Department
of Transportation

Federal Railroad
Administration

SAFETY ASSURANCE AND COMPLIANCE PROGRAM (SACP)

ACCOMPLISHMENTS FOR CY 2001

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I. Executive Summary

Background

The FRA promotes and helps ensure the safety of the Nation's railroad industry through the enforcement of safety regulations and the onsite monitoring of railroad operations. The Agency directs more than 415 Federal safety inspectors in 36 offices nationwide and 159 State inspectors from 30 States. These inspectors oversee approximately 675 railroads with more than 220,000 employees; 265,000 miles of track with 257,000 highway-rail grade crossings; 100,000 railroad bridges; 1.3 million freight cars; 20,000 freight locomotives; and 8,880 passenger locomotives, coaches, and self-powered coaches. The rapid growth of new railroads and traffic in recent years has increased demands on monitoring railroad-industry compliance with safety regulations covering track, equipment, signals, the transportation of hazardous materials, and operating practices. Because of the limited number of Federal and State inspectors, the efficient use of these resources is critical.

The Current State of Railroad Safety Across the Nation

The FRA's safety mission is to help prevent fatalities and injuries related to both railroad operations and the releases of hazardous materials from rail cars, and to enhance the security of railroad operations nationwide. Accomplishing this mission involves cooperative efforts among FRA, railroads, States, local communities, railroad contractors and suppliers, other Federal agencies, and the public (especially members of the public who use highway-rail grade crossings or who enter onto railroad property). The FRA tracks the railroad industry's safety performance closely by requiring that railroads report accidents and casualties, by investigating major rail accidents, and by extensively inspecting railroads and shippers of hazardous materials. The FRA's safety database is available on its website (www.fra.dot.gov). The FRA uses this information to guide its accident-prevention efforts, and it continually strives to fulfill its mission by making better use of the wealth of available data.

As judged by most indicators, long-term safety trends on the Nation's railroads are very positive and, although no death or injury is acceptable, progress is being made to continue these trends. Last year (2001) marked all-time safety records in several important categories. Overall, the total number of rail-related accidents/incidents and the total accidents/incidents rate were the lowest on record. Also, 2001 saw the lowest number of railroad-employee fatalities (22) and injuries (7,769) on record and the second lowest employee-casualty rate (3.28 per 200,000 employee hours). Between 1978 and 2001, the number of reported train accidents dropped from 10,991 to 2,965, and the train-accidents rate fell from 14.62 accidents per million train-miles to 4.17 accidents. Also during this period, the number of train accidents involving a release of hazardous materials declined from 140 to 31, despite a significant

increase in the number of hazardous-materials tank-car shipments to more than two million per year. Since 1990, a period in which railroads transported more than 20 million hazardous-materials shipments, three persons have died because of the release of hazardous-materials lading in a train accident. In other words, over the last two decades the number and rate of train accidents, total deaths arising from rail operations, employee fatalities and injuries, hazardous-materials releases, and deaths related to those releases all fell dramatically. In most categories, these improvements occurred more rapidly in the 1980's than in the 1990's. (See the attached graph of train accidents and their rates since 1978.) The causes of the improvements included a much more profitable economic climate for freight railroads following deregulation in 1980 under the Staggers Act. This led to much greater investment in plant and equipment, enhanced safety awareness and safety-program implementation by railroads and their employees, and FRA's safety monitoring and standard setting.

Similarly, the grade-crossing safety picture has shown great progress. In 1990, a total of 698 persons died in highway-rail grade-crossing collisions. In 2001, the number was down to 419, despite an increase in exposure due to greater highway and rail traffic. Here, too, improvement has resulted from a variety of sources, including public investment in crossing-warning devices and greater awareness of the risks present at crossings by highway users, caused by joint efforts of railroad managers and employees, FRA, the States, our Department of Transportation partners (the Federal Highway Administration, the Federal Transit Administration, the Federal Motor Carrier Safety Administration, and the National Highway Traffic Safety Administration), and Operation Lifesaver, Inc.®

Despite the impression one might get from news accounts of recent accidents, rail remains an extremely safe mode of transportation for passengers. Between 1997 and 2001, just two passengers were killed in train collisions and derailments, and 13 more in grade-crossing collisions, out of the 2.3 billion passengers who rode our Nation's commuter and intercity passenger trains. According to the National Safety Council (see the attached chart on passenger death rates), the number of deaths per 100 million railroad-passenger-miles is quite comparable to the rate for airline passengers, both of which are a fraction of the rate for automobile passengers. Given the strength of rail-passenger equipment and that rail passengers are distributed throughout a train enough to minimize the impact of a collision or derailment, rail passenger accidents—while always to be avoided—result in a very high survival rate.

