



U.S. Department
of Transportation

Federal Railroad
Administration

THE SAFETY ASSURANCE AND COMPLIANCE PROGRAM (SACP)

ACCOMPLISHMENTS FOR 1999 AND FIRST QUARTER 2000

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
I. The Report.....	1
II Matrix of Accomplishments.....	6 - 10
III. Appendix.....	11 - 32
Cultural Transformation.....	11 - 15
Norfolk Southern Corporation.....	11
Burlington Northern Santa Fe Railway.....	12
Union Pacific Railroad.....	12
CSX Transportation, Incorporated.....	13
National Railroad Passenger Corporation (Amtrak).....	13
Kansas City Southern.....	14
Illinois Central Railroad.....	14
SACP Process Improvements and Audit Results (Includes Track).....	15 - 23
Norfolk Southern Corporation.....	15
Burlington Northern Santa Fe Railway.....	16
Union Pacific Railroad.....	18
CSX Transportation, Incorporated.....	19
National Railroad Passenger Corporation (Amtrak).....	21
Kansas City Southern.....	22
Illinois Central Railroad.....	23
Training Improvements.....	23 - 27
Norfolk Southern Corporation.....	23
Burlington Northern Santa Fe Railway.....	24
Union Pacific Railroad.....	24
CSX Transportation, Incorporated.....	26
National Railroad Passenger Corporation (Amtrak).....	27
Kansas City Southern.....	27
Illinois Central Railroad.....	27
Quality of Life Issues (Fatigue Management/Improvements in Manpower and Staffing and Crew Utilization - Includes Dispatcher Issues).....	28 - 32
Norfolk Southern Corporation.....	28
Burlington Northern Santa Fe Railway.....	28
Union Pacific Railroad.....	28
CSX Transportation, Incorporated.....	30
National Railroad Passenger Corporation (Amtrak).....	31
Kansas City Southern.....	32
Illinois Central Railroad.....	32

**FEDERAL RAILROAD ADMINISTRATION
SAFETY ASSURANCE AND COMPLIANCE PROGRAM
ACCOMPLISHMENTS FOR 1999 AND FIRST QUARTER 2000**

I. The Report

Background

The Federal Railroad Administration (FRA) ensures the safety of the Nation's railroad industry through the promulgation of safety regulations and on-site monitoring of railroad operations. FRA directs 370 Federal inspectors and 150 State inspectors who oversee more than 675 railroads with more than 220,000 employees, 200,000 miles of track with 257,716 highway-rail grade crossings, 1.3 million freight cars, 20,000 freight locomotives and 8,880 passenger locomotives, coaches and self-powered coaches. In addition, there are more than 100,000 railroad bridges which need to be evaluated and inspected. The rapid growth of new railroads and traffic gains in recent years has increased demands on monitoring railroad industry compliance with safety regulations covering track, equipment, signals, transportation of hazardous materials, and operating practices. Because of the limited number of Federal and State inspectors, the efficient uses of these resources are critical.

The Agency traditionally relied upon site-specific inspections that focused on regulatory compliance as the primary means of safety oversight. While railroad safety had improved steadily since 1978, FRA was frustrated by the slow pace of progress. In addition, rail traffic has grown more than 50 percent since 1986. This dramatic increase significantly taxed FRA's resources and slowed the pace of safety improvements. In 1994, FRA responded to President Clinton's directive to "reinvent government" by developing a new approach to safety oversight, known as the Safety Assurance and Compliance Program (SACP).

SACP is radically innovative because it brings a systems-analysis approach to safety oversight, provides a vehicle for the Agency to address safety issues outside the realm of regulation, and reduces the adversarial relationship that often exists between the regulator and the regulated community. Through SACP, railroad labor and management have engaged in collaborative partnerships with FRA to help identify and solve problems related to rail safety.

The initial SACP used a team of FRA field and headquarters safety specialists, under direction of a project manager, to conduct coordinated safety assessments of an entire railroad's operations. This included an analysis of all accident and inspection data over a five-year period to determine historic trends and large-scale site inspections in all railroad disciplines to gain a first hand look at current conditions. Also, "listening sessions" were held with railroad employees, union representatives, supervisors and managers—those most intimately involved in railroad safety to learn about their safety concerns. To foster cooperation, FRA exercised enforcement discretion regarding safety violations that are voluntarily disclosed through this process. From the information gathered, the FRA team identified systemic safety problems, which may include issues that are not subject to Federal safety regulations, and made recommendations to address root causes of the problems. FRA's findings and recommendations were presented to rail management and rail labor leaders in "Senior Management Meetings" to ensure that safety problems were brought to the attention of the company's decision makers. The railroad developed a Safety Action Plan (SAP), usually in conjunction with labor and FRA, that provided detailed corrective actions and a schedule for implementation. The FRA team monitored the implementation of the SAP and its effectiveness in solving problems.

SACP - Evolutionary Process

Since its inception, the SACP has undergone an evolutionary process. As previously discussed, when first initiated, FRA envisioned only one type of SACP examination: the audit model. Actual use of the SACP in a variety of different environments and management cultures for several years provided valuable insights which enabled FRA to identify the most positive aspects of the program. FRA saw what worked well and what needed improvement. For example, the identification and correction of root causes that involved employee fatigue management (a major safety concern) and internal process changes on the largest railroads did not lend it to an audit-type project.

This experience and innovative leadership by FRA, State partners, railroad management and labor organizations resulted in gradual shifts and changes in application of SACP. The cumulative effect was to significantly add to the depth of SACP and to the adoption of “best practices” options for correction of safety issues and program processes. The experience also helped to identify areas where changes were needed to improve the overall effectiveness of SACP.

Recent “FRA Customer” surveys have shown overwhelming support for SACP. Rail labor and management agree on the safety improvement benefits of the program. The customer surveys indicate general agreement that the original “audit model” process outlined in FRA’s October 1996 report to Congress on SACP remains valid in principle and practice primarily for small railroads or specific facilities. However, a different kind of SACP review—the ongoing partnership—has become the norm for the larger railroads.

As shown in the cross cutting matrix of key SACP issues and accomplishments that follows, all SACP projects are not alike. FRA is working in partnership with rail labor and management to institutionalize the best existing practices and to continue to make improvements to increase effectiveness.

Systems Approach - Rectifying the Root Cause

SACP has resulted in more efficient mitigation of safety problems. For example, by using the “systems” approach to safety, a malfunctioning train signal at a specific location was traced to a software design error in the central dispatching system. In identifying and rectifying the root cause of the problem, SACP corrected potential signal problems at 400 other locations throughout the system.

Benefit of Partnership - When FRA Lacks Regulatory Authority

By fostering collaborative partnerships, FRA has gained the cooperation of rail labor and management in addressing safety-critical issues in areas where the Agency lacks regulatory authority. For example, a SACP investigation of a series of highway-rail grade crossing signal failures revealed inadequate training of the signal maintenance forces as the root cause. Despite the lack of regulations, mandating signal maintenance employee training, SACP participation persuaded the railroad to develop a training course for more than 140 signal employees. The result was a 60 percent decline in crossing-signal failures.

Partnership Success Story - Switching Operations Fatality Analysis Task Force (SOFA)

To eliminate train and engine service employee fatalities, FRA and 13 representatives from rail labor and management (the SOFA Task Force) conducted a detailed fact-finding review and analysis of 72 train and engine service employee fatalities that occurred between 1992 and 1998, to determine whether trends or patterns could be found, to identify best practices, and, if possible, formulate recommendations for the entire industry based on the findings.

The SOFA Task Force published their findings in October 1999. Through the SACP process, each railroad is implementing the recommendations that benefit their safety program. The SOFA report provided specific recommendations which will improve protection for employees adjusting draw bars or installing an end-of train device and for employees who were being injured by equipment from other trains on adjacent tracks; improve crew communication; and improve training of less experienced employees. Possible contributing factors were evaluated and database improvements were suggested to provide a broader range of information on contributing factors and to produce more uniform data for analysis.

First-Ever Partnership on a Class I Railroad to Assess Maintenance-of-Way Staffing Levels

Representatives from CSX Transportation Incorporated (CSXT), the Brotherhood of Maintenance of Way Employees (BMWWE), State track inspection forces, and FRA participated in the first-ever partnership initiative on a Class I railroad to assess maintenance-of-way staffing levels. Comprehensive track and bridge inspections were conducted on the Chesapeake and Ohio Business Unit in the States of Kentucky, Ohio, Virginia and West Virginia. The inspections encompassed 1,775 miles of main track, 225 miles of sidings and 173 miles of yard track. FRA and State track inspectors also conducted walking inspections of 1,122 mail line turnouts and 533 yard turnouts. A total of 13,594 records was reviewed. Listening sessions were conducted with 330 CSXT employees and first-line supervisors who are responsible for maintaining track structures and bridges at 16 different locations across the four state area.

FRA track inspectors evaluated system-wide data on CSXT staffing levels and track component replacement levels, coupled with site-specific track inspections, to determine if there were systemic or localized problems that needed correction. On July 21, 1999, FRA requested that CSXT submit a formal SACP Action Plan to address the problems in the areas of: maintenance-of-way manpower levels, replacement of rail, ties, and ballast, and track surface renewal. CSXT responded with a written SAP to address FRA's findings.

