Report* is must reading!

This and previous SOFA reports, are available at:

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

**Save Lives...work together to implement the Five Advisories at the ballast level**

**90 of the 179 Fatality cases (occurring from 1992 through 2009) involve one or more of the Five Advisories. That is, some of these 90 cases are associated with more than one Advisory. These 90 cases are presented below. Note that many of these cases also involve the Five SOFA Recommendations (Five Life Savers) and/or Special Switching Hazards**

**#1 FE-1992-04 30-Jan-92 AGC Polk County, FL Yard Brakeman/Helper Age: 32**

Industry switch crew, engineer and two flagmen, both flagmen rode the lower steps of the leading end of the lead locomotive. FE (flagman) was on left side, the other flagman on right side. After 2000 feet into this light engine movement the surviving flagman noticed the FE stopped talking and he crossed over to the FE's side and saw FE lying next to the track behind movement. Investigation showed FE either slipped off the fireman's side or tripped while dismounting or attempting to remount from the fireman's side. FE had six months experience.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or inadequate training.

**#2 FE-1992-16 02-Jun-92 IHRC Henderson, KY Freight Conductor Age: 52**

Road switcher R90371-26, was switching cars at Fulton Yard in Fulton, Kentucky. The conductor on the job had ridden shove movement into track seven and secured car and remained at that location while the remainder of the crew switched cars between track seven and track five. At 4:25 a.m., after free rolling the last car into track seven, and while coupling to cars on lead to shove clear of track six, the conductor called via the radio and stated he had been hurt. The conductor was found beneath the L-1 wheel of GATX 10818 in the gauge of track seven and later expired due to injuries sustained.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or inadequate training. Special Switching Hazard (SSHUM): Unexpected movement of railcars.

**#3 FE-1992-20 07-Jul-92 SSW Conlen Siding, TX Freight Engineer Age: 58**

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.

**Advisory 5 (SSHST):** Struck by mainline train.

**#4 FE-1992-30 24-Jul-92 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.

**Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing. Recommendation (SOFA 2): Struck by equipment other than their own on yard or industry track. Special Switching Hazard (SSHUM): Unexpected movement of railcars.

**#5 FE-1992-33 15-Oct-92 BN Omaha, NE Yard Brakeman/Helper Age: 32**

A three-person yard crew was in the process of spotting cars over a material unloading pit and after the first of the cars was spotted the switch foreman took the locomotive out of the plant building to get the other car for spotting. The switchman remained in the building, set a handbrake on the spotted car and awaited the return of the foreman with the engine and second car to be spotted. The switchman was killed when he ended up falling into the second pit and was crushed by the industrial machinery located within.

**Advisory 3 (SSHIH):** Industrial hazard. Special Switching Hazard (SSHMC): Miscellaneous.

**#6 FE-1993-13 13-Apr-93 CSX Dwale, KY Freight Brakeman/Flagman Age: 44**

A three-person crew reported for duty and was transported to a location where they took control of a mainline train. En-route, their work included swapping rear end marking devices. The brakeman apparently became confused, stepped into and began walking within the gauge of the main track, and was struck in the back by a passing mainline train.

**Advisory 5 (SSHST):** Struck by mainline train.

**#7 FE-1993-23 07-Jun-93 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.

**Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing. Special Switching Hazard (SSHUM): Unexpected movement of railcars.

**#8 FE-1993-27 04-Aug-93 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 derailling car.

**Advisory 2 (SSHCC):** Close clearance. **Advisory 3 (SSHIH):** Industrial hazard. Special Switching Hazard (SSHDR): Derailment.

**#9 FE-1993-30 11-Aug-93 SP Tracy, CA Freight Brakeman/Flagman Age: 47**

Crew performing industry switching. Brakeman attempted to couple air hoses while conductor gave engineer instructions to shove the movement. Resulting movement was unexpected to brakeman who was fatally injured.

**Advisory 3 (SSHIH):** Industrial hazard. **Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing. Recommendation (SOFA 4): Move controlled by a combination of hand and radio signals or specific distances were not given.

**#10 FE-1993-40 19-Oct-93 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.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. Special Switching Hazard (SSHDR): Derailment.

**#11 FE-1993-47 13-Nov-93 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.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or inadequate training. **Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing. Special Switching Hazard (SSHUM): Unexpected movement of railcars

**#12 FE-1993-49 05-Dec-93 SOU Atlanta, GA Freight Conductor Age: 59**

Change in operating procedure between two crews swapping equipment resulted in conductor being struck by unexpected movement while he was in the foul of the track.

**Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing. Special Switching Hazard (SSHUM): Unexpected movement of railcars.

**#13 FE-1993-53 30-Dec-93 CR Brook Park, OH Yard Conductor/Foreman Age: 61**

A three-person yard crew was in the process of switching a plant. The brakeman was at the plant doors and the conductor and engineer had hauled out to put away a car that had been removed from the plant. After the conductor had tied onto the cars to go into the plant and begun to shove toward the plant, the car that had just been placed on an adjacent track rolled out, fouled the conductor's movement, and crushed him between the leading car and the rolling car.

**Advisory 3 (SSHH):** Industrial hazard. Special Switching Hazard (SSHEV): Environment.

**#14 FE-1994-06 20-Jan-94 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.

**Advisory 2 (SSHCC):** Close clearance. Recommendation (SOFA 2): Struck by equipment other than their own on yard or industry track. Special Switching Hazard (SSHFR): Free-rolling railcars.

**#15 FE-1994-12 12-Apr-94 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.

**Advisory 2 (SSHCC):** Close clearance.

**#16 FE-1994-28 10-Nov-94 PTR A 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.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. **Advisory 3 (SSHH):** Industrial hazard.

**#17 FE-1994-29 15-Nov-94 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.

**Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing. Recommendation (SOFA 4): Move controlled by a combination of hand and radio signals or specific distances were not given. Special Switching Hazard (SSHUM): Unexpected movement of railcars.

**#18 FE-1994-31 06-Dec-94 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.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. Recommendation (SOFA 2): Struck by equipment other than their own on yard or industry track. Recommendation (SOFA 4): Move controlled by a combination of hand and radio signals or specific distances were not given.

**#19 FE-1995-09 17-Feb-95 CR St. James, OH Conductor Age: 48**

Arbitrary change in switching operations by conductor resulted in him being unexpectedly struck and fatally injured by approaching cars while he was fouling the track.

**Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing. Recommendation (SOFA 4): Move controlled by a combination of hand and radio signals or specific distances were not given. Special Switching Hazard (SSHUM): Unexpected movement of railcars.

**#20 FE-1995-12 02-Mar-95 NS Aiken, SC Brakeman Age: 46**

Switch crew was pulling a cut of cars out of an industry. Brakeman stepped in track gauge to open knuckle on the rear car at the same time crew shoved back to kick two cars that ran over the brakeman.

**Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing. Recommendation (SOFA 1): Adjusting knuckles, adjusting drawbars, or installing EOT.

**#21 FE-1995-29 04-Oct-95 CSXT Riverdale, IL Conductor Age: 39**

Crew performing switching in class yard. Switch foreman placed himself between the rails to adjust a misaligned 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.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. Recommendation (SOFA1): Adjusting knuckles, adjusting drawbars, or installing EOT.

**#22 FE-1995-33 11-Dec-95 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.

**Advisory 2 (SSHCC):** Close clearance. **Advisory 3 (SSHIIH):** Industrial hazard.

**#23 FE-1995-34 14-Dec-95 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.

**Advisory 2 (SSHCC):** Close clearance.

**#24 FE-1996-09 20-Mar-96 BRC Bedford Park, IL Conductor Age: 28**

Three-person crew was switching in class yard, coupling between sixth and seventh car failed to couple. Conductor stopped locomotive and went between the cars to straighten the drawbar, and twenty-three cars rolled in behind him and coupled him up.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. Recommendation (SOFA 1): Adjusting knuckles, adjusting drawbars, or installing EOT. Special Switching Hazard (SSHUC): Unsecured cars.

**#25 FE-1996-12 15-Jun-96 CSX Charlotte, NC Switchman Age: 36**

Yard crew, engineer, conductor and switchman, switching at an industry. While crew was shoving two cars to a spot inside an industry building, FE (switchman) was rolled between lead box car and unloading platform.

Platform or building was not marked with any type of 'no-clearance' or 'close clearance' signage. FE was last seen by conductor on the ground next to movement in a 'cut-out' space in the unloading platform. The conductor reported that there is enough room for a man to clear the movement in this 'cut-out'. After hearing a strange noise the conductor instructed engineer to stop the movement. FE was rolled for 21 feet between boxcar and platform. FE had one year of experience.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. **Advisory 2 (SSHCC):** Close clearance. **Advisory 3 (SSHH):** Industrial hazard.

**#26 FE-1996-17 07-Jul-96 NS Sidney, IN Conductor Age: 29**

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 train's arrival then stood in that train's track while trying to adjust his portable radio. Opposing train struck FE at this point. FE had one year of experience.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. **Advisory 5 (SSHST):** Struck by mainline train.

