

NOTICE OF SAFETY ADVISORY 2000-03 - Safety practices to reduce the risk of serious injury or death both to railroad employees engaged in switching operations and to the general public.

On November 2, 2000, FRA published Notice of Safety Advisory 2000-3 in the Federal Register (Volume 65, No. 213, page 65895), addressing safety practices to reduce the risk of serious injury or death both to railroad employees engaged in switching operations and to the general public.

Background: FRA has determined that the safety of railroad employees and the general public compels the issuance of this safety advisory. A review of FRA's accident/incident data demonstrates that overall the safety of rail transportation has continued to improve; however, so far this year, ten railroad employees have lost their lives while engaged in switching operations. This figure already exceeds the total number of switching-related deaths in 1999, and has caused FRA serious concern about the safety of certain aspects of rail operations. Specifically, these deaths have raised questions about the safety practices employed by crewmembers assigned to perform switching operations. These deaths occurred on both large and small railroads and included employees with levels of experience that ranged from as little as two years to over 30 years.

The most recent incident occurred on September 9, 2000. FRA believes that each of the ten fatalities could probably have been prevented if all employees on each railroad had strictly followed the five recommendations of FRA's Switching Operations Fatality Analysis (SOFA) Working Group and the applicable Federal and railroad company operating and safety rules to which they relate.¹ The ten employee fatalities, which occurred between January 2 and September 9, 2000, on seven separate railroads, are summarized in Appendix A to this safety advisory.

Findings and Recommended Actions of the SOFA Working Group: During February of 1998, the SOFA Working Group was formed at the request of FRA to review recent fatal incidents that occurred during railroad switching operations and to develop recommendations for preventing such fatalities. The Working Group was comprised of representatives from FRA, the Association of American Railroads, the United Transportation Union, the Brotherhood of Locomotive Engineers, and The American Short Line and Regional Railroad Association. The Working Group developed a codified database of standardized information, referred to as the "SOFA Matrix," from the wide range of information on the 76 fatal switching incidents that occurred between January 1992 and July 1998. In addition, the Working Group reviewed very limited data obtained from FRA files concerning employee fatalities from 1975 to 1991 and participated in a series of systematic exercises designed to tap the extensive expertise acquired by the Working Group during its review and analysis of these employee fatalities.

¹ Each of the five SOFA Working Group recommendations is described in the "Findings and Recommended Actions of the SOFA Working Group" section of this advisory.

For statistical purposes, the total number of employee fatalities studied by the Working Group was too small and the circumstances were too varied to permit formal statistical analysis. Notwithstanding these limitations, based on the objective evidence of likely contributing factors, a number of findings and recommendations were developed. The Working Group's recommendations include actions to improve both the safety of railroad switching operations and the quality of data collected on fatalities in switching operations. That database and the expertise-capturing exercises were then used to identify trends or patterns in the data for a more comprehensive understanding of the fatalities the Working Group was investigating, and became the foundation for the analysis and recommendations in the report, entitled "Switching Operations Fatality Analysis," which the Working Group issued in October 1999.

The five critical SOFA Working Group recommendations ("five SOFA lifesavers") are set forth below:

- # Recommendation 1. Notification to the locomotive engineer before fouling track or equipment. "Any crew member intending to foul track or equipment must notify the locomotive engineer before such action can take place. The locomotive engineer must then apply locomotive or train brakes, have the reverser centered, and then confirm this action with the individual on the ground. Additionally, any crew member that intends to adjust knuckles/drawbars, or apply or remove EOT device, must insure that the cut of cars to be coupled into is separated by no less than 50 feet. Also, the person on the ground must physically inspect the cut of cars not attached to the locomotive to insure that they are completely stopped and, if necessary, a sufficient number of hand brakes must be applied to insure that the cut of cars will not move."

- # Recommendation 2. Extra precautions when two or more train crews are working on the same track. "When two or more train crews are simultaneously performing work in the same yard or industry tracks, extra precautions must be taken:
 - C SAME TRACK. Two or more crews are prohibited from switching into the same track at the same time, without establishing direct communication with all crew members involved.
 - C ADJACENT TRACK. Protection must be afforded when there is the possibility of movement on adjacent track(s). Each crew will arrange positive protection for (an) adjacent track(s) through positive communication with yardmaster and/or other crew members."