In January 2000, FRA conducted listening sessions and follow up audits and found that the track conditions had deteriorated to the point of not complying with the track standards. Also, numerous roadway worker protection problems were identified as well as a lack of regular mechanized gang cycle frequencies necessary to adequately maintain track segments. These draft findings were presented to CSXT in March 2000. On April 11, 2000, CSXT announced several senior management changes and committed to operating a fundamentally different railroad. FRA will be actively monitoring CSXT's adherence to the Compliance Agreement signed by FRA's Administrator, Jolene M. Molitoris and CSXT's Chairman John Snow on April 20, 2000.

SACP Success Story: Region 3

As part of Region 3's efforts to reduce the number of accidents, injuries and hazardous materials incidents, a data analysis of all major terminal operations within Region 3 was undertaken. The data was reviewed for the period January 1, 1998, through March 31, 1999. Analysis of the resultant data indicated that the terminal operations in Memphis, TN, had the highest number (32) accidents/incidents reported during the covered time period.

The study entailed a comprehensive safety review of all railroad operations within the Memphis Terminal from March 1 through July 31, 1999. The railroads encompassed by this safety review were the Burlington Northern Santa Fe Railway (BNSF), Canadian National Illinois Central (CNIC), CSXT, Norfolk Southern Corporation (NS), Union Pacific Railroad (UP), National Railroad Passenger Corporation (Amtrak) and the Memphis Area Transit Authority (MATA).

In reviewing the Memphis Terminal operations, the Region utilized a multi-discipline team inspection strategy based on the SACP model. The individual railroads in the Memphis Terminal were evaluated to determine compliance with the requirements of FRA regulations. FRA inspection teams actively involved railroad labor and management in this review.

During the last week in November, Region 3 management met with Memphis area rail labor leaders and terminal managers of each of the Class I railroads involved in the review. Attention was focused on FRA's industry-wide safety initiative to reduce human-factor-caused accidents. The findings of the SOFA Task Force was also presented. The meetings were successful and resulted in the development of genuine partnerships and action plans for reducing human-factor caused accidents. The review identified problems on each of the properties. These have either been corrected, or are in the process of being corrected.

Shortline Success Story

As part of the SACP project in the South Florida Rail Corridor, Region 3 facilitated the parties coming together to address trespasser and crossing safety issues. FRA was able to focus attention that trespassing was a universal problem and that the carriers should work together to develop a unified approach. This led to a joint effort with the City of Miami to address trespassing on the Florida East Coast Railway (FEC) in the Liberty City section of the city. FRA worked with FEC, Amtrak, Tri-Rail, and city agencies to develop an educational fair that included a railroad locomotive that was open for tours. The FEC railroad security reports that since the partnership effort with the Liberty City community, incidents of vandalism and trespassing incidents have been significantly reduced.

Success Story: Houston Terminal Safety Action Plan

An ongoing SAP at the Houston Terminal has reduced a very high track-caused derailment rate of 50 or more per month in 1997 to two or three minor incidents per month in 1999.

Success Story: Montana Rail Link (MRL)

Region 8 management worked directly with the President and Vice Presidents of MRL to address crucial safety and cultural issues. As a result, MRL’s safety record improved from 13 injuries per 200,000 man hours at its start-up in 1987, to 1.5 in 1998. MRL was subsequently recognized nationally when awarded the annual Harriman Bronze Medal Award for Safety.

SACP Benefit - Direct Investments in Safety

SACP has also enabled FRA to persuade the rail industry to make direct investments in safety. For example, one commuter railroad invested an additional \$8 million in maintenance and training. The UP hired more than 5,800 railroad workers in 1998, more than 1,400 in 1999 and plans to hire more than 1,300 in 2,000, in response to SACP findings that it was significantly understaffed.

Best Measure of Effectiveness - Railroad Safety Performance

Under SACP, the last six years have been the safest in the railroad industry’s history. The data below compares the rail industry safety improvements for 1993, the final year for which site-specific only inspections occurred, and 1999.

	<u>1993</u>	<u>1999</u> *	<u>Percent Improvement 1993-1999</u>
Train Accident Rate	4.25	3.74	12.0 %
Rail-Related Fatalities	1,279	915	28.5
Rail Employee Fatalities, Injuries, and Illnesses	15,363	8,420	45.2
Grade Crossing Fatalities	626	402	35.8
Trespasser Fatalities	523	474	9.4
Employee Fatalities	47	31	34.0

* 1999 is preliminary as of April 26, 2000.

Class I Railroads

Percentage Change from 1996 to 1999

- NS total accidents and incidents fatalities decreased 4 percent and trespasser fatalities fell 18 percent.
- UP total accidents and incidents fatalities decreased 4 percent and grade crossing incidents dropped 27 percent. FRA representatives met with UP rail labor and management 348 times in 1998 and 264 times in 1999, to conduct SACP forums and 550 SACP safety committees are addressing safety and health issues, participating in safety audits and training, and communicating safety awareness information.
- CSXT employee fatalities decreased 100 percent. For the first time in over a decade, CSXT did not have an employee fatality in 1999. A total of 51 fatalities had occurred in the prior ten years.
- BNSF total accidents and incidents fatalities decreased 25 percent, and grade crossing incidents fell 17 percent.
- Amtrak total accidents and incidents decreased 12 percent, and train accidents fell 10 percent.

In Fiscal Year 1999, approximately 30 percent of FRA's Office of Safety resources was directed toward SACP activities. The following is a matrix of major accomplishments for year 1999 and 1st Quarter 2000.

II. FRA MATRIX of Year 1999 and 1st Quarter 2000 Accomplishments

Cultural Transformation Highlights - Pages 11 - 15

NS	BNSF	UP	CSXT	AMTRAK	KCS	IC
Page 11	Page 12	Page 12	Page 13	Page 13	Page 14	Page 14
<p>On May 10, issued a joint General Safety Bulletin to all employees specifying what is expected of company officers to ensure that employees injured on the job received prompt medical care. Goal is to eliminate harassment and intimidation.</p>	<p>BNSF is implementing the 5 year strategic plan approved on July 23, 1999. The plan establishes a process for referral of safety issues to the systems group and resolved 40 outstanding safety issues.</p>	<p>The culture working group developed safety accountability performance standards for managers which holds managers accountable for rules, actions of noncompliance, and improper administration of discipline matters.</p>	<p>CSXT's new Individual Development and Personal Accountability Policy continues to be the cornerstone for cultural transformation. Employee suspensions and disciplines continue to be very low in comparison to statistics prior to implementation. Most cases requiring discipline involve alcohol and drug test positive results and operating rules 240 violations (Locomotive Employee Certification).</p>	<p>FRA is partnering with Amtrak labor and management to improve the safety culture through the consolidation of 8 outdated Amtrak safety rule books into one book. FRA envisions that the new rule book will initiate fundamental changes in the culture.</p>	<p>Successful partnerships involving the car inspector's craft, dispatchers and signal personnel, at both a system and local level were formed and complaints dropped significantly.</p>	<p>The FRA conducted numerous listening sessions throughout IC. The IC Chief Executive Officer traveled through out the IC holding breakfast and lunch meetings in an effort to resolve some of the perceived problems.</p> <p>Senior managers were told that the Vice President of Operations would not tolerate abuse, harassment or intimidation of employees.</p> <p>The process established an open line of communication and a means of free expression without fear of intimidation or reprisal.</p>
Page 11	Page 12	Page 12	Page 13	Page 14	Page 14	
<p>On January 1, 2000, implemented a System Teamwork Responsibility Training (START) program. START involves union officials in the disciplinary process and relies on alternative training rather than disciplinary hearings for minor rules infractions. START divides rules violations into 3 categories: minor, serious and major.</p>	<p>After suspension of the controversial railroad policy, the BLE and the UTU successfully negotiated an agreement with the BNSF on attendance policy for train and engine service employees.</p>	<p>Monumental changes were implemented which resulted in a 53 percent reduction in active discipline cases. The change in policy reflects a culture shift from punitive actions to education, training, and counseling of employees.</p>	<p>A brand new safety program with the BMW was implemented. Under the new program, BMW selects whom they want to run the program, and CSXT pays the salaries of the union reps selected.</p>	<p>On December 14, 1999, FRA facilitated a meeting which resulted in the formation of an Amtrak West SACP to address Amtrak safety issues in California, Oregon and Washington. Amtrak pledges its support and 27 members met on March 15, 2000.</p>	<p>Partnership teams of Train & Yard personnel and Track workers have been meeting monthly and are successfully resolving problems though focused audits.</p>	