**#27 FE-1996-22 03-Sep-96 DGNO Dallas, TX Brakeman Age: 43**

Yard switch crew, engineer, conductor and brakeman, while switching at an industry on a downhill grade experienced an unwanted run away car. While FE (brakeman) was in position on a car and setting a hand brake, the car started to roll away from the crew. FE continued to try to apply hand brake in an effort to stop the car. When discovering that the car was rolling away, the conductor attempted to slow and stop it by putting wood blocks under the wheels. The car accelerate to 30 to 35 mph. FE did not detrain before car collided with seven other cars at that speed. FE had three weeks experience.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. Special Switching Hazard (SSHEQ): Equipment.

**#28 FE-1996-24 07-Oct-96 UP Eagle Pass, TX Engine Foreman Age: 35**

Three-person crew was switching in class yard, locomotive failed to couple to cut of seven standing cars. Yard foreman used hand signals to separate the locomotive by twenty feet. While adjusting the locomotive drawbar, the seven cars rolled in and coupled him up.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. Recommendation(SOFA 1): Adjusting knuckles, adjusting drawbars, or installing EOT. Special Switching Hazard (SSHEQ): Equipment.

**#29 FE-1997-22 18-Jul-97 MNC Stamford, CT Conductor Age: 40**

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.

**Advisory 5 (SSHST):** Struck by mainline train.

**#30 FE-1997-32 16-Oct-97 MRL Laurel, MT Switchman Age: 22**

Yard switch crew, engineer, switch foreman and switchman, were shoving a cut 41 cars up a grade to a stop. While this was taking place the ground crew boarded the first two cars so they could apply the hand brakes. FE (switchman) fell off the first car while attempting this. This car was found to have a brake platform with a decreasing width. Under the hand brake this platform was found to be 2 inches under the required width over a length of about 30 inches. FE had 10 months experience.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. Special Switching Hazard (SSHEQ): Equipment. Special Switching Hazard (SSHET): Employee tripping, slipping, or falling.

**#31 FE-1997-36 02-Dec-97 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.

**Advisory 5 (SSHST):** Struck by mainline train.

**#32 FE-1998-05 04-Feb-98 BRC Bedford Park, IL Yard Conductor/Foreman Age: 42**

Conductor and switchman making hoses on track 12, last transmission by conductor is “I think I got all the hoses after that next one....” Conductor later found to have been struck and killed by a free rolling car on the adjacent track.

**Advisory 2 (SSHCC):** Close clearance. Recommendation (SOFA 2): Struck by equipment other than their own on yard or industry track. Special Switching Hazard (SSHFR): Free-rolling railcars.

**#33 FE-1998-16 01-Jun-98 BNSF Lubbock, TX Yard Conductor/Foreman Age: 24**

Two yard engines working on adjacent tracks. One left a car fouling a clear track being used by the other engine. The foreman directing the shove move of the lite locomotives was crushed when his engine consist cornered the car fouling the adjacent track.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. Recommendation (SOFA 2): Struck by equipment other than their own on yard or industry track.

**#34 FE-1998-19 01-Jul-98 NS Buechel, KY Utility Employee Age: 54**

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.

**Advisory 2 (SSHCC):** Close clearance. **Advisory 3 (SSHIH):** Industrial hazard.

**#35 FE-1999-01 12-Jan-99 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.

**Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing. Recommendation (SOFA 4): Move controlled by a combination of hand and radio signals or specific distances were not given. Special Switching Hazard (SSHFC): Failure to confirm route of movement.

**#36 FE-1999-03 22-Jan-99 CR Alexander, NY Conductor Age: 45**

A three person local switching crew was shoving a loaded covered hopper down an industrial lead. The conductor was riding on one side of the car and the brakeman was riding the other. As the car was shoved over a private crossing, the accumulation of ice and snow lifted the car off the rails and it tipped over and onto the conductor who was killed as a result of the derailment.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. Special Switching Hazard (SSHEV): Environment. Special Switching Hazard (SSHDR): Derailment.

**#37 FE-1999-11 02-Apr-99 DME Waseca, MN Brakeman Age: 54**

A three person yard switching crew was switching and the conductor was pulling pins while the brakeman was taking orders from him and working the yard tracks during a flat switching operation. The conductor cut off three cars that rolled into other cars on the track. The brakeman was run over by these cars.

**Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing.

**#38 FE-1999-14 19-May-99 NS Cincinnati, OH Conductor Age: 36**

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

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training.