Unfortunately, not all of the major safety indicators are positive. In recent years, rail trespasser deaths have replaced grade-crossing fatalities as the largest category of deaths associated with railroading. In 2001, a total of 509 persons died while on railroad property without authorization, which was an increase of 10 percent over the previous year. The number and rate of train accidents have leveled off after the dramatic decreases of earlier years, and the number and rate for one category—"track-caused" accidents—have actually increased over the last few years. For the first time in many years, track causes actually exceeded human factors in 2001 as the largest category of accident causes. In that year, track causes were cited in approximately 38 percent of all reported accidents, while human factors accounted for approximately 34 percent; equipment causes were responsible for about 14

percent; signal-related factors were causal in about 1 percent; and miscellaneous causes accounted for the remainder.

The FRA Safety Program

The safety program is the essential component of the Agency. The program has several elements, including setting safety standards and ensuring compliance with those standards; focusing attention on serious safety problems, whether or not they are covered by current standards; educating the rail industry on the Federal standards and the public on rail safety issues; focusing on emerging security issues; investigating accidents and employee fatalities; conducting research and development on safety issues; and setting the tone for safety efforts in the industry.

The program's most important element, of course, is its people. Our Office of Safety headquarters staff of 100 works on a broad range of activities, including rulemaking, compliance, data analysis, and program management. Our field force of 486 (which includes safety inspectors, support staff, and managers) works on inspection and compliance activities, investigations, and outreach to communities and the public on safety issues. Approximately 160 certified State safety inspectors from 30 States supplement the efforts of our field forces in these areas. Supporting the Office of Safety is the Safety Law Division of the Office of Chief Counsel; the Office of Administration (which provides human-resources functions, budgeting, information technology, and procurement support); the public affairs staff; and the research and development office.

Encouraging Compliance and Safety Improvements

The railroads, of course, have the responsibility for complying with the standards FRA sets and for doing the necessary inspections and tests to ensure that they do comply. More than 650 railroads nationwide operate at least one million pieces of equipment over more than 200,000 miles of track. Because FRA's inspection force cannot possibly observe all railroad activity, we monitor railroads to determine their level of compliance with those standards and employ a variety of tools to encourage compliance. We start with the assumption that railroads and their employees want to promote safety for their own benefit, not just because a law or regulation requires it. We also understand that the Code of Federal Regulations is not the sole source of wisdom on safe practices; there are, in fact, safety problems not covered by existing rules that require a solution, nonetheless.

The FRA calls its approach to compliance the Safety Assurance and Compliance Program (SACP). The basic principles of SACP are to find the root causes of safety problems; develop solutions cooperatively with railroad management and employees; and focus both inspection activity and the use of enforcement tools on the most serious safety risks revealed by our inspections and our accident data. On each of the major railroads, SACP teams include FRA inspectors and managers, railroad officials, and employee representatives. The SACP teams provide a forum for resolving both compliance issues and safety problems not within the four corners of existing rules. Issues can be resolved through

informal agreements or formal action plans. At the same time, FRA continues its normal review of railroad activities through regular inspections of facilities, vehicles, operations, records, and the investigation of complaints.

The FRA's policy is one of focused inspection and enforcement. That is, we try to concentrate our efforts on detecting conditions that are the leading causes of accidents, injuries, and hazardous-materials releases. If we find any noncompliance, we focus our attention on violations that may cause such events. Where a railroad has acknowledged the existence of a serious safety problem, has developed a plan for alleviating it, and has implemented that plan in a timely way, FRA will ordinarily take no enforcement action if no immediate hazard exists. Similarly, where routine inspections reveal minor defects that pose little risk, FRA will address the noncompliance with the railroad, but is not likely to take enforcement action. However, FRA is very likely to use its enforcement tools if it discovers serious safety violations that cause an immediate and unacceptable risk that a railroad should have found and corrected on its own; or, where FRA has identified serious rail safety problems requiring action by a railroad to prevent an unacceptable risk from developing, and the railroad has agreed to implement a specific remedial program to fix those safety problems by a specific date, but has failed to make a solid effort do so.