SACP Process Improvements Highlights - Pages 15 - 23

NS	BNSF	UP	CSXT	AMTRAK	KCS	IC
<p align="center">Page 15</p> <p>The Fatality Analysis Team conducted an analysis of two incidents that resulted in employee fatalities to determine the root cause. The analysis included a look at all policies and work practices that may have contributed to the accidents. The Team implemented plans to prevent similar incidents.</p>	<p align="center">Page 16</p> <p>The Hazardous Materials SACP team completely eliminated the serious defect problems (ten percent defect ratio in 1998) with the BNSF shipment of hazardous materials. The inter modal teams, including representatives from major shippers, conducted joint audits throughout the BNSF system and made significant changes in the procedures and training by finding the root causes of the deficiencies.</p>	<p align="center">Page 18</p> <p>The Car and Locomotive working groups concentrated on conducting field audits in those areas on the UP system (which operates in 23 States) with serious defective conditions. All serious defective conditions were repaired during the audits. The audits were used to develop a baseline and an overall system action plan to reduce deficiencies system-wide. After the baseline was established, condensed monitoring plans were provided to FRAs Regions 4, 5, 6, 7, and 8, for a 90-day inspection period. The FRA system monitoring results show that car defects have declined from a system-wide high of 27 percent to an end-of-year total of 13 percent. Locomotive system defects declined from 57 percent to an end-of-year 44.9.</p>	<p align="center">Page 19</p> <p>The Signal and Train Control SACP team implemented a very aggressive plan to mitigate a serious safety concern by eliminating pole line deficiencies across its system. CSXT spent \$29 million in 1998 and \$22 million in 1999. All of the deficiencies have been addressed.</p> <p>The Signal and Train Control SACP team successfully completed five audits which have resulted in better switch maintenance, implementation of a maintenance inspection policy and the regular inspection of insulated rail joints. The issue was closed with the development of written inspection and reporting procedures which were incorporated into CSXT's Engineering and Train Control Maintenance Manuals. CSXT spent \$700,000 in 1998 and \$750,000 in 1999.</p>	<p align="center">Page 21</p> <p>SACP follow-up Audit: The joint Amtrak/Knorr/Alstom/FRA tread brake committee is evaluating tread brake problems (TBU) and will monitor corrective actions to final resolution of this safety issue. To remedy the ineffective TBU problem, Knorr will overhaul all Viewliner TBUs with a target completion date of December 2000. Meanwhile, Amtrak will replace damaged TBU rear boots with the new boots on Horizon and Superliner equipment at periodic maintenance.</p>	<p align="center">Page 22</p> <p>FRA found serious deficiencies in the mandatory periodic inspection and replacement of locomotive air brake components. An intensive and closely monitored action plan resulted in the inspection and replacement of all air brake components on the entire fleet in less than three months and the establishment of a program of parts supply and quality assurance that has met FRA's expectations.</p>	<p align="center">Page 23</p> <p>Audits were conducted of the IC's internal programs. As a result, the IC's Harassment and Intimidation program was completely revised. New procedures were established for conducting Efficiency Tests and Inspections. The IC System Timetable Airbrake & Train Handling Rules were revised. Improvements were made to the IC's Control of Alcohol and Drug Use Program and new procedures were established for the Roadway Worker Protection for individuals working on or about the track, particularly on the (Baton Rouge District). A new procedure for the protection of on-track personnel working within Yard Limits is currently being developed and expected to be instituted across the IC property by April 2000. The IC completely revised the administration and monitoring of their Locomotive Engineer Certification Program.</p>

SACP Process Improvements (Continued) - Track Highlights - Pages 17- 20

NS	BNSF	UP	CSXT	AMTRAK	KCS	IC
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<p>No actions noted.</p>	<p>Page 17</p> <p>In accordance with FRA's goal to reduce track related derailments in BNSF and UP train yards, focused team inspections were conducted by the FRA and state partners. As a result, BNSF and UP management developed action plans to ensure that their track inspections are consistent with the action plan, and the quality of their inspections has improved. SACP partnerships, with labor and the BNSF, resulted in the railroad increasing the number of track inspectors and reducing the size of their territories.</p>	<p>Page 18</p> <p>The Maintenance of Way (MOW) SACP improved the safety for MOW employees involved in inspection, maintenance, repair, and constructions of tracks and structures.</p>	<p>Page 19</p> <p>The FRA, CSXT, and the BMWWE participated in the first ever SACP initiative on a Class I railroad to address maintenance of way staffing levels. Comprehensive track and bridge inspections and listening sessions were held with CSXT employees and supervisors. The review encompassed 1,755 miles of main track, 225 miles of sidings and 173 miles of yard track. A total of 13,594 records was reviewed. The audit report makes recommendations for CSXT to address serious safety issues concerning the adequacy of maintenance-of-way manpower levels, replacement of rail, ties, and ballast, and track surface renewal. Subsequently, CSXT has hired an additional 86 maintenance-of-way workers and responded with a Safety Action Plan. FRA and State Track Inspectors conducted follow-up field inspections and found that CSXT was not in compliance with the Safety Action Plan. A Compliance Agreement has been signed and will be monitored by FRA.</p>	<p>No actions noted.</p>	<p>No actions noted.</p>	<p>No actions noted.</p>
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Training Improvements - Highlights (Two Issues Per Railroad) - Pages 23 - 27

<p align="center">NS</p>	<p align="center">BNSF</p>	<p align="center">UP</p>	<p align="center">CSXT</p>	<p align="center">AMTRAK</p>	<p align="center">KCS</p>	<p align="center">IC</p>
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<p>Page 23</p> <p>The SACP new conductor training program has improved crew utilization, reduced employee fatigue and improved the safe movement of trains. NS streamlined the hiring process reduced the period of time between the interview and training. Also a \$100/week pay raise has reduced attrition.</p>	<p>Page 24</p> <p>Through the SACP, a mentoring program has been developed whereby newly promoted signalman maintainers provide a mentor until they are familiar with their territory.</p>	<p>Page 25</p> <p>To address the root cause of personal injuries, training was provided to mechanical forces on cab signal equipment and event recorders. The training has resulted in a reduction in human caused incidents and injuries.</p>	<p>Page 26</p> <p>The Track SACP team assured that all track inspectors were field certified. As a result, the inspectors are now required to demonstrate their knowledge to senior official and pass a FRA track exam.</p>	<p>Page 27</p> <p>Amtrak will provide training for FRA personnel in mechanical and signal systems for high speed trains. The training will enable FRA to become an effective partner with Amtrak management and labor in ensuring the safe implementation of the high speed operation.</p>	<p>Page 27</p> <p>Based on an audit which found significant deficiencies in train air brake and safety appliance inspections, KCS instituted an Action Plan to retrain every train and engine service employee. There has already been improved compliance.</p>	<p>Page 27</p> <p>The IC has entered into an aggressive training program and has signed a long term agreement with a consulting firm that specializes in the training of engineers, conductors, and trainmen.</p>
<p>Page 23</p> <p>The SACP team produced two training videos on the hazards of switching operations. Labor and management present the material and conduct audits to ensure employee compliance with the safety rule.</p>	<p>Page 24</p> <p>BNSF identified all highway-grade crossings on the BNSF that have significant commercial/track traffic and offered track driver educational programs to more than 50 trucking companies. New approach resulted in a 12 percent decrease in grade crossing collisions.</p>	<p>Page 25</p> <p>An engineering training program has been implemented which ensures compliance with locomotive engineer certification. All engine service employees have been trained. Supervisors are now performing the required engineer's observations and operational tests for their employees.</p>	<p>Page 26</p> <p>The Roadway Worker (RWP) SACP team developed a comprehensive program for contractors who perform track work on CSXT. Also, a survey was done to determine the employee's knowledge of the RWP rules. Based on the survey, all managers, engineers and contractor personnel were trained on RWP provisions.</p>	<p>Page 27</p> <p>FRA developed the train dispatcher training for new dispatchers with no block operator experience. The American Dispatchers Division expressed appreciation to FRA for their involvement.</p>	<p>Page 27</p> <p>Based on an audit, efficiency testing instructions have been revised. New procedures are now in place and every supervisor has been trained on the performance and reporting standards.</p>	<p>Page 27</p> <p>In cooperation with the FRA and rail labor, IC developed and implemented a comprehensive training program for locomotive and car department personnel.</p>

Fatigue Management Highlights - Pages 28 - 32

NS	BNSF	UP	CSXT	AMTRAK	KCS	IC
<p>Page 28 NS revised division superintendent's safety standards to hold them accountable for tie-up on line of road and any excess time a crew member spends awaiting transportation. This action has significantly improved crew utilization, reduced employee fatigue, and safety.</p> <p>The SACP new conductor training program has improved crew utilization, reduced employee fatigue and improved the safe movement of trains.</p>	<p>Page 28 The BNSF successfully implemented 60 programs that allow train and engine crews to have assigned days off. The BNSF pioneered the train crew napping policy in the rail industry and has been successful in changing the General Code of Operating Rules to include rules that allow train crews to nap while on duty which makes napping available as a fatigue countermeasure to most rain crews working on the railroads in the western U.S.</p>	<p>Page 28 UP developed a program that ensures scheduled crew rest periods and instituted a corporate policy which gives employees a guaranteed right to rest one day after working seven days.</p>	<p>Page 30 The CSXT Fatigue Countermeasures SACP team trained employees on train scheduling practices and emergency responses and alertness strategies. 84 percent of the engineers and 46 percent of the crews now have assigned days off.</p> <p>The Crew Release SACP team improved the release of train crews within 12 hours on the Fitzgerald subdivision which represents a 50 percent improvement since the team was formed. This initiative has resulted in a reduction in crew fatigue and safety accidents associated with fatigue.</p>	<p>Page 31 The SACP team is evaluating locomotive engineer fatigue issues; specifically lone-engineer-in -the- cab operations between midnight and 6:00 a.m. with no supplemental safety features, e.g., automatic trains control, cab signals.</p> <p>While evaluation is underway, Amtrak has committed to placing a second rules qualified engineer on the 34 identified assignments with a three-hour or greater incursion into midnight to 6:00 a.m. time period when a second engineer is available.</p>	<p>Page 32 FRA has been greatly concerned that the demanding service requirements for KCS train and engine employees exceed reasonable expectations based upon current staffing levels. Beyond quality of life issues, FRA was concerned about the cumulative effect of fatigue on the safety of these employees. In March of 1999, KCS was a signatory to a landmark agreement between the BLE, UTU and Class I carriers which seeks to solve chronic worker fatigue problems.</p>	<p>Page 32 The IC hired three additional dispatchers and three dispatcher trainees to staff their Homewood, Illinois Dispatching Center. The railroad also purchased the G.E. Harris Computer Assisted Dispatching System to replace the Digit Con system that was in place at the beginning of the SACP. The new system is expected to be better integrated into the crew calling system thus reducing or eliminating the many complaints associated with inaccurate train line ups and complaints associated with fatigue.</p>