**#39 FE-1999-24 14-Sep-99 AM Van Buren, AR Conductor Age: 47**

A two person switching crew was in the process of shoving ten cars onto a clear track, with the intention of cutting three off, and pulling out the other seven cars out. The conductor counted down the cars via radio, and the engineer stopped one half-car lengths after the last radio transmission of one-half cars to go. Subsequently, the engineer discovered that the conductor had stepped in between the cars and had been coupled up.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. **Recommendation (SOFA 1):** Adjusting knuckles, adjusting drawbars, or installing EOT. **Special Switching Hazard (SSHDA):** Drugs and alcohol.

**#40 FE-2000-16 22-May-00 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.

**Advisory 2 (SSHCC):** Close clearance. **Advisory 3 (SSHIH):** Industrial hazard.

**#41 FE-2000-23 28-Jul-00 UP St. Louis, MO Switchman Age: 48**

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.

**Advisory 2 (SSHCC):** Close clearance. **Advisory 3 (SSHIH):** Industrial hazard.

**#42 FE-2000-30 15-Oct-00 UP Houston, TX Fireman Age: 47**

Employees failed to discuss movement, resulting in employee falling from locomotive platform and being rolled between the locomotive and the elevated walkway.

**Advisory 2 (SSHCC):** Close clearance. **Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing.

**#43 FE-2000-32 28-Dec-00 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.

**Advisory 5 (SSHST):** Struck by mainline train.

**#44 FE-2000-33 29-Dec-00 BNSF Gillette, WY Conductor Age: 29**

A two-person freight train crew was about to be passed by another freight train at a location on line-of- road. The conductor of the stopped train got up out of his seat, exited the leading locomotive and crossed over the

track on which the on-coming train was proceeding. The conductor was struck and killed by the lead locomotive of the passing train.

**Advisory 5 (SSHST):** Struck by mainline train. SSHED Special Switching Hazard (SSHED): Electronic device (cell phone, MP3 player).

**#45 FE-2001-02 10-Jan-01 CSX Chicago, IL Conductor Age: 42**

Conductor with 14-months service was struck and killed by passing mainline train while attempting to board locomotive at crew-change point.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. **Advisory 5 (SSHST):** Struck by mainline train.

**#46 FE-2001-03 11-Jan-01 NS South Fork, PA Engineer Age: 52**

The engineer and conductor of a road train were told to stop and check their locomotives for flat spots. Once stopped, and without a job briefing the locomotive engineer left the lead unit and shortly thereafter, was struck and killed by a passing mainline train.

**Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing. **Advisory 5 (SSHST):** Struck by mainline train. Special Switching Hazard (SSHEQ): Equipment.

**#47 FE-2001-31 10-Oct-01 PAL Clayburn, KY Conductor Age: 38**

A three-person, local freight train crew was switching a plant and had 2 engines 6 cars and a caboose when they moved over a small bridge and coupled to 5 standing cars in the storage track. The conductor made the coupling and told the engineer to pull the cars out of the track. The conductor got on the side of the trailing end of the second last car in the cut and was knocked off the car by a metal pole adjacent to the storage track. He fell between the car he was riding and the last car in the cut being pulled. He died when the lead wheels of the last car rolled over him.

**Advisory 2 (SSHCC):** Close clearance.

**#48 FE-2001-40 24-Dec-01 NS Lynchburg, VA Conductor Age: 30**

A conductor, engineer and conductor in training had been transported to an unattended train standing on a siding a portion of which was in a tunnel adjacent to the main track. After storing their equipment, the conductor and the conductor in training left the locomotive to release hand brakes on the train. The conductor was killed when she failed to step in between two boxcars of her train as the conductor in training had done and was subsequently struck by a passing mainline train.

**Advisory 2 (SSHCC):** Close clearance. **Advisory 5 (SSHST):** Struck by mainline train.

**#49 FE-2002-09 21-Mar-02 NS Claymont, DE Engineer Age: 45**

A locomotive engineer had been dropped off at the head end of his train while the conductor was taken to the rear to check on the REM. After crossing over the ATK corridor mainline tracks, and beginning to board his locomotive, the engineer was dragged off the stairs of the locomotive and killed by a passing 110 MPH passenger train.

