SOFA
Switching Operations Fatality Analysis

as of August 27, 2003
SOFA History

• Formed in February 1998 at joint request of FRA and industry

• Causes of switching fatalities to train and engine-service employees were not well understood

• Charged to find causes and make recommendations
SOFA Members

• Representatives from:
  – Federal Railroad Administration (FRA)
  – Association of American Railroads (AAR)
  – United Transportation Union (UTU)
  – Brotherhood of Locomotive Engineers (BLE)
  – American Short Line and Regional Railroad Association (ASLRRA)
  – Volpe National Transportation Systems Center (VNTSC)
Switching Fatalities
January 1, 1992 to August 27, 2003
Making Recommendations

• Looked for commonality among groups of switching fatalities

• Made five operating recommendations based on common sets of circumstances among first 76 fatalities analyzed

• Each operating recommendation was based on 8 to 12 switching fatalities
SOFA Recommendation 1

Major Finding 1
Eleven fatalities occurred while the employee was adjusting knuckles, adjusting drawbars, or installing an end-of-train.

Lifesaver Version of Recommendation 1
Secure equipment before action is taken.
**SOFA Recommendation 2**

**Major Finding 2**
Twenty fatalities were struck by equipment other than their own.

**Lifesaver Version of Recommendation 2**
Protect employees against moving equipment.
Major Finding 3
A lack of, or inadequate, job safety briefing contributed to at least eight fatalities.

Lifesaver Version of Recommendation 3
Discuss safety at the beginning of a job or when a project changes.
SOFA Recommendation 4

**Major Finding 4**
Ten fatalities occurred because of a combination of radio/hand communication, or initial and/or ongoing movement of equipment without specific distances given.

**Lifesaver Version of Recommendation 4**
Communicate before action is taken.
**Major Finding 5**
Eleven employees that were killed had experience of one year or less and/or deficiencies in training.

**Lifesaver Version of Recommendation 5**
Mentor less experienced employees to perform service safety.
Non-Operating Recommendations

- Train crew resource management
- FRA’s investigation should include a team concept
- Standardize information collected during FRA investigation
- Provide computer support to FRA investigation process
- Review severe injuries
Severe Injuries

- Reviewed “Severe Injuries.” Issued report in June 2001

  - Potentially life threatening, high likelihood of loss of function, work restrictions, results from high-energy impact

  - Amputations, fractures other than fingers and toes, neck dislocations, loss of eye, electric shocks and burns to head

  - Average of 134.7 Severe Injuries a year. Severe Injuries declined 12 percent in 2002
SOFA Update

• 2002 switching fatalities were historically low…6 fatalities…however there have been 6 fatalities in 2003 through August 27.

• Severe Injuries were also historically low in 2002…but there have been 62 in 2003 through May 31…which is slightly about average

• SOFA Working Group continues to review each fatality and make recommendations if the facts warrant
Severe Injuries
January 1997 to May 2003


Number of Severe Injuries:
- 1997: 139
- 1998: 137
- 1999: 135
- 2000: 139
- 2001: 137
- 2002: 121
- 2003: 62
Amputations
January 1997 to May 2003

Year:
1997: 20
1998: 27
1999: 18
2000: 19
2001: 18
2002: 10
2003: 9
44 Recent Switching Fatalities

- 44 fatalities (through August 27, 2003) have occurred since the release of the SOFA Report on October 1999

- SOFA Working Group continues to review each new fatality and to look for commonality among fatalities

- SOFA Working Group keeps industry informed about the type, frequency, and trends of switching fatalities
The SOFA Working Group has issued three reports on switching casualties. All three reports may be printed out from the following FRA web addresses:

*Findings and Recommendations of the SOFA Working Group*, October 1999  


*Severe Injuries to Train and Engine Service Employees: Data Description and Injury Characteristics*. July 2001.  