Safety Assurance and Compliance Program Accomplishments for 1999 and First Quarter 2000

Cultural Transformation

Norfolk Southern Railway Corporation (NS)

1. On May 10, 1999, NS issued a joint General Safety Information Bulletin to all employees specifying what is expected of company officers to ensure that employees injured on the job receive prompt and appropriate medical care and are treated with respect. This SACP team effort will help assuage any negative employee perception about the railroad's resolve to eliminate harassment and intimidation and will also improve the accuracy of reporting of railroad incidents.
1. On January 1, 2000, NS implemented the System Teamwork and Responsibility Training (START) program. START procedures were negotiated between NS management, the United Transportation Union (UTU) and the Brotherhood of Locomotive Engineers (BLE). The START program will involve union officials in the disciplinary process and will rely on alternative training rather than disciplinary hearings for minor rules infractions. It also eliminates formal disciplinary hearings for employees who sustain injuries. Unions have argued that this practice discouraged the reporting of incidents, which in turn may under report results for safety records. START covers the 12,800 train and engine employees represented by the UTU and the BLE.

The START program divides rules violations into three categories: minor, serious, and major. Minor offenses, such as failure to wear safety glasses or come to work when called, will be handled by training. Employees will not be subject to a formal disciplinary hearing unless the employee has three minor offenses in a three-year period; serious offenses, such as speeding or violations that result in personal injury or property damage, will result in no more than a 30-day deferred suspension for the first offense in a three-year period. A second offense in a three-year period will result in no more than a 30-day suspension. Rule violations resulting in injury will be handled under START. Failure to report an injury is a serious offense; and, NS and the unions also agreed to establish an oversight committee with representatives from the company and the unions to review cases and ensure consistent application of the policy.

Under the current program, rules violations were kept in employees' permanent records an accumulation of which could result in suspension or dismissal; major offenses would result in removal from service pending a formal hearing—dismissals for a single offense are possible if the employee is found guilty. Major rule violations include excessive speeding, drugs or alcohol use, theft, fighting, insubordination, weapons possession, passing stop signals, major accidents and other acts that blatantly disregard the rights of other employees or the company, or that endangers the safety of employees or the public; employees will not be disciplined for failing to immediately report an injury provided. The injury is reported as soon as it manifests itself. There will be no disciplinary hearings for sustaining injuries. However, NS may conduct fact-finding inquiries to determine the cause of the injury.

Burlington Northern Santa Fe Railroad (BNSF)

1. The BNSF-SACP team is implementing a five-year strategic safety plan approved on July 23, 1999. The plan establishes a process of employee empowerment and refers safety issues to system groups for resolution. Forty outstanding safety issues related to maintenance-of-way, mechanical and transportation deficiencies have been resolved. The plan calls for a joint effort to ensure the highest level of safety for all, a commitment to adhere to all regulations, a workplace free of harassment and intimidation, and the joint creation of work practices and tools to enable the BNSF employees the opportunity to perform their tasks safely. One immediate result has

- employees. The empowerment process itself is now included into the day to day decision making.
1. After suspending the controversial railroad availability policy, the BLE and the UTU successfully negotiated an agreement with the BNSF regarding an attendance policy for train and engine service employees.
 3. Senior BNSF management has proposed that rail labor organizations participate in the development of a new discipline policy for the railroad. The BNSF-SACP team will be the forum for the development of this new policy.
 4. Region 5 has been actively involved in the BNSF SACP to resolve issues regarding operating practices at the BNSF Network Operations Center (NOC) and the joint BNSF-UP Spring, Texas, Dispatching Center. FRA is a stabilizing force in the NOC Safety Council. This council, which consists of BNSF dispatchers and NOC managers is resolving many safety-related issues and was instrumental in the NOC Y2K planning, preparation, testing and plan implementation. Since the region began participating in this council, there have been no formal complaints forwarded to the FRA by the NOC dispatchers.

Union Pacific Railroad (UP)

1. Over a fourteen-month period, the SACP Culture working subgroup, developed safety accountability performance standards for managers (called the Business Conduct-Policy Managerial Process). The system-wide policy was approved and subsequently implemented on July 1, 1999. The policy holds managers accountable for rules, actions of noncompliance, and improper administration of discipline matters.
2. The SACP Discipline subgroup, identified disciplinary actions as having a primary effect on employee morale and quality of life. After nine months of study, significant changes were implemented which resulted in a 53 percent reduction in active discipline cases (6,100 cases reduced to 3,000). At the August Oversight Meeting, UP provided the first results of the program: 35 percent fewer discipline assessments and a 25 percent increase in counseling in lieu of discipline. The changes in policy reflect a culture shift from punitive actions to education, training, and the counseling of employees.
3. FRA, rail labor and management completed the last SACP service unit roll-out in August 1999. The roll-outs provide a mechanism for accountability and guidance on how to separate local safety issues from systemic safety issues. During the February 2000 UP Leadership Conference held in Omaha, several committees identified the successes achieved utilizing the SACP during FY 1999. The Fort Worth Locomotive Shop was recognized for a 78 percent reduction in reportable employee injury occurrences. A focus group was established on March 15, 2000, to review and assess the effects of the SACP roll-outs and to target safety committees having difficulty implementing the SACP methods and process.

CSX Corporation Transportation, Inc. (CSXT)

4. The CSXT SACP Team implementation of the new Individual Development and Personal Accountability Policy is the cornerstone for the culture transformation on CSXT. Employee suspensions and dismissals continue to be very low in comparison to those statistics prior to implementation. The majority of cases requiring disciplinary action are the result of Alcohol and Drug positive test results and railroad operating rules violations of 49 CFR 240 (Locomotive Engineer Certification).
2. After months of negotiations, the SACP team successfully implemented a brand-new safety program. This is the first written safety agreement on the CSXT with rail labor and will result in improved safety. Prior to the implementation of the program, the Brotherhood of Maintenance Way Employes (BMWE) was not participating in the safety initiatives of the railroad. Under the new safety program, the BMWE selects whom they want to run the program and CSXT pays the salaries of the union representatives selected (one for each service lane and one for system gangs and one overall system coordinator) for a total of 14 full time safety craft leaders.

1. FRA will partner with Amtrak's labor and management, and the Volpe National Transportation Systems Center (Volpe) in a pilot project to improve safety culture, initially through the consolidation of eight outdated Amtrak safety rule books into one safety rule book. FRA envisions that the safety rule book consolidation will initiate fundamental improvement in Amtrak's safety culture.

FRA, Amtrak, and Volpe have entered into a cooperative agreement with the following objectives: improve the overall safety culture; identify measurable safety-related behaviors; identify latent organizational and work conditions; identify embedded cultural barriers; identify relevant organizational issues; document the project; and establish a SACP cooperative safety process between FRA, Amtrak labor, and Amtrak management to continue with other safety culture improvement projects.

Volpe, with the cooperation of Amtrak labor and management, will establish and conduct baseline and follow-up measures to study the safety rule book consolidation, its outcomes, and other safety culture improvement projects. Baseline measures, to be conducted in Boston, Chicago, and Los Angeles, include a survey instrument, observations, focus groups, and injury rate analysis. The survey instrument was initiated in Boston in February 2000. Volpe is scheduled to discuss the effort at the April joint Safety Council meeting.

2. At its June 3 meeting, the Amtrak Joint Labor/Management Safety Council adopted its charter identifying FRA's Amtrak SACP Project Manager as a non-voting standing committee member. On December 14, 1999, FRA facilitated a meeting with Amtrak West, BLE, UTU, and California State to discuss formation of an Amtrak West SACP Committee to address Amtrak safety issues in California, Oregon, and Washington. Purpose and scope were debated and the charter and operating rules of the Amtrak Joint Labor/Management Safety Council were distributed to generate ideas on committee structure. All parties agreed to establish the committee. Invitations to join the committee have also been extended to other labor organizations.

At the committee's second meeting on January 26, 2000, the new Amtrak Assistant Vice President Safety addressed the committee and pledged Amtrak's support. FRA Regions 7 and 8 are represented on the committee with the Region 7 Deputy Regional Administrator serving as facilitator. The team met on March 15. Twenty-seven participants representing Amtrak labor, management, FRA, and the California Public Utilities Commission were in attendance. Discussion items included committee charter/operating rules, operating rules, and movement directives.

Kansas City Southern (KCS)

1. Extremely successful partnerships involving the car inspector's craft at both a system and local levels were formed. These reduced tension and resolved issues so well that complaints to FRA dropped to insignificant levels. Similar partnerships involving dispatchers and signal personnel followed that have also produced positive results.
2. Partnership efforts involving train and yard personnel and track maintenance workers had been sporadic largely due to the wide distribution of employees and an ongoing shortage of personnel that made gathering groups of any consequence extremely difficult. However, following three tragic employees' fatalities and a series of focused audits by FRA, active and successful partnerships have now been formed involving both groups. Representatives of both groups now meet in monthly meetings and joined in recent audits of the KCS Dispatching Center and the SOFA projects.