Where enforcement is called for, the tool we use will depend on the circumstances. Civil penalties are the most frequently used tool. In fiscal year 2001, for example, FRA collected more than $7.6 million in penalties from railroads and hazardous-materials shippers. Our Office of Chief Counsel, based on the recommendations of our field inspectors and working closely with the Office of Safety, assesses and collects these penalties. As the safety statutes encourage us to do, we settle nearly all these cases through negotiations with railroads and shippers. The settlement negotiations provide an excellent forum for addressing the most current and serious compliance issues that have not been resolved through more cooperative methods.

The FRA has several other enforcement tools. Our inspectors can issue special notices removing locomotives or freight cars from service until they are repaired, or lower the speed of track so that the track segment meets the standards. We sometimes enter into compliance agreements with railroads in which the railroad promises specific remedial actions and, should it fail to deliver on its promise, agrees to the imposition of a compliance order, emergency order, and/or particular fines. The FRA Administrator can address an imminent safety hazard by issuing an emergency order, with opportunity for review of the order after its issuance. Civil penalties are available against individuals who willfully violate the safety regulations, and FRA can disqualify individuals from safety-sensitive service if their violation of safety regulations demonstrates their unfitness for such service. Criminal penalties apply for certain willful violations of the hazardous-materials rules and knowing and willful violations of recordkeeping or reporting requirements. We have increasingly used these criminal penalties in recent years, especially for serious violations of the rules concerning the proper documentation of hazardous-materials shipments.

SACP - An Evolutionary Process

Initially, the SACP used a team of FRA field and headquarters safety specialists, under the direction of a project manager, to conduct coordinated safety assessments of an entire railroad's operations. This included a historical analysis of all accident and inspection data over the most recent five-year period to determine historical trends, and large-scale site inspections in all railroad inspection disciplines to gain a firsthand 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 its enforcement discretion regarding safety violations that were 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. The 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 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.

Since its inception, the SACP has evolved. When initiated, FRA envisioned only one type of SACP examination—the audit model. In actual use, SACP has adapted to a variety of environments and management cultures. Over time, FRA has identified many positive aspects of the program—what works well and what needs improvement. For example, identifying and correcting the root causes that involved employee-fatigue management (a major safety concern) and internal-process changes on the largest railroads did not lend themselves 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 the application of SACP. The cumulative effect was to significantly add to the depth of SACP and to the adoption of a "best practices" approach to solving problems—options for correcting safety issues and program processes. The experience also helped to identify areas where changes were needed to improve the overall effectiveness of SACP.

While FRA continues to use the original "audit model" process for small railroads or specific facilities, a different kind of SACP review—the ongoing partnership—has become the norm for the larger railroads. By using this process with the larger railroads, FRA hopes to institutionalize the "best practices" approach and to continue to make improvements to increase inspection-program effectiveness.

II. Regional SACP Activities

Throughout 2001, FRA's eight regional offices reported significant improvements in safety resulting from many SACP partnerships with rail labor, management, and the Agency. Listed below are examples of SACP activities.

Region 1

An Amtrak SACP partnership was created with the Massachusetts Bay Transportation Authority (MBTA) to facilitate the installation of Advanced Civil Speed Enforcement System (ACSES) onboard equipment on MBTA commuter locomotives and control cars. With a goal of meeting the requirements imposed by the ACSES Order of Particular Applicability, FRA facilitated weekly progress meetings, often including the equipment vendors, to move the project forward. The FRA provided regulatory guidance and frequently mediated disputes between the parties. By February 1, 2002, more than 50 percent of MBTA locomotives and control cars were ACSES-equipped with most of those operating in revenue service. While regulatory-relief extensions were necessary, progress to date would not have been achieved without FRA regional participation and the SACP partnership approach to solving problems.

Also, the Amtrak SACP partnership assisted in troubleshooting ACSES wayside-detector performance by helping to resolve several hardware and software problems. Again, FRA facilitated meetings with Amtrak and the equipment vendors to expedite problem resolution.

Region 2

A Norfolk Southern (NS) SACP partnership reviewed the condition of the railroad's locomotive fleet in February 2001. During the review, inspectors found that more than half the locomotives inspected had at least one Federal regulation violation. The FRA also found that NS lacked a standardized method for reporting locomotive defects and for maintaining shop records of defects and repairs. In addition, inspectors rejected the methods used by NS to test head-of-train devices (HOTD)/end-of-train (EOT) units that do not comply with 49 CFR 232.409(d) (formerly 49 CFR 232.25(d)). Finally, inspectors discovered a concentration of GP38 locomotives with draft-pocket assembly failures.