- # Recommendation 3. Safety briefing. “At the beginning of each tour of duty, all crew members will meet and discuss all safety matters and work to be accomplished. Additional briefings will be held any time work changes are made and when necessary to protect their safety during their performance of service.”

- # Recommendation 4. Proper communications. “When using radio communication, locomotive engineers must not begin any shove move without a specified distance from the person controlling the move. Strict compliance with ‘distance to go’ communication must be maintained. When controlling train or engine movements, all crew members must communicate by hand signals or radio signals. A combination of hand and radio signals is prohibited. All crew members must confirm when the mode of communication changes.”

- # Recommendation 5. Paying proper attention to new crew members. “Crew members with less than one year of service must have special attention paid to safety awareness, service qualifications, on-the-job training, physical plant familiarity, and overall ability to perform service safely and efficiently. Programs such as peer review, mentoring, and supervisory observation must be utilized to insure employees are able to perform service in a safe manner.”

The recommendations from the SOFA Working Group and the circumstances surrounding the ten unfortunate deaths that have occurred this year during switching operations were discussed at length at the September 14, 2000, meeting of FRA’s Railroad Safety Advisory Committee (RSAC²) in Washington, D.C. As a result, FRA and RSAC representatives jointly wrote a Declaration expressing the firm commitment of the railroad community to address this issue. Consensus was achieved, and a Declaration was approved by the RSAC members present at the meeting. Subsequent to the RSAC meeting, the wording in the Declaration was slightly modified, and concurred with and signed by the appropriate 32 RSAC members. Those signatories were:

- Ross Capon
Executive Director
National Association of Railroad Passengers

² The RSAC is comprised of representatives of the various interest groups of the railroad industry, including management and labor, and representatives of the National Transportation Safety Board. The RSAC provides a forum for FRA to receive advice on railroad safety issues.

- Daniel Davis
Director - Railroad Department
International Brotherhood of Electrical Workers
- Charles E. Dettmann
Executive Vice President
Association of American Railroads
- Edward Dubroski
International President
Brotherhood of Locomotive Engineers
- Diane Elliott
Executive Director
American Association of Private Railroad Car Owners
- Allan C. Fisher
Director of Operating Rules
Consolidated Rail Corporation
- Dewey Garland
International Representative
Sheet Metal Workers International Association
- George Gavalla
Associate Administrator for Safety
Federal Railroad Administration
- Carl Ice
Senior Vice President Operations
The Burlington Northern and Santa Fe Railway Company
- Rick A. Inclima
Director of Education and Safety
Brotherhood of Maintenance of Way Employes
- Thomas F. Jacobi
Senior Assistant Vice President Safety & Operating Practices
Union Pacific Railroad Company
- Richard A. Johnson
General President
Brotherhood of Railway Carmen Division -Transportation Communications Union

- Leroy Jones
Vice President and National Legislative Representative
Brotherhood of Locomotive Engineers
- Tom Leopold
General Director Rules & Safety
The Kansas City Southern Ry. Co.
- Jerry Martin
Director, Rail Division
Texas Railroad Commission
(Representing the State Rail Safety Program Managers)
- Chris Martinez
Legislative Representative - New Mexico
Brotherhood of Maintenance of Way Employes
(Representing the Labor Council for Latin American Advancement)
- Jack T. McBain
Senior Vice President Operations
Canadian National Railway
- Francis G. McKenna
President
Tourist Railway Association Inc.
- Dennis Mogan
Director, Safety and Rules
Metra (Chicago)
- Jolene M. Molitoris
Administrator
Federal Railroad Administration
- Chuck R. Mundy
Vice President
American Train Dispatchers Department/Brotherhood of Locomotive Engineers
- Carmen Patriarca
NRC Safety Committee Chairman
National Railroad Construction & Maintenance Association