Illinois Central Railroad (IC)

1. The initial stages of the IC SACP identified a need for a cultural change in the way the IC managers and labor leaders conducted business. Changes in the adversarial nature of culture needed to be made, particularly in the southern portion of the IC system. The FRA conducted numerous listening sessions throughout the IC property. The IC's Chief Executive Officer traveled throughout the IC system holding breakfast and brown bag lunch meetings with the employees in an effort to resolve safety culture issues. In addition, the IC Senior vice-president of Operations informed IC's senior managers that he would not tolerate abuse, harassment or intimidation of employees. The SACP

SACP Process Improvements and Audit Results

Norfolk Southern Railway Corporation (NS)

Accident/Injury Prevention Programs

1. The Fatality Analysis Team conducted an analysis of two incidents that resulted in employee fatalities in order to determine the root cause(s) and appropriate remedial action. The analysis included a candid exploration of all policies and work practices that may have contributed to this accident. The Team developed and implemented detailed action plans to prevent similar incidents in the future.
1. In September 1999, the SACP met to review the circumstances surrounding a July 1, 1999, highway-rail grade crossing accident near Decatur, Illinois, that killed the Milepost Industries limousine driver and an NS employee. Two other NS employees were seriously injured.
1. In October 1999, the SACP team proposed changes in railroad operating practices which would prevent the recurrence of the fatal injuries sustained by an NS conductor on May 20, 1999, during a switching operation at Ludlow Yard. The conductor was riding on the front step of the a yard locomotive when it struck an unoccupied locomotive.
1. In January 2000, the SACP team proposed changes in railroad operating practices which would prevent the recurrence of the fatality of an NS machinist on November 4, 1999. He was struck by a train moving on a track adjacent to the track on which the locomotives he was inspecting/servicing were located. Because of the circumstances surrounding this incident and the importance of teamwork and understanding among all participants in a task, this SACP team is composed of representatives from both operating and non-operating crafts, i.e., UTU, BLE, BRC, IAM, IBEW, as well as NS, and FRA.
5. The NS Safety Profile Report (Report) of safety issues identified during the SACP assessment was forwarded to the appropriate labor organizations for their review. With one exception, FRA accepted NS responses to the 41 findings and recommendations. FRA met with NS and each rail labor organization that participated in the SACP to formulate remedial action. All parties agreed to continue the partnership efforts to resolve significant issues.

Burlington Northern Santa Fe Railroad (BNSF)

Grade Crossing Safety and Trespass Prevention

1. A SACP partnership is placing a renewed emphasis on grade crossing safety. As a result, the BNSF spent more than \$50 million on grade crossing related programs in 1999. BNSF has established 22 grade crossing safety manager positions, as well as eight public project managers to work on grade crossing safety and crossing closures. BNSF was able to close 170 grade crossings in 1999 and has set a goal of closing 600 in 2000.
2. The BNSF in partnership with FRA has established an aggressive “zero tolerance for trespasser” program. This program includes public and law enforcement education, a trespasser reporting process through the Resources Operation Center, installation of “No trespassing” signs, aggressive train inspections, improved environmental design and security equipment, and heightened enforcement.

Process Improvements and Audit Results

1. The Hazardous Materials SACP team successfully eliminated serious defect problems (ten percent defect ratio in 1998) with the BNSF shipments of hazardous materials. Intermodal teams, including representatives from

The highly successful Hazardous Materials SACP audits were conducted at the major terminals of Hobart, California, Minneapolis, Minnesota, and Denver, Colorado. The terminals were audited for compliance by teams including labor, management and customers of the railroad. Working around the clock, teams inspected all aspects of Hazardous Material transportation and documentation. During the weeks that followed participants contacted and discussed the results of the audits with each customer whose shipments were improper. The team inspections produced immediate and tangible results. An excellent example of which is the significant improvements in a long-standing problem with United Parcel Service documentation. After years of frustration trying to affect meaningful and lasting improvement, inclusion of senior company representatives in the audit teams resulted in significant and permanent changes in quality and accuracy which have been systemic.

2. The Motive Power and Equipment SACP team, reviewed BNSF fatalities caused by equipment collapsing on employees. As a result, BNSF, installed permanent jack pads at all locations where equipment is to be lifted for repairs. Subsequently, there has been zero fatalities or injuries attributable to falling equipment.
2. FRA conducted a joint SACP audit with BNSF managers of their rail equipment accident/incident reporting procedures. This audit identified several systemic problems in communicating reliable data between the various operating and equipment departments and the safety department. These problems adversely affected the safety department's ability to accurately report rail equipment damages. As problem areas were identified, BNSF managers were able to affect procedural changes that have greatly increased BNSF's reporting accuracy.
4. In accordance with FRA's goal to reduce track-related derailments in BNSF and UP train yards, focused team inspections were conducted by the FRA and state partners. As a result, BNSF and UP management developed action plans to ensure that their track inspections are consistent with FRA's Track Safety Standards. The quality of subsequent inspections has improved. SACP partnerships, with labor and management, also resulted in the railroad increasing the number of track inspectors and reducing the size of their territories.
5. Region 7 identified Roadway Worker Safety problems related to track occupancy and inaccurate train lineups on the BNSF. This concern was presented to the SACP system oversight committee for review. Using the SACP process, the FRA, CPUC, Arizona Corporation Commission (ACC), BNSF, and BMWV joined together to address the problem. As a result of this partnership, the BNSF added one additional track inspector to each inspection vehicle, and now uses track warrant and Form B authority to protect roadway workers on the Southern California and Arizona Divisions.
6. On June 9, FRA and BNSF met in Fort Worth, Texas, to review compliance with FRA's employee injury reporting requirements. Following an audit of five of the 22 BNSF divisions, FRA identified 133 cases where the carrier was not in compliance with CFR Part 225 Federal regulations (accident/incident reporting). FRA will use the SACP process to gain compliance with the Agency's required levels of reporting accuracy in the future.
7. The SACP team reduced by 75 percent the complexity and volume of documents required to be carried by the operating crews. Crews had been required to carry 25 pounds of documents and rules. Bulletins and orders are now tailored for the territory over which they operate. All BNSF operating rules, safety books, timetables and other instructions are also now available on BNSF's Internet web site giving the crews immediate access to operating rules books, safety books, air brake and train handling instructions, and system special instructions to help identify rules that relate to each other.
8. The BNSF SACP team has been divided into functional groups that allow an individual labor organization and FRA discipline specialist to coordinate directly with senior railroad officers on issues specific to their functions. This organization has greatly increased the number of safety issues that are being resolved.
8. A database has been developed for the tracking of safety issues by the BNSF-SACP team. This database will

6. In 1999 the SACP team conducted an audit of BNSF's Engineer Certification Program and Efficiency Testing Program. The recorded deficiencies are being corrected through an action plan.
8. In 1999, the SACP team conducted an audit of BNSF's rail equipment accident/incident reporting process. Deficiencies in the data interface between the mechanical department's computer program and the safety department's program were observed. A plan was initiated by the railroad to correct these deficiencies.

Union Pacific Railroad (UP)

1. The Car and Locomotive working groups concentrated on conducting field audits in those areas on the UP system reporting high levels of equipment defects. The audits were used to develop a baseline and an overall system action plan to reduce equipment defects system-wide. After the baseline was established, monitoring plans were provided to FRAs Regions 4, 5, 6, 7, and 8, for a 90-day inspection period. The FRA system monitoring shows that car defects have declined from a system-wide high of 27 percent to an end-of-year total of 13 percent. Locomotive system defects declined from 57 percent to an end-of-year 44.9 percent.
2. The Signal Working Group partnership reduced occurrences of false proceeds caused by human factors through improved training, and testing. An FRA team met with the supervisors on the construction side of the signal division in Las Vegas, Nevada to address FRA concerns. The UP agreed to train each employee on the proper test and inspections following installation of signal components.
 1. The Maintenance of Way (MOW) SACP improved the safety for MOW employees involved in inspection, maintenance, repair, and constructions of tracks and structures. The UP implemented a qualifications process for machine operators and the SACP team is currently reviewing safety concerns specific to protective clothing.
 4. Motive Power and Equipment SACP safety inspections in the UP's Roper Yard, Salt Lake City, Utah, revealed a number of UP flat cars with improper safety appliance modifications. It was determined that safety appliances (side handholds) had been removed from the cars and "elongated slots" were roughly cut into the deck of the cars by means of an acetylene torch. These cars are used nationwide and present a personal injury hazard. When advised of this noncomplying condition, the UP initiated an immediate repair program to replace the missing safety appliances on this series of cars.

Grade Crossing Improvements

1. The joint agreement signed by CSXT with FRA, which implemented a \$4.7 million dollar grade crossing awareness program at 28,000 highway/rail crossings for motor vehicle drivers, was a major factor in the collision reduction in 1999. The SACP team met its goal of having emergency information notification signs installed at 28,000 crossings in 20 states a full year ahead of schedule. This program has been expanded to their newly acquired Conrail trackage. The installation improved the ability of local emergency responders and the motoring public to quickly and accurately report when a vehicle is stalled on a crossing, enabling CSXT to take effective measures to prevent an accident. Since implementation, grade crossing collisions are down on CSXT in 1999. CSXT led the Class I railroads with a 16.4 percent reduction (79 fewer collisions) in 1999 vs. 1998.