Because of these SACP partnership inspections, NS developed a standardized locomotive shop-work record, which addresses FRA's concerns about reporting uniformity among locomotive shops. The NS also completed work on a new ME-60 locomotive daily-inspection form and guidance to locomotive engineers. To address problems with HOTD's new Quantum universal calibration, testing units are being placed into service at Roanoke, Conway, Enola, Bellevue, and Chattanooga locomotive shops. The use of this testing device helps NS to comply with Federal regulations. Finally, NS issued a maintenance alert, which remains in effect today, that requires NS locomotive shops to inspect the

draft-pocket assemblies of GP38 locomotives during the required 92-day periodic locomotive inspection.

Region 3

Region 3 has been involved in an ongoing effort on the CSXT in the Florida Business unit of the South Florida Rail Corridor double-tracking project. The project has been a major investment of time for Region 3. The CSXT is about to begin the single largest segment of the project, with FRA's involvement even greater. Three Roadway Worker Protection incidents occurred within four weeks on the property, and Region 3 is working with CSXT, Tri-Rail, Amtrak, and other contractors to address this issue. In addition, Region 3 has been addressing issues involving CSXT train dispatchers and maintenance-of-way employees.

Region 6

Union Pacific (UP) Main Tracks in Iowa:

To accelerate mainline-track improvements in Iowa, required by a UP/FRA SACP Safety Action Plan, UP agreed to conduct ultrasonic testing of rail on a 30-day schedule through CY 2001. Previously, UP performed ultrasonic rail testing on a 60-day schedule. In addition, UP agreed to install 117.3 miles of new rail in CY 2001, following an unacceptable increase in rail service failures.

The FRA conducted follow-up team inspections every four to six weeks through July 2001. Subsequently, Iowa State and local FRA inspectors continue to monitor UP's SACP Safety Action Plan for mainline track in Iowa.

Burlington Northern Santa Fe (BNSF) Main Track in Iowa:

Following a BNSF/FRA SACP Safety Action Plan for deteriorating crosstie conditions between Pacific Junction and Creston, Iowa, FRA inspectors continued to monitor this area throughout CY 2001. Subsequently, BNSF elected to install concrete crossties on the single main-track portions of this segment, a project not on the railroad's maintenance schedule until CY 2003 and CY 2004.

UP St. Louis Service Unit:

In July and August 2001, inspectors from the FRA, the Missouri Division of Motor Carrier and Railroad Safety, and the Illinois Commerce Commission conducted a focused inspection of the UP's St. Louis Service Unit. The inspection identified more than 1,270 track deficiencies and 82 other violations. While UP corrected these deficiencies, slow orders were placed over several hundred miles of UP's mainline trackage, and several yard and siding tracks were removed from service.

In addition, FRA inspections of UP's track-inspection records uncovered numerous other noncompliance issues. The subsequent monitoring of the St. Louis Service Unit, after the publication of a joint UP/FRA SACP Safety Action Plan, showed much improvement. The carrier's defect ratio fell from 1.17 to 0.30.

Using SACP partnerships, FRA's Operating Practices (OP) inspectors began a railroad terminal Accident Prevention Plan. The goal was to reduce human-factors-caused train accidents and injuries, especially in switching operations. In September 2000, SOFA principles were incorporated into these activities. During 2001, there has been a 17.4 percent decrease in human-factors-caused accidents and a 23.9 percent decrease in injuries.

Region 7

Following train/vehicle and other types of train incidents, law-enforcement personnel seeking identification from locomotive engineers would often request a State-issued motor vehicle license. The California Vehicle Code states that a locomotive engineer, while on duty, "*. . . shall not be required to furnish a motor vehicle operator license.*" This has created conflicts between locomotive engineers familiar with this code and law-enforcement officers who are not. Some of these conflicts have escalated to the point where engineers were forcibly removed from trains and even arrested. Law-enforcement actions such as these can add even more trauma to an already stressful situation. Although Amtrak employees have a company-issued identification card and locomotive engineers have Federal certification to operate a locomotive, the law-enforcement community may not recognize these documents as valid identification.

This issue was brought to the FRA and Amtrak SACP by the labor unions. After discussion, the group decided to invite members of the California Highway Patrol (CHP) to explain law enforcement's position. Following the CHP presentation, the group voted to create a small committee to take action. The committee included members from the Amtrak West management and training department, the Brotherhood of Locomotive Engineers, the United Transportation Union, the CHP, and FRA. With FRA as the lead, the committee established the following goals:

> To work with committee members to meet the needs of their individual agencies.
>
> To produce a new employee identification card that will supply all needed information for law enforcement.
>
> To develop an information brochure that can be used in the training of law-enforcement personnel and be included in the Amtrak Incident Response Packet onboard locomotives.