**Advisory 2 (SSHCC):** Close clearance. **Advisory 5 (SSHST):** Struck by mainline train.

**#50 FE-2002-16 16-Jun-02 BNSF Memphis, TN Engine Foreman Age: 20**

A yard foreman, with 18-months of service, along with his helper, engineer and a utility employee had just finished making up a train in the yard. However, the crossover from the track on which the train had been made had to be cut. This last minute instruction led to an increased level of conversation among the crew, yard foreman, utility employee and the yardmaster. The yard foreman jumped on a ATV, rode it to the cut point, separated the train; and, when the cut not attached to the locomotive rolled, he was caught between the two sections of the train and killed.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. **Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing. Recommendation (SOFA 1): Adjusting knuckles, adjusting drawbars, or installing EOT.

**#51 FE-2002-19 08-Aug-02 CWR Cleveland, OH Switchman Age: 53**

A two person crew was switching cars in a yard and, without the trainman's knowledge, another switching crew had set cars into a track adjacent to the one being used by the first crew. The set out included a wide ladle car and it created a clearance issue on the adjacent track. Some time later, the trainman was riding the lead car down the track adjacent to the wide ladle car and was killed when he was rolled between the car he was riding and the wide ladle car sitting on the adjacent track.

**Advisory 2 (SSHCC):** Close clearance. Recommendation (SOFA2): Struck by equipment other than their own on yard or industry track.

**#52 FE-2003-11 11-Apr-03 UP Pocatello, ID Conductor Age: 55**

A road conductor was riding the point of a 122-car shove down a track that was partially out of service. The out of service portion was marked by a red flag and derail. The crew was not able to stop the movement before the car being ridden by the conductor went over the derail, landed on its side and crushed the conductor to death.

**Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing. Special Switching Hazard (SSHDR): Derailment.

**#53 FE-2003-12 06-Jun-03 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.

**Advisory 3 (SSHIH):** Industrial hazard. Special Switching Hazard (SSHMV): Struck or struck by motor vehicle.

**#54 FE-2003-22 12-Sep-03 GC Dublin, GA Brakeman Age: 45**

A two-person train crew was in the process of setting off and picking up cars in a small yard. The conductor, who had 8 weeks of experience, was killed when the leading car of the shove struck him as he stepped into its path.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training.

**#55 FE-2004-14 18-May-04 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.

**Advisory 3 (SSHIH):** Industrial hazard. Special Switching Hazard (SSHMV): Struck or struck by motor vehicle.

**#56 FE-2004-20 02-Sep-04 BNSF Clovis, NM Conductor/Switchman Age: 26**

A two person remote control crew switching in the yard when an empty tank car passed through a switch and derailed. This caused the car to shake and bounce violently. The conductor/switchman lost his hold on the car and fell off between the rails, and was run over and killed.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. Special Switching Hazard (SSHET): Employee tripping, slipping, or falling. Special Switching Hazard (SSHDR): Derailment.

**#57 FE-2004-25 07-Oct-04 UP Springfield, IL Student Brakeman Age: 31**

A road train pulling around the connection track derailed nine cars while pulling. The student brakeman located to the side of the track where the cars derailed was crushed when a car derailed and fell over. The student brakeman did not follow instructions given him at a job briefing given by the train conductor shortly before the incident occurred.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. Special Switching Hazard (SSHED): Electronic device (cell phone, MP3 player). Special Switching Hazard (SSHDR): Derailment.

**#58 FE-2004-26 07-Oct-04 BNSF Teague, TX Yard Brakeman Age: 60**

A four person yard crew moving cars from the south end of the yard and lacing air hoses after each cut had the brakeman working alone at the north end of the yard. During the job briefing the crew agreed not to switch cars into track 102 where the brakeman was working. Brakeman was found between cars on track 103 at the time of the incident with leg severed below the groin, and died eight later.

**Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing.

**#59 FE-2004-28 01-Nov-04 BNSF Bowdoin, MT Conductor Age: 45**

An eastbound train stopped on the siding waiting the passage of a westbound train. The engineer saw the headlight of the approaching train, and observed his conductor get up and exit on the live track side of the locomotive, contrary to rules. While attempting to cross to the other side of the track to conduct an inspection, the conductor paused in the middle of the track and the approaching train, sounding the horn and with headlight on bright, struck the conductor still standing on the track.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. **Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing. **Advisory 5 (SSHST):** Struck by mainline train.

**#60 FE-2004-30 17-Dec-04 BNSF Radium, CO Conductor Age: 44**

An eastbound train was stopped on the siding waiting for the passage of two westbound trains. The first train, approaching at a speed of 20 -23 mph, was observed by the engineer and heard the train sounding its whistle and bell. The conductor on the standing train got up and without a word, departed the locomotive's cab to conduct a roll-by inspection and stepped off the standing train locomotive on the live side between tracks. The approaching train struck the conductor, killing the conductor.

**Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing. **Advisory 5 (SSHST):** Struck by mainline train.

**#61 FE-2005-02 10-Jan-05 UP Buena Vista, AR Conductor Age: 52**

A two person crew experienced engine problems and a following train, after a job briefing involving the crews of the two trains and the Dispatcher, decided the following train would shove the lead train off the main track onto a siding. In the process of shoving, the conductor of the leading train dismounted a covered hopper car and was struck and killed by the other train passing on the adjacent track. The accident occurred on a curved section of track, in a restricted speed zone. Had a bell or whistle been sounded, or had the Conductor dismounted on the other side of his train, the accident might have been avoided.

**Advisory 5 (SSHST):** Struck by mainline train.

**#62 FE-2005-14 11-Apr-05 UP Ogden, UT Switchman Age: 38**

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

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. **Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing.

**#63 FE-2005-18 13-May-05 DC Detroit, MI Yard Conductor Age: 24**

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

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. **Advisory 2 (SSHCC):** Close clearance. **Advisory 5 (SSHST):** Industrial hazard. Special Switching Hazard (SSHDR): Derailment.

**#64 FE-2005-23 05-Jul-05 BNSF Emporia, KS Yard Helper Age: 26.8**

A three person train crew was switching cars on industrial track when the train passed through a misaligned crossover switch and collided with a car out to foul on an adjacent track. The trainman was crushed on impact against this car.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. **Advisory 5 (SSHST):** Industrial hazard. Special Switching Hazard (SSHMC): Miscellaneous.

**#65 FE-2005-24 18-Jul-05 UP Memphis, TN Brakeman Age: 59**

A train crew shoving cars to spot on an industry track when the brakeman riding the leading end of the shove movement, was killed when the movement struck a semi-tractor and trailer which had entered the private road crossing in front of the trains movement. The brakeman jumped from the car he was riding and the trailer of the semi-trailer jackknifed crushing the brakeman between the trailer and rail car.

**Advisory 5 (SSHST):** Industrial hazard. Special Switching Hazard (SSHMV): Struck or struck by motor vehicle.

**#66 FE-2005-25 22-Jul-05 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.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. **Advisory 2 (SSHCC):** Close clearance. **Advisory 5 (SSHST):** Industrial hazard. Special Switching Hazard (SSHDR): Derailment.

**#67 FE-2005-27 09-Aug-05 AM Rogers, AR Conductor Age: 23**

A three person crew prepared to spot cars at a loading dock with the brakeman riding on the cars being moved. Clearance at the loading dock is restricted, though no notice of this condition was posted. As the engineer proceeded with the shove, the brakeman noticed the conductor was pinned between the dock and the car body.

**Advisory 2 (SSHCC):** Close clearance. **Advisory 5 (SSHST):** Industrial hazard.

**#68 FE-2005-33 16-Nov-05 CSX Lugoff, SC Conductor Age: 48**

A three person crew shoving into an industry track found cars left foul of an adjacent track by industry employees. The conductor held a job briefing with the brakeman on the moves to be made, and the brakeman understood he would control the switching and car movements. After shoving the cars to make the coupling, the conductor told the brakeman the cars were coupled and he was in the clear. The brakeman attempted to uncouple from the cars, but failed. He then requested the engineer make a second move to create slack between the cars so they could be uncoupled. The engineer complied and the conductor who was in the foul of track and equipment suffered fatal injuries.

**Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing.

**#69 FE-2005-36 04-Dec-05 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.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. **Advisory 2 (SSHCC):** Close clearance. **Advisory 5 (SSHST):** Industrial hazard.

**#70 FE-2006-12 21-Aug-06 FEC Rockledge, FL Freight Conductor Age: 45**

A train was shoving cars to industry for spotting with the conductor riding the leading end of the leading car. A utility employee was providing protection for highway traffic at one of two road crossing the train would cross. When the train entered the road crossing it struck a semi-tractor trailer and the conductor sustained fatal injuries.

**Advisory 5 (SSHST):** Industrial hazard. Special Switching Hazard (SSHMV): Struck or struck by motor vehicle.

**#71 FE-2006-14 10-Sep-06 ALS East St. Louis, IL Conductor Age: 44**

A two person crew was in the process of making up a locomotive consist using two adjacent tracks. After setting over one of the locomotives, the conductor rode the leading end of the two locomotives into the adjacent track. When his had signals went out of sight, the movement was stopped and the engineer went back to discover the conductor crushed between the locomotive they set out and the locomotive he was riding.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. **Advisory 2 (SSHCC):** Close clearance.