Safety Process Improvements and Audit Results

1. The FRA, CSXT, and the BMWV participated in the first ever SACP initiative on a Class I railroad to address maintenance of way staffing levels. Comprehensive track and bridge inspections and listening sessions were held with CSXT employees and supervisors. The review encompassed 1,755 miles of main track, 225 miles of sidings and 173 miles of yard track. In addition, the track inspectors executed walking inspections of 1,122 main line turnouts and 533 yard turnouts. A total of 13,594 records was reviewed. The audit report makes recommendations for CSXT to address serious safety issues concerning the adequacy of maintenance-of-way manpower levels, replacement of rail, ties, and ballast, and track surface renewal. Subsequently, CSXT has hired an additional 86 maintenance-of-way workers and CSXT responded to FRA with a written SAP to address FRA's findings. After receiving CSXT's response, FRA and State Track Inspectors conducted follow-up field inspections and employee interviews. FRA found that CSXT was not in compliance with the SAP. A Compliance Agreement has been signed and will be monitored by FRA.
2. The Signal and Train Control (S&TC) SACP team implemented an aggressive plan to eliminate pole line deficiencies across its system. CSXT spent \$29 million in 1998 and \$22 million in 1999. All of the deficiencies have been addressed. CSXT and Conrail Best Practices forms have been distributed to the field accompanied by a training video for each S and TC Specialist in Regions 1 through 6 who are monitoring CSXT's use of the forms and reporting any discrepancies.
3. The Signal and Train Control SACP team completed five audits which have resulted in better switch maintenance, implementation of a maintenance inspection policy, and the regular inspection of insulated rail joints. The issue was closed on July 1, 1999, with the development of written inspection and reporting procedures which were incorporated into CSXT's Engineering and Train Control Maintenance Manuals. CSXT spent \$700,000 in 1998 and \$750,000 in 1999 on these efforts.
4. The SACP resolved the issue of poor visibility of flashlight signals. CSXT spent \$2.5 million in 1998 and \$200,000 in 1999 to correct this concern.
5. At the CSXT Operations Center a SACP team examination showed a total of 16 original audit issues relating to communications, workload, protocols for dispatchers to give/or receive instructions, training, physical structure and security. Each of the original concerns has been corrected or resolved.
6. The Event Recorder Enhancement Team corrected problems with the software used to download and test locomotive event recorders. In addition, CSXT established written procedures for testing each device resulting in a 90 percent improvement in record keeping. Based on the improvement, CSXT is going to switch to "self-testing" recorders, which will eliminate the need to do full range checks at each periodic inspection. CSXT will check the recorders on an annual basis for accuracy.
6. The Calendar Day Inspection (CDI) Process team audit was completed. The new SACP process involves the use of random sampling techniques with conference calls every three weeks to discuss the results of the random sampling. To date there has been a 40 percent improvement in the compliance with 49 CFR 229.2

- provides written guidelines for the daily inspection of locomotives at each location. The program has resulted in the resolution of many serious safety conditions on the railroad including cracked wheels on locomotives.
8. The SACP team devised a method to tag, mark, or easily identify a defective Tractor on Flat Car (TOFC) hitch, or Container on Flat Car (COFC) component to alert loaders, groundsmen and railroad personnel of defective components before attempting to load a container or trailer onto the equipment. There are no federally mandated standards requiring TOFC/COFC freight cars to be removed from service when securement equipment is defective. In many cases, the car remains in service and interchanged at other railroad facilities where knowledge of the defective condition may not be known. CSXT has agreed to use a bright orange tag, similar to a bad order tag on defective TOFC/COFC components.
 9. The Hazardous Materials SACP team found that the hazardous materials crews were not being provided the proper documentation for hazardous materials movements. To prevent regulatory noncompliance, the train dispatcher is now notified if a car containing hazardous material is found without the proper train documentation. The train dispatcher arranges to have an updated CSXT train document delivered to the train crew. If this is not possible, the information required to move will be transmitted to the crew over the radio and printed legibly on a radio waybill form (a new form just created by CSXT). These forms are available at all on duty locations. This initiative has reduced the number of hazardous materials incidents.
 10. The SACP team resolved serious deficiencies with loading hazardous materials originating from the Blount Island Marine and Charlestown, South Carolina, facilities. Training was provided to persons responsible for loading ammunition trains. The team is continuing spot inspections at high volume ramps in Chicago, Atlanta, New Orleans, Jacksonville, Philadelphia and Baltimore. Random loads are opened and inspected for proper blocking and bracing; loads not properly blocked/braced are rejected and returned to shipper for corrective action.
 11. The mini-audit program developed through the SACP is continuing system-wide. The program requires each terminal manager (TM) to have an employee (labor or management) complete an audit of the facility each month. The TM is responsible for addressing each unsatisfactory condition disclosed by the audit. The form is reviewed by the CSXT regional manager as part of the TM's overall performance rating.
 12. The Incidental Reporting SACP team designed and implemented an incidental report which enables CSXT employees to report minor incidents as soon as an injury occurs and to jointly determine a course of action. The benefit has been a reduction in more serious injuries because a thorough root cause analysis is conducted for every incident to determine what changes, if any, must be made to insure there is no recurrence of the incident, and to increase the awareness of the potential for injury.

National Railroad Passenger Corporation (Amtrak)

1. The Joint High Speed System Safety Partnership team, consisting of Amtrak management, labor (Brotherhood of Locomotive Engineers and the United Transportation Union), and FRA, is monitoring and verifying the processes and procedures necessary to safely implement the high speed system. The team conducted a joint inspection of the wayside signal system on the Northeast Corridor (NEC) between Boston and New Haven and identified numerous locations in need of safety attention. All parties have agreed to participate in a NEC system safety program process to ensure the safe integration of high speed operations into existing operations. Three division teams will identify and resolve hazards and risks in the New England, Metropolitan, and the Mid-Atlantic divisions. System safety program process training will be conducted by Booz-Allen and Hamilton, Incorporated, consultants.
2. SACP follow-up Audit: The 49 CFR Part 225 (railroad accident/incident reporting) issue has been closed with the submission of the audit team's report to Amtrak. The systemic problem of non reporting and late reporting of passenger and employee injuries has been eliminated. The audit team will return in 2000 to review 1999 records.

problems (TBU) and will monitor corrective actions to resolve this safety issue. To remedy the ineffective TBU problem, Knorr will overhaul all Viewliner TBUs with a target completion date of December 2000. Meanwhile, Amtrak will replace damaged TBU rear boots with the new boots on Horizon and Superliner equipment at periodic maintenance. With commitments in place, the committee agreed to disband and the SACP team agreed to close the issue. This was the last remaining open issue in the Amtrak SACP follow-up Audit.

With the establishment of several partnership initiatives and the completion of the follow-up audit, the finite audit-style SACP has evolved into an ongoing partnership-style SACP.

The last of 22 partnership meetings to ensure the safe migration of the New York Claytor/Scannell Penn Station Control Center into the amphitheater was held on January 20. This successful partnership of FRA, Amtrak, Long Island Rail Road, American Dispatching Division (ATDD), and the Transportation Communications Union provided a forum to raise, address, and resolve safety and work issues. The ATDD expressed appreciation for FRA's involvement.

4. Region 1 has successfully partnered with Amtrak labor and management to prevent serious injuries and accidents to roadway workers. Since the inception of the Northeast Corridor (NEC) Electrification Project in 1996, FRA has monitored the safety of roadway workers and train operations. The region has helped hasten the advent of high speed train service in the NEC.

Kansas City Southern (KCS)

1. The Kansas City Southern SACP Initiative continues to be successful in meeting the need for change on this smallest of Class I railroads. In 1999, FRA became concerned when the train accident rate for KCS continued to show rates of nearly double the national average for Class I railroads. In 1997, KCS reported a train accident ratio of 8.59 compared to the national average of 3.31. In 1998, KCS reported a train accident rate of 7.62 compared to the national average of 3.67. And, after nearly eight years without a fatality, in a period of less than seven months, KCS experienced three fatalities involving train service employees. FRA examined all aspects of KCS maintenance and operation in the last quarter of 1999. As a result, FRA requested improvements in: Locomotive Inspection and Maintenance; Operational Efficiency Testing; Roadway Worker Protection; Hub-Style Operations; Utilization of Train Service employees; Engineering Department Record Keeping; Repair of a major moveable span bridge at Monroe, and Improvements in Dispatching Center Operations.

KCS responded with action plans to address FRA's SACP safety audit concerns. A senior management meeting has planned for early 2000 at which time a report will be delivered on the progress of those action plans.

1. During 1999, FRA found serious deficiencies in the mandatory periodic inspection and replacement of locomotive air brake components. Long-standing noncompliance had created a situation in which FRA no longer had confidence in the carrier's ability to properly inspect or maintain locomotives according to regulations. An intensive and closely monitored action plan resulted in the inspection and replacement of all air brake components on the entire fleet in less than three months and the establishment of a program of parts supply and quality assurance that has met FRA's requirements.
1. The KCS has embarked on a major revitalization of its locomotive fleet through the purchase of new, high horsepower locomotives and the parallel retirement of older, high maintenance and problem maintenance locomotives. As a result, FRA has found a dramatic improvement in locomotive serviceability on the system.

Illinois Central Railroad (IC)

1. SACP partnership audits were conducted on a number of the IC's internal programs. As a result, the IC's Harassment and Intimidation program was completely revised. New procedures were also established for conducting Efficiency Tests and Inspections. In addition, the IC System Timetable Airbrake & Train Handling

particularly on the (Dutton Rouge District). Finally, a new procedure for the protection of on track personnel working within Yard Limits is currently being developed and expected to be instituted across the IC property by April 2000. The IC completely revised the administration and monitoring of their Locomotive Engineer Certification Program.