The FRA worked diligently to complete the goals. The finished prototypes of the Engineer Identification Card and Law Enforcement Brochure were submitted to the general FRA/Amtrak West

committee on May 24, 2001. The committee accepted the documents and was congratulated for its accomplishments and hard work. The new ID card and informational brochure were distributed to all Amtrak West employees in Washington and Oregon. In addition, law-enforcement brochures will be edited to include applicable laws specific to these States. The brochure was sent to the UP and BNSF, who are considering issuing it to their employees.

Region 8

From 1999—when the SACP was initiated on the D M & E—through 2001, the number of employee injuries per 200,000 employee-hours has been reduced from 8.54 to 1.98. During the same period, the SACP process resolved 269 safety issues—an impressive record.

III. Best Measure of Effectiveness - Railroad Safety Performance

Industry Statistics

Since the implementation of SACP, the overall safety record of the railroad industry has continued to reflect improvement. A comparison of year 2000 with 2001 follows:

	2000	2001*	Percent Change
Train-Accidents Rate (Accidents per million train-miles)	4.13	4.17	+0.1
Rail-Related Fatalities	937	967	+3.2
Rail Employee Fatalities, Injuries, and Illnesses	8,447	7,791	-7.8
Grade Crossing Fatalities	425	419	-1.4
Trespasser Fatalities	463	509	+9.9
Employee Fatalities	24	22	-8.3

* Year-2001 data are preliminary and include the entire year.

Statistics - Class I Railroads

	2000	2001*
Total Accidents/Incidents Rate (Accidents per million train-miles)		
Amtrak	44.43	41.40
Burlington Northern Santa Fe	15.00	14.53
CSXT	18.50	16.89
Illinois Central	29.85	27.19
Kansas City Southern	41.45	36.55
Norfolk Southern	16.14	14.41
Union Pacific	17.80	18.42
Train-Accidents Rate (Accidents per million train-miles)		
Amtrak	4.10	3.86
Burlington Northern Santa Fe	3.57	3.72

CSXT		4.23		3.33
Illinois Central	6.13		6.10	
Kansas City Southern		11.84		12.01
Norfolk Southern		2.87		2.51
Union Pacific		4.19		5.19

Highway-rail Grade Crossing Incidents Rate
(Incidents per million train-miles)

Amtrak		5.60		4.20
Burlington Northern Santa Fe	3.34		2.90	
CSXT		4.29		4.78
Illinois Central	9.23		8.32	
Kansas City Southern		18.65		15.67
Norfolk Southern		6.12		5.65
Union Pacific		3.79		3.64

Trespasser Fatalities and Injuries Rate
(Casualties per million train-miles)

Amtrak		2.44		2.72
Burlington Northern Santa Fe	0.83		0.67	
CSXT		1.04		1.49
Illinois Central	1.12		0.65	
Kansas City Southern		1.76		1.04
Norfolk Southern		1.01		1.08
Union Pacific		1.31		1.48

Employee-on-duty Casualties Rate
(E-o-d-casualties x 200,000 per employee-hours)

Amtrak		4.01		4.09
Burlington Northern Santa Fe	2.61		2.62	
CSXT		2.89		2.44
Illinois Central	3.85		3.06	
Kansas City Southern		2.75		2.41
Norfolk Southern		1.46		1.33
Union Pacific		3.10		2.96

* Year-2001 data are preliminary and include the entire year.

IV. Details for Class I Railroads

Burlington Northern Santa Fe Railroad (BNSF)

Cultural Transformation

3. The BNSF System SACP's five-year strategic safety plan continues to provide an effective and responsive methodology for addressing and resolving safety or regulatory issues. During 2001, the System SACP team systematically reviewed nearly 200 safety and regulatory issues important to maintenance-of-way, mechanical, and transportation department employees; 64 of these issues were resolved.

4. During 2001, BNSF implemented an alternative to its formal discipline process, the Safety Incident Analysis Process (SIAP). The SIAP offers non-punitive alternatives for those employees who agree to fully participate in an investigative process to determine the root causes of accidents or incidents. This participation is voluntary on the part of employees and is monitored for effects on railroad safety by FRA.

5. The SACP Task Force (Task Force) utilized the Network Operations Center (NOC) Safety Council to resolve operating-practices issues at the NOC and at the joint BNSF-UP Dispatching Center at Spring, Texas. No formal complaints were forwarded to the FRA by the NOC dispatchers in 2001.