- Pat Pender
Vice President Field Operations
Canadian Pacific Railway
- W. Dan Pickett
President
Brotherhood of Railroad Signalmen
- Franklin Pursley
Vice President, Safety and Service Design
CSX Transportation
- John M. Samuels
Senior Vice President
Operations Planning and Support
Norfolk Southern Corporation
- James A. Stem
Alternate National Legislative Director
United Transportation Union
- Greg Stengem
Vice President of Safety, Training & Operations
The Burlington Northern and Santa Fe Railway Company
- William J. Thompson
Chairman and State Legislative Director, Ohio
United Transportation Union
- Frank K. Turner
President
American Short Line & Regional Railroad Association
- Kathryn D. Waters
Manager and Chief Operating Officer
Mass Transit Administration of Maryland - MARC Train Service
- Paul Worley
Assistant Director for Engineering & Safety
American Association of State Highway & Transportation Officials

The modified Declaration is set forth in Appendix B to this safety advisory.

Recommended Actions

FRA believes that each employee is personally accountable for his or her actions on the job. Based upon FRA's review of the circumstances surrounding the above-referenced employee deaths, the five SOFA Working Group recommendations, and the RSAC Declaration, FRA further believes that railroads can reduce the likelihood of suffering the loss of additional employee lives during switching operations if they and their employees elect to follow the recommendations of the Working Group and commit to the principles of the RSAC Declaration.

Based on the information obtained from FRA's ongoing initiatives concerning safety during switching operations, investigations of railroad accidents and incidents, and information gathered pursuant to the Declaration and other partnership initiatives with rail labor and management, FRA may modify Safety Advisory 2000-03, issue additional safety advisories, or take other appropriate necessary action to ensure the highest level of safety on the Nation's railroads.

APPENDIX A—CALENDAR YEAR 2000 SWITCHING OPERATIONS FATALITIES

Employee Job Title	Years of Railroad Service	Date of Death	Circumstances Surrounding the Death
Conductor	21	January 2	Struck by a box car fouling the track while riding the lead car of a shoving movement into an industry track
Conductor	23	March 9	Coupled (crushed) between two rail cars while switching in a classification yard
Foreman	32	April 21	Stepped into the path of a rail car that had been released into the track for classification from the gravity hump
Brakeman	2	May 22	Crushed between the side of a hopper car and a coal unloader while riding the leading end of a shoving move into a customer's siding.
Switchman	2	May 31	Crushed between the locomotive he was riding and a standing cut of box cars.
Conductor	19	July 7	Stepped between moving cars and was struck and run over by the equipment.
Conductor	30	July 24	Struck by own locomotive after lining a switch on the opposite side of the track from the engineer.
Brakeman	27	July 28	Pinned between the car he was riding and the loading dock at a customer's siding during a shoving move.
Brakeman	4	August 11	Struck by another train crew's consist while switching at an intermodal facility.
Switch Foreman	27	September 9	Stepped into the path of and struck by own equipment.

APPENDIX B–THE RAILROAD SAFETY ADVISORY COMMITTEE DECLARATION

Together, the railroad community will initiate an on-going focused safety campaign to prevent fatalities and injuries from occurring during switching operations. This initiative underscores our collective commitment to zero injuries and accidents in the workplace.

This safety campaign will include the following steps:

- Switching operations industry wide will immediately be assessed as a team effort by labor, management and FRA through increased monitoring and audits to determine safety risks;
- Supervisors and employees will increase their efforts to communicate the importance of safety and urge everyone to redouble their focus on safe practices;
- The Switching Operations Fatality (SOFA) Analysis report and the “Five SOFA Lifesavers” will be used as the basis to create a plan to address safety risks; and
- Managers will communicate with employees and their families to educate them on potential dangers and to seek their support in eliminating fatalities and injuries in the workplace.

We will work together to further strengthen a rail safety culture that protects the lives and well being of every railroad employee. As an industry, we are dedicated to achieving this safety goal.

Issued in Washington, D.C. on October 27, 2000. Jolene M. Molitoris, FRA Administrator.