Training Improvements

Norfolk Southern Railway Corporation (NS)

1. The SACP-collaborated new conductor training program has improved crew utilization, reduced employee fatigue, and improved the safe movement of trains. The hiring process has been streamlined, reducing the period of time between the initial job applicant interview and the start of training to 30 days or less. NS also approved a \$100/week pay raise for the participants that equates to a 33 percent pay raise for the employees. This action has reduced turnover and attrition.
2. The SACP team produced two educational videos to simulate the hazards associated with switching operations (switchman crushed between the end platforms of two cars when the drawbars bypassed during an attempted coupling) and moving equipment (conductor walking on the tie ends was struck and killed by equipment approaching from behind). Each of the videos comes with a lesson plan and is designed to facilitate employee participation. Labor and management jointly present the material and conduct follow up audits to ensure employee compliance with the safety rules.
3. The Manpower SACP Team developed a mentoring and training program that will significantly improve the ability of crews to effectively resolve safety concerns in a timely manner. FRA, three NS General Chairmen (labor), three senior labor leaders, the NS Vice President for Labor Relations, and other senior NS staff met to finalize the program. Labor is very pleased with this effort.

Burlington Northern Santa Fe (BNSF)

1. A SACP-developed lesson plan for continuing education has been distributed to signalmen and signal maintainers on the BNSF. Also, a mentoring program has been developed whereby newly promoted signal maintainers will be provided with a mentor until they are familiar with their assigned territory and the equipment on that territory
1. A SACP team identified all highway-rail grade crossings on the BNSF that have significant commercial/industrial truck traffic and targeted the user companies for educational training. The new approach resulted in a 12 percent decrease in highway/rail grade crossing collisions in 1998, compared to 1997. The improvement continued into 1999. In 1999, BNSF offered truck driver educational programs to more than 50 major trucking companies. The BNSF-SACP safety team will be working to develop safety partnerships with major trucking companies to provide safety, and Operation Lifesaver training to truck drivers.
1. Using the SACP process, BNSF changed its philosophy toward public education on grade crossing safety in 1999. The carrier switched from using a small group of full-time Operation Lifesaver presenters, to using grade crossing managers to coordinate the activities of more than 200 employee and citizen volunteers.
1. Using the SACP process, BNSF has established a program to partner with local law enforcement personnel. The carrier is providing one-on-one training to police officers, "Roll Call" instruction and videos, joint positive enforcement activities, 315 Officer-on-the-Train events, and 241 Grade Crossing Collision Investigation classes. This program has been certified by the National Sheriff's Association and the International Association of Chiefs of Police.

Union Pacific Railroad (UP)

concern of which craft was properly qualified to move locomotives within the confines of the blue signal area. The UTU believes only hostlers are qualified to perform this duty, while UP believes mechanical craft personnel, if properly trained, can also perform this duty. Region Seven worked with the FRA Associate Administrator for Safety, to form a SACP team of representatives with other FRA regions, the CPUC, and railroad labor and management to resolve the issue. The FRA has no regulatory position indicating a preference as to which craft performs these services as long as the work is performed safely by properly trained individuals and is consistent with federal requirements. This team performed a comprehensive study of the issue and developed a Locomotive Mover Training Program that is intended to be used system-wide by UP.

2. To address the root cause of personal injuries, the Locomotive SACP team proposed training to mechanical forces on distributive power, cab signal equipment, and event recorders. The training program has resulted in the reduction of human caused incidents and injuries and has increased the employees safety knowledge and skills.
3. An engineer training program has been implemented which ensures compliance with the requirements for locomotive engineer certification. All engine service employees have been trained. Supervisors are now performing the required engineers' observations and operational tests for the employees assigned to them and internal accountability standards have been implemented.
4. The Signal SACP team implemented an in-depth training program to address proper installation, maintenance, and testing procedures for all construction supervisors and employees. The program ensures that all employees are trained, qualified, and supervised and minimizes the potential for equipment-caused incidents and injuries.
5. A SACP-developed training module for contract van drivers and managers is under final review. The module will address fatigue and drowsy driver issues. The module will be given to all contract van drivers/managers beginning in March 2000.
5. The Maintenance of Way working group presented a proposed "Machine Operator Qualification Process" and "Training and Testing Policy" to the Oversight Committee in May of 1999. The qualification processes will insure adequate training and annual certification for machine operators.
5. Field training on electronic record-keeping for train and engine personnel is being conducted by peer trainers. FRA has conducted reviews at various locations to determine the effectiveness of the training, develop accuracy indicators, and measure the commonly recurring errors by crewman. FRA continues to identify data deficiencies and is working in partnership with UP computer programming experts to correct problems.
8. The Hours of Service (HOS) team developed a program to improve compliance with the HOS Act and record-keeping requirements. The program ensures the verification of safety working schedules for operating employees. In addition, all UP dispatchers have received additional training. UP is the first railroad to change their official carrier operating rules to relieve crews before the end of their authorized twelve hours. Also, crew members have their trains secured prior to the expiration of the 12 hours of duty when a relief crew is not available. The result is that trains will not be left unattended without being secured.

1. The Track Inspector SACP team established a field certification procedure. As a result, CSXT Track inspectors are now required to demonstrate their practical knowledge to senior officials at CSXT and pass a FRA track safety standards exam. The staff is better trained and has done an improved job of ensuring track safety. An adjunct of this project has been the implementation of a Track Inspection Playbook with three pilot programs in effect system wide on CSXT. The SACP program is designed to improve the field track inspections and develop a standard inspection methodology throughout their system.
2. The Roadway Worker Program (RWP) SACP team developed a comprehensive safety training program for contractors who perform track work on CSXT. The contractors serve as key members of the safety team. CSXT took a leadership role to improve the safety culture throughout their system. The team also conducted a RWP survey to determine the employees' knowledge of RWP rules. As a result of the survey, all CSXT General Managers, engineers, and contractor personnel were trained on RWP provisions.
3. Based on the recommendations of the SACP Train Dispatcher team, CSXT hired 80 new dispatchers and trained 15 new dispatchers on workloads, protocols on how dispatchers receive instructions, physical structures and security. The quality of life concerns of the SACP team were resolved by the remodeling of the dispatching center. These initiatives have resulted in better trained and less fatigued workers.
4. The Crew Utilization SACP team improved the accuracy of the train line-up from 61 percent in January 1999 to 75 percent in June. Seventy-five percent of the crews are now provided with organized work plans concerning their tours of duty. The results have been a significant reduction in fatigue (a primary contributor to safety errors), and a reduction in employees idle time, improved customer confidence in the railroad, and more productive employees.
5. The Signal and Train SACP team developed and implemented a signal and training program for 125 less experienced signal maintainers across the system. The result of the training has been a decline in human-factor related incidents.
6. The CSXT Electronic HOS record keeping deficiencies have been corrected. CSXT has begun training crew callers and is preparing a schedule to implement training in the field. The HOS SACP team will work with CSXT during the training and record review.
7. The SACP team resolved serious deficiencies with loading orders originating from the Blount Island Marine and Charlestown, South Carolina, facilities. Training was provided to persons responsible for loading ammunition trains. Random loads are opened and inspected for proper blocking and bracing; loads not properly blocked/braced are rejected and returned to shipper for corrective action.

National Railroad Passenger Corporation (Amtrak)

1. Amtrak will provide training for FRA personnel in mechanical and signal systems for the new high speed train service. The training will enable FRA to become an effective partner with Amtrak management and labor in ensuring the safe implementation of the high speed operation.
2. The proposed train dispatcher training program for newly hired dispatchers with no block operator experience, the development of which FRA helped facilitate, allows for training adjustments dependent upon the candidate's needs and subsequent progress. The ATDD expressed appreciation for FRA's involvement.

Kansas City Southern (KCS)

1. An FRA audit found significant deficiencies in train air brake and safety appliance inspections by KCS train service employees. While the carrier had been doing an adequate job training new employees, the senior

activity by FRA is already finding improved understanding and compliance in the field.

1. As a result of FRA audits, Efficiency Testing Instructions on KCS have been completely revised. New procedures are now in place. All supervisors are being trained on new performance and reporting standards. Follow-up inspections by FRA have shown significant improvement in both the quality and quantity of testing. Participation by carrier officers in the SOFA audits promises to further improve performance under the new carrier program.

Illinois Central Railroad (IC)

1. The IC has entered into an aggressive training and hiring program. The railroad has signed a long-term agreement with the consulting firm, Rail Safety and Training Resources. This firm specializes in the training of engineers, conductors, and trainmen.
1. In cooperation with the FRA and rail labor, the IC developed and implemented a comprehensive training program including written, visual/oral instruction and Instructor demonstrated “on-the-job” training for both locomotive and car department personnel. The IC formed both a Locomotive and Car Partnership Councils, consisting of representatives from the FRA, and rail labor and management. The Partnership Councils travel throughout the IC system auditing the various repair shops for compliance with the Federal Regulations.

Fatigue Management and Improvements in Manpower, Staffing and Crew Utilization

Norfolk Southern Railway Corporation (NS)

1. NS revised its Division Superintendent's performance standards to hold them accountable for any train congestion and excess time a crew member must spend on the train awaiting transportation. This action has significantly improved crew utilization, reduced employee fatigue, and improved safety.