6. The Task Force also expanded the injury-reporting policy it developed during 2000 by revising the policy for late injury reporting. Under this policy, employees with symptoms of muscular-skeletal injuries may delay reporting an incident to the railroad for up to 72 hours without fear of discipline for late reporting of the injury. Among the changes made during 2001 are the following:

    (a) Developing a uniform policy to facilitate employees returning to the work force following a period of absence resulting from either on- or off-duty injuries or illnesses.

    (b) To disseminate this policy, the BNSF intranet, management communications tools, and railroad and union publications were used to ensure the broadest possible information exposure to employees and managers.

5. A System Safety Agreement with the Brotherhood of Locomotive Engineers and United Transportation Union was completed. The agreement established a formalized structure for involving operating craft employees in BNSF safety initiatives. All but three operating craft general chairmen signed off on the agreement or submitted the agreement to the membership for

ratification. One chairman has submitted independent proposals as a condition for implementing the agreement.

At the end of 2001, the carrier was continuing negotiations with the "non-signers" to the agreement.

SACP Process Improvements and Audit Results

Grade Crossing Safety and Trespass Prevention

1. In the three years since implementing this specific SACP program, BNSF has reduced the number of collisions, injuries, and fatalities at public crossings by 12 percent, 11 percent, and 14 percent, respectively. Also, BNSF reported a 15 percent reduction in employee injuries resulting from highway-railroad crossing accidents.

   In 2001, BNSF spent more than $50 million on grade-crossing closure or accident-prevention programs. As a result, the BNSF was able to close 515 more grade crossings during 2001, in addition to the 1,250 crossings closed in the prior three years. The BNSF's crossing-closure program for 2002 is targeting an additional 420 crossings.

   The ratio of highway-rail grade-crossing accidents per million train-miles for 2000 and 2001 is 3.38 and 2.91, respectively. The actual number of accidents for 2000 and 2001 is 536 and 472, respectively.

   The BNSF continues with educational efforts on the dangers at highway-rail grade crossings for professional drivers in partnership with Operation Lifesaver, Inc., Werner Enterprises, and others. In 2001, there were 50 trucking companies involved in driver education programs. The BNSF is targeting UPS and its 50,000 drivers for inclusion in these programs during 2002.

2. The "zero tolerance for trespassers" program is contributing to significant safety results. This program includes public and law enforcement education, a trespasser-reporting process through the Resources Operation Center, the installation of "No trespassing" signs, aggressive train inspections, improved environmental design and security equipment, and heightened enforcement. For 2001, trespasser fatalities and injuries were reduced by 22 percent and 11.5 percent, respectively, over the prior year.

Process Improvements and Audit Results

1. The Hazardous Materials (HM) SACP team is monitoring defect ratios in HM shipments, building on those practices that resulted in reductions during prior years. The year-2001 HM defect ratios at BNSF's major terminals are consistent with FRA's findings on other railroads.

Intermodal-facility inspection teams (involving representatives from BNSF, major shippers, and FRA) conducted joint audits on BNSF, and joined with other railroads to identify opportunities for improving its procedures and training to address noncompliance with hazardous-materials-transportation regulations.

2. The Motive Power and Equipment SACP team conducted audits at two major terminals during 2001. The mechanical facility audits revealed deficient practices and noncompliance with Agency rules (defect ratios in excess of 10 percent at some locations). Through the SACP process, BNSF identified and addressed the root causes of defects and worked toward correcting these conditions. Management changes and the reevaluation of mechanical staffing levels resulted in operational improvements aimed at reducing these ratios.

3. A joint BNSF/FRA Safety Action Plan was developed to correct track problems on the Oregon Trunk Line. The resulting reallocation of track forces and additional capital investment resulted in restoring track conditions to a safe level. Follow-up inspections have demonstrated BNSF's commitment to properly maintain this track segment.

4. To reduce the number of incidents involving roadway workers and on-track vehicles, a SACP team comprised of FRA, BNSF, and the Brotherhood of Maintenance of Way Employes (BMWE) researched the root causes of these incidents, including fatigue and work-load factors. As a result of this partnership, a number of issues were identified as contributing factors and a series of corrective actions were implemented.

   For example, BNSF introduced a Global Positioning Satellite-based system for hi-rail vehicles to demonstrate its feasibility. Since the inception of this program, there have been no hi-rail vehicle/train collisions, and incidents of hi-rail vehicles exceeding authority limits in equipped territory have been effectively controlled. The BNSF will expand this program in 2002 and equip 400 more hi-rail vehicles. As coverage expands systemwide, it will include signaled territory.