**#72 FE-2006-22 04-Dec-06 UP Carson, CA Brakeman Age: 35**

A two-person crew, performing switching operation with a remote control locomotive, were in the process of shoving six cars over a highway-rail grade crossing equipped with an active warning system. The conductor was riding the leading end of the shove move and struck a truck cab that drove in front of the movement. The conductor died days later as a result of the collision.

**Advisory 5 (SSHST):** Industrial hazard. Special Switching Hazard (SSHMV): Struck or struck by motor vehicle.

**#73 FE-2006-26 28-Dec-06 UP Sioux City, IA Yard Foreman Age: 57**

A three person switching crew working with a student switchman began switching following a safety briefing. Two rail cars kicked toward a track stalled foul of the clearance point on the adjacent track. The next car switched was rolling free when the footboard yardmaster/switch foreman and student switchman saw that the cars were fouling the clearance point. The footboard yardmaster/switch foreman in an attempt to board and stop the free rolling car became trapped between the sides of the cars and carried for a distance between the cars.

**Advisory 2 (SSHCC):** Close clearance. Special Switching Hazard (SSHFR): Free-rolling railcars.

**#74 FE-2007-19 30-Aug-07 BNSF Stockton, CA Yard Brakeman Age: 50**

A remote control operator controlling a shoving movement was riding the leading end of the two car move when he struck the side of another standing car. The standing car fouled the crossover switch which the movement was lined to operate through, killing the operator.

**Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing.

**#75 FE-2007-21 27-Oct-07 CSX Russell, KY Yard Foreman Age: 52**

A 52 year old yard foreman with 6 months service was crushed and killed while riding the leading end of a five locomotive consist when it passed through a mis-aligned crossover switch and collided with a standing train on an adjacent track.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training.

**#76 FE-2008-01 08-Jan-08 UP Waukegan, IL Passenger Brakeman Age: 59**

A four-person commuter train crew (No. 355) arrived at their destination station and prepared to back the train from the northbound track through the crossovers south of the platform, and onto the southbound track where it would be worked as a southbound train by another crew. The crew would then go off-duty. Ordinarily, the brakeman would line both switches. However, the Extraboard Engineer while backing the train through the crossovers shouted down to the Brakeman that he would get the south crossover switch when the engine cleared it and stopped.

**Advisory 5 (SSHST):** Struck by mainline train.

**#77 FE-2008-03 03-Feb-08 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.

**Advisory 5 (SSHST):** Struck by mainline train.

**#78 FE-2008-06 05-Mar-08 WSO Random Lake, WI Freight Conductor Age: 55**

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

**Advisory 2 (SSHCC):** Close clearance. **Advisory 5 (SSHST):** Industrial hazard. Special Switching Hazard (SSHDR): Derailment. Special Switching Hazard (SSHEV): Environment.

**#79 FE-2008-15 26-May-08 CSX Lumberton, NC Freight Conductor Age: 46**

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

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. **Advisory 2 (SSHCC):** Close clearance. **Advisory 5 (SSHST):** Industrial hazard.

**#80 FE-2008-31 10-Sep-08 INRD Terre Haute, IN Freight Conductor Age: 42**

The conductor of a two person local freight crew was riding the leading end on the side of a tank car during an industry switching job. The conductor was crushed and killed when the leading car derailed and struck a stack of bundled wood railroad ties adjacent to the track. The car derailed on compacted aggregate which had been placed as an ad hoc crossing on the industry track. The shove movement was proceeding at 7 mph on track with a 5 mph maximum speed.

**Advisory 2 (SSHCC):** Close clearance. **Advisory 5 (SSHST):** Industrial hazard. Special Switching Hazard (SSHDR): Derailment.

**#81 FE-2008-33 23-Sep-08 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.

**Advisory 2 (SSHCC):** Close Clearance. **Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing. **Advisory 5 (SSHST):** Struck by mainline train.

**#82 FE-2008-37 15-Nov-08 MRL Laurel, MT Yard Brakeman Age: 39**

A three person crew, operating a local freight train, moved their locomotives to a make-up track. After a job briefing, the switchman proceeded to make sure the train was together and the air hoses were coupled. The switchman did not observe sixteen cars at the end of the train were not coupled. A few minutes later, he radioed he was going between to make an air hose. The Engineer said: "Set and centered." A few minutes earlier, the Conductor was walking the head-end and found a gap. Without communicating with the Switchman, the Conductor instructed the Engineer to pull forward so that he could open knuckles and prepare for a reverse movement to a coupling. Apparently, when the train moved forward, the 16 cars at the rear of the train began to roll, just as the Switchman was reaching in to connect an air hose. The 16 free-rolling cars struck the standing portion of the train and killed the Switchman.