Burlington Northern Santa Fe

1. The BNSF has successfully implemented more than 60 programs that allow train and engine crews to have assigned days off. The BNSF, which pioneered train crew napping policy in the rail industry, has been successful in changing the railroad industry's General Code of Operating Rules (GCOR) to include rules that allow train crews to nap while on duty. This change in the GCOR makes napping available as a fatigue countermeasure to most train crews working on railroads in the western United States.

Union Pacific Railroad (UP)

1. The Fatigue SACP team developed a program that ensures scheduled crew rest periods. Employee fatigue is a major contributing factor to human-factor caused train accidents and poor morale. In addition, UP instituted a corporate policy which gives employees the guaranteed right to rest one day (time-off) after working seven days.
2. Primary accomplishments of the fatigue SACP working group include: development of a fatigue education program for all employees and their families that addresses shift work, sleep disorders and insomnia (program was provided to all employees and families and is on the Internet); and implementation of a napping pilot for operational yard and local crew members on October 11, 1999, at the Houston Terminal. This is the first pilot of its kind in the rail industry that applies to road crewmen.

As of March 1, 2000, there have been 117 work/rest agreements (scheduled work days/guaranteed rest days) ratified for train and engine men. Of those, 64 are implemented and 53 are near implementation. An additional 45 are in various stages of ratification. A total of 139 agreements is currently being negotiated. These represent approximately one-third of the total number of agreements that exist on the UP railroad.

3. A fatigue/sleep deprivation video has been developed to address issues encountered by supervisors and managers. The video is currently being mailed to all supervisors and managers.
4. A training module for contract van drivers and managers is under final review. The module will address fatigue and drowsy driver issues. The module will be given to all contract van drivers/managers beginning in March 2000.

Crew Utilization

1. The SACP working group identified several areas that affect crew behaviors. The concerns pertain to timely relief from work, lodging facilities, crew transportation, and hours on duty accomplishments include the following.

The working group evaluated and made enhancements to the transport service performance standards. Also, a new computer-based program was implemented that ensures the effective utilization of drivers and vans by providing accurate/real time dates and the response time for a requested van. The programming allows the UP to become a paperless operation reducing operational costs to both the railroad and transport companies and enhances the ability of local managers to know where the drivers/vans are located, when they are available for

The Crew working group implemented a crew monitoring process in February 2000. The process reduces the occurrence of unnecessary vehicular transport of crews. This has already had a positive impact on reducing the cross-deadheading delays.

The Crew working group endorsed a proposal to update the train movement database. This will provide better information on train running times between terminals for both revenue and freight trains. The goal is to improve train line-up accuracy. In January 1999 the accuracy level was at 62 percent and by March 2000 had reached a level of 73.4 percent

2. As a result of the SACP team workload study of the dispatcher positions at UP's Harriman Dispatch Center (HDC) in Omaha, workloads were realigned and additional positions were added to relieve excessive workloads. UP hired 114 new train dispatchers in 1998 and 124 new dispatchers will be hired in 1999. The goal is to have six dispatchers per station. Currently, the carrier has 5.3 dispatchers per station.
3. The Powder River Basin Dispatching Center was relocated from the HDC to a new joint UP/BNSF facility. The result has been better crew utilization and a significant improvement in the control of trains. Prior to the relocation, the average train speed was 12 mph; it is now 19 mph. Problems of congestion and derailment have also been addressed.
4. The SACP team participated in recommendations to decentralize coordinated dispatching centers in San Bernardino, California, Spring, Texas and Kansas City, Missouri. The plan was implemented six months ahead of schedule. Problems of congestion and derailment have also been addressed.

Dispatcher Workload

1. As a result of various studies made during the past year at the UP HDC, recommendations were made to re-evaluate the workloads of specific dispatcher positions and realign and create additional dispatcher positions that would relieve excessive workloads. Advancements during 1999 included the establishment of coordinated dispatching centers in San Bernardino, California, Kansas City, Missouri, and North Platte, Nebraska and the development of new positions in Chicago, Roseville and the Kansas City area.
2. Currently the HDC has established system standards for training, recertification, and efficiency testing for all dispatching offices and control operator locations.

Inspection and Testing Working Groups

1. The SACP Maintenance of Way lodging subgroup implemented a formal Lodging Policy for UP Employees. The lodging group also developed a resolution process for handling lodging problems and complaints. This process includes a lodging survey to be used by an employee in the evaluation of an existing facility or a facility under consideration for lodging. In July 1999, the Lodging Group tested the Lodging Survey in more than 28 locations on the UP. This process is in the final pilot stages and was reviewed for adoption system-wide in February 2000. Final pilot locations included Houston, Livonia, Portland, Fresno, Los Angeles, Cheyenne, and Green River. All members of the committee have an equal voice in the selection of targeted lodging facilities.

Educational Material has been developed by the Lodging group. These include: Good Sleep Habit and Lodging Facility Environmental Factors, and Lodging Facility Evaluation Guidelines and Evaluation booklets.

A new Maintenance of Way Coordinator position was created within the HDC in September of 1999. The position will track slow orders put into place by track personnel. This position will help speed crew release/relief, and will monitor track permits that have been issued.

emergency response requirements and alertness strategies. The results are significant. Eighty four percent of the engineers and 46 percent of the crew now have assigned days off. System-wide, 85 percent of all extra boards have assigned rest days.

2. The Crew Release SACP team improved train crew relief within 12 hours on the Fitzgerald subdivision. This initiative has resulted in a reduction in crew fatigue and safety accidents associated with fatigue. Graphs and data are now provided to managers who have been able to use the information to improve crew releases from duty.
3. Starting on March 1, 2000, after being off duty and coming back on duty, train and engine service employees will be able to mark up at noon. CSXT is looking at the possibility of having napping rooms in terminals for line of road crews.

National Railroad Passenger Corporation (Amtrak)

1. The SACP team is evaluating locomotive engineer fatigue issues, specifically one-person engineer-in-the-cab operations between midnight and 6:00 a.m. with no supplemental safety features, e.g., automatic train control and cab signals. Options being considered are modified assignments, off-duty napping, education and training, and identification of problem sleepers. While evaluation is underway, Amtrak has agreed to placing a second qualified engineer on the 34 identified assignments with a three-hour or greater incursion into the midnight to 6:00 a.m. time period, when a second engineer is available.

The joint Amtrak/BLE/FRA Alertness Evaluation Task Force met on October 26 and agreed that a more objective analysis process is needed. Amtrak Intercity and Circadian Technologies Incorporated (CTI) are exploring a joint venture to develop a pilot program to evaluate engineer alertness and workload. The pilot program would incorporate a joint Amtrak/BLE/FRA steering committee. The Amtrak Assistant Vice President for Safety recently expressed a commitment to an Amtrak system-wide, examination of fatigue beyond the employees covered by traditional HOS regulations.

CTI, under contract with Amtrak Intercity, is conducting a locomotive engineer alertness management pilot project on the Jacksonville-Lakeland, FL operation. Six locomotive engineers are wearing Physical Activity Monitors for a three-week period (the target is 12 locomotive engineers). The CTI effort includes education, training, engineer sleep disorder identification, and engineer assignment optimization. The joint Amtrak labor/management/FRA/CTI fatigue steering committee previewed an educational video on April 18. Of significant note, Amtrak management committed to expanding the Amtrak Intercity initiative by adopting fatigue mitigation as a system-wide effort to include the Amtrak West in addition to Amtrak Intercity.

2. The SACP team is evaluating the recruitment, training, and retention of Amtrak train dispatchers on the NEC. With the closure of many block stations, Amtrak is losing its traditional source from which to recruit future train dispatchers. Labor and management have expressed concern with the supply and quality of recruits. With the advent of increased train density and high speed rail, this issue has safety implications. The SACP team report evaluating this issue will be issued shortly.

Kansas City Southern (KCS)

1. FRA was concerned about the cumulative effect of fatigue on the safety of KCS train and engine employees. In March 1999, KCS was signatory to a landmark agreement between the BLE, UTU and Class I carriers which seeks to solve chronic worker fatigue problems. As a result, complaints from railroad employees denied lay off and vacation privileges have dropped from a high average of 20 per week to less than two per month.
1. Following a series of focused audits in November of 1999, FRA requested and received action plans which

- consolidating inspection and maintenance at one strategically located supply point.
1. As a result of an FRA recommendation, a large “hub-style” operating territory for engineers at Shreveport has now been divided into smaller and therefore much safer segments. In the past, young and relatively inexperienced engineers without regular assignments were expected to know and safely operate over an extremely large and diverse operating territory. Following a fatal accident in November, FRA expressed concern that demands on the skill and memory exceeded the capabilities of a new engineer involved in the incident.
 1. As a result of another FRA recommendation, additional Managers of Operating Practices have been appointed with reduced territories and fewer engine service employees to manage.

Illinois Central Railroad (IC)

Improvements in Manpower, Staffing and Crew Utilization

1. The IC hired three additional dispatchers and three dispatcher trainees to staff their Homewood, Illinois, Dispatching Center. The railroad also purchased the G. E. Harris Computer Assisted Dispatching system. The G. E. Harris system replaced the Digit Con system that was in place at the beginning of the SACP. It was believed that the new system would be more readily integrated into the crew calling system thus reducing or eliminating many complaints associated with inaccurate train lineup. Unfortunately, the new system did not perform as well as expected and a decision has to be made shortly on whether or not the system can meet the current demands of the railroad.