Training Improvements

5. The BNSF, in consultation with the Task Force's train, yard, and engine (TY&E) representatives, developed and implemented Computer Based Training (CBT) modules for operating-craft employees. Input from these representatives contributed substantially to the transition from instructor-led training sessions and classes to individualized CBT training for annual rules re-certification programs and locomotive engineer periodic re-training and examinations. Uniform, consistent technical training is now available to individuals at times most beneficial to them, and not dependent on instructor availability.

6. The Grade Crossing Safety SACP team expanded its partnership program with local law enforcement personnel while simultaneously providing training for emergency-response departments such as fire departments and paramedic-ambulance services, and presenting Operation Lifesaver classes.

Fatigue Management and Improvements in Manpower, Staffing, and Crew Utilization

Fatigue

As of December 31, 2001, BNSF had implemented approximately 80 work agreements, which included a stipulation that train and engine crews have assigned days off. These agreements cover both pool service and extra-board employees. Specific work-rest schedules vary depending on the terms of each agreement, e.g., seven on/three off, five on/two off, etc. In addition, all these agreements have incorporated a 7:00 a.m. markup as a fatigue countermeasure to reduce employee fatigue. These agreements, incorporating assigned days off, cover approximately 50 percent of the workforce.

To avoid interrupted rest, BNSF adopted a policy not to initiate crew deadheads between 10:00 p.m. and 4:00 a.m.

The BNSF's policy allowing train crews to nap on duty remains in place and has been expanded to: (a) allow managers and employees involved in accident recovery and specific major projects to have designated rest periods and (b) permit napping, under specified conditions, for mechanical and engineering craft employees.

In the area of non-railroad operations, BNSF established standard policies for managers and employees involved in accident recovery and major projects requiring rotation of employees to allow for rest periods. The policy mandates minimum meals and rest periods of at least four hours off in any 24-hour period, with 30-minute nap periods available.

New and/or refined educational and training initiatives continued in 2001.

Crew Management

During 2001 FRA, BNSF and the Transportation Communications Union (TCU) formed a SACP team under the Division SACP Charter to address problems and concerns in the railroad's Crew Management offices in Topeka. While many of the issues this group addressed are nonregulatory in nature, problems faced by crew managers and train crew dispatchers have a disproportionate impact on train-crew utilization and fatigue.

Through FRA's efforts, the SACP team has effectively established open communications between BNSF and TCU for this work group. Prior to formation of this team, communication

between labor and management had been hampered by a combative and argumentative environment. As a result of improved communications, many issues are being addressed including work environments (physical aspects), staffing, training, and family and medical leave concerns.

Switching Operations Fatality Analysis (SOFA), A SACP Initiative

The Seven Deadly Decisions program and Five SOFA Life Savers have been disseminated to all crafts that work in rail yards and around moving equipment. The railroad utilizes a variety of means to carry the SOFA message to employees, e.g., videos and publications, joint labor/management/FRA inspections, and its Operational Testing program. In addition, information regarding severe injures and fatalities is incorporated into daily job briefings for operating crews.

CSX Transportation, Inc. (CSXT)

Cultural Transformation

The CSXT's senior management continued to embrace the SACP and to work in partnership with rail labor and FRA to resolve both regulatory and nonregulatory safety issues.

Two areas of concern expressed unilaterally by rail labor are: (a) the CSXT's Life Critical Rules relating to discipline policy and (b) issues dealing with employee furloughs. The Life Critical Rules were established by CSXT management on May 1, 2001, in an effort to place more emphasis on those rules where the safety record had been significantly declining the last five years.

At implementation, personal injuries were as follows: reportable injury frequency was 1.8% in 1995 vs. 2.82% in 2000, a 60% increase; train accidents in 1995 were 2.0% vs. 4.04% in 2000, a 100% increase; and in 2000 CSXT experienced 57 red signal violations. Therefore, CSXT senior managers reviewed all accident/incident data and selected the following as "Life Critical Rules."

- Stop Signal Violations
- Blue Flag Violations
- Occupying Track Without Authority
- Failure to Use Required Fall Protection
- Negligent Maintenance of Signal Equipment

The first offense receives a 30-day suspension (of which 15 days are for training), and the second infraction within one year would be an automatic dismissal.