**Advisory 1 (SOFA 5):** FE had 1.5 years of experience or less or had inadequate training. **Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing. **Special Switching Hazard (SSHUM):** Unexpected movement of railcars.

**#83 FE-2008-40 03-Dec-08 DRIR Denver, CO Freight Conductor Age: 33**

A two person crew performed a shoving movement with the conductor riding the leading end of a bulkhead flatcar. A tractor-trailer operated over the crossing in front of the movement. The tractor trailer was moving at about 18 mph when it occupied the crossing protected only by cross bucks in front of the train movement. The conductor, who was riding on the crossover platform, radioed the engineer in an attempt to stop the movement, but the leading car of the train struck the side of the trailer at about 5 mph. The impact crushed and killed the conductor.

**Advisory 5 (SSHST):** Industrial hazard. **Special Switching Hazard (SSHMV):** Struck or struck by motor vehicle.

**#84 FE-2009-03 16-Jan-09 BNSF Fort Sumner, NM Freight Engineer Age: 59**

A two person road freight train crew was operating on the main track westbound when the engineer exited the cab of the controlling locomotive to get to the trailing locomotive. The conductor, a qualified locomotive engineer, took over operation of the locomotive and train. After several minutes when the engineer had not returned, the conductor stopped the train and went in search of the engineer and notified the dispatcher. A following westbound train found the engineer on a parallel road where he had fallen from the train. The engineer died as a result of injuries sustained in the fall.

**Advisory 4 (SOFA 3):** Lack of or inadequate job safety briefing. **Special Switching Hazard (SSHET):** Employee tripping, slipping, or falling.

**#85 FE-2009-06 28-Jan-09 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.

**Advisory 2 (SSHCC):** Close clearance. **Advisory 5 (SSHST):** Struck by mainline train.

**#86 FE-2009-08 07-Feb-09 BNSF Holbrook, AZ Freight Conductor Age: 43**

A two person crew had boarded their train on main track two and the conductor began walking the train making an inspection. At that time another train approaching on main track one observed the conductor walking in the foul of main track one. The engineer on the approaching train switched the headlight from dim to bright to alert the conductor on the ground. A van driver beside the track also attempted to get the attention of the conductor without success. The train on main track two struck and killed the conductor.

**Advisory 5 (SSHST):** Struck by mainline train.

**#87 FE-2009-09 08-Feb-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.

**Advisory 5 (SSHST):** Struck by mainline train. Special Switching Hazard (SSHMC): Miscellaneous.

**#88 FE-2009-11 28-Feb-09 BNSF Buchanan, NM Freight Conductor Age: 56**

A two person road train with the conductor riding the end car made a shoving movement into the siding to leave cars on the siding. The movement was controlled by radio communications from the conductor during the shove. During the shove movement the conductor was knocked off when the conductor impacted a tie bundle closely positioned next to the rail. The impact caused the conductor to be knocked off the equipment and killed.

**Advisory 2 (SSHCC):** Close clearance.

**#89 FE-2009-20 24-Jun-09 ATN Albertville, AL Freight Conductor Age: 33**

A two person crew was shoving cars into spot at an industry with the conductor controlling the movement via radio communications. The conductor gave car counts from 12 down to 3 during the shove, and shortly after that transmission the engineer stopped the movement when he heard an "OH" transmission. The conductor was found deceased on the leading end of the lead car on the platform, pinned against a car of scrap metal.

**Advisory 2 (SSHCC):** Close clearance. **Advisory 5 (SSHST):** Industrial hazard. Special Switching Hazard (SSHDR): Derailment.

**#90 FE-2009-26 29-Dec-09 BNSF Minneapolis, MN RCL Operator Age: 44**

A two-person RCL crew shoved five empty cars into a snow-covered industry track. Ice build-up on the track caused the lead car of the movement to derail. The RCL operator, riding the lead car and controlling the move, was crushed against the side of an industry building and fatally injured.

**Advisory 2 (SSHCC):** Close clearance. **Advisory 5 (SSHST):** Industrial hazard. Special Switching Hazard (SSHEV): Environment. Special Switching Hazard (SSHDR): Derailment.

**Save Lives...work together to implement the Five Advisories at the ballast level**