The CSXT reported a total of 94 Life Critical Rule infractions as of December 7, 2001, of which two dismissals and 30 suspensions (34%) are attributed to 704/707 rule violations. *(704 authority is occupying the main track and 707 authority is used by maintenance-of-way employees to establish exclusive track occupancy of the main line).* Another primary area of safety concern is with engineer de-certifications. The CSXT reported a total of 147 de-certifications under the FRA "cardinal sin rules." (CFR Part 240.305 Prohibited Conduct). From July 1, 2000, to December 31, 2001, CSXT reports that of the 147 failures, approximately 71 (or 49%) resulted from stop signal or occupying block without authority violations.

The CSXT's crew management reported a total of 616 train and engineer employees were furloughed or cut off as of December 5, 2001. Previously, in November, CSXT Engineering reported 223 contract employees on furlough, with plans to furlough 250-300 additional by the end of the year. The additional furloughs would be associated with the seasonal layoffs of mechanized track gangs. The impact of these furloughs occurring while the carrier experienced increased tonnage movements seriously raised questions associated with safe operations and the safety of employees. As a result, FRA closely monitored the staffing levels of the operating crafts during 2001.

SACP Process Improvements and Audit Results

Grade Crossing Improvements

The CSXT instituted a training program for school bus driver "trainers" in the States in which they operate. As a result, CSXT reported an 11 percent improvement in highway-rail grade crossing collisions between 2000 and 2001, 584 vs. 521.

Safety Process Improvements and Audit Results

7. The FRA is monitoring compliance with the May 1, 2001, Track Safety Action Plan agreement between the CSXT and FRA. The agreement addresses remedial actions for addressing issues involving the adequacy of maintenance-of-way manpower levels, the replacement of rail, ties, and ballast, and track-surface renewal.

2. A SACP partnership involving the Brotherhood of Railroad Signalmen (BRS)/CSXT/FRA conducted a time-and-testing study in the field to determine the time it takes for a signal maintainer to perform FRA-required tests. In addition, the SACP team began working on implementing electronic recording for signal tests. The CSXT believes that this record will improve accurate and timely FRA reporting requirements.

3. During FY 2001, a CSXT/FRA SACP audit was performed for Electronic Hours of Service (HOS) Recordkeeping, Accident/ Incident Reporting, and Efficiency Testing. In response to FRA's reviews and subsequent recommendations, CSXT made numerous changes to its programs. Follow-up FRA inspections are planned for efficiency testing and Electronic HOS recordkeeping during 2002.

   The CSXT managers are focusing on efficiency testing and rules compliance. This will have a large impact on railroad safety.

4. FRA Operating Practices Inspectors conducted a two-week audit review of CSXT's Accident/Incident Reporting records, grade crossing accidents, and reporting of the occupational illness of carpal tunnel syndrome. As a result of this audit, CSXT management is developing its own self-audit system to improve regulatory compliance with CFR Part 225, Railroad Accidents/Incidents: Reports, Classification, and Investigations.

5. The HM SACP team found that train crews were not being provided required documentation for the transportation of HM. Should an accident occur, First Responders must know what is in a train consist. The SACP team focused CSXT trains departing Conrail Shared Assets locations. This area was targeted because previous joint field inspections indicated that a majority of the HM document deficiencies occurred at these locations.

Training Improvements

1. The CSXT created and implemented the HM-1 document for distribution to train-and-engine (T&E) service employees. The HM-1 was designed to help explain and answer questions concerning hazardous-materials regulations to T&E employees. Since its distribution in late 2000, the HM-1 has aided CSXT in reducing the number of T&E-related deficiencies throughout 2001.

   The CSXT has also created and implemented the HM-2 document in 2001 for distribution to mechanical and car inspection employees. The HM-2 was also designed to educate the car inspection employees in specific requirements of a railcar containing a hazardous material.

2. In 2001, CSXT trained more than 600 transportation field officers with 5 years or less management experience. The forty-hour comprehensive training program included an operating-rules review, efficiency-testing reporting, hazardous materials, drug and alcohol, and hours of service. This was in response to FRA Operating Practices findings, as the result of an efficiency-testing audit review on various properties of CSXT.

Fatigue Management and Improvements in Manpower, Staffing, and Crew Utilization

1. The CSXT continued to conduct training for train and engine service employees. Several videos including one recently designed primarily by T&E employees addressing physiology, schedules, coping with around the clock operation, rest days, sleep apnea, and specific projects across the system. Another video deals directly with the C&O Mine Run Shifter assignments.

2. One-day seminars were conducted dealing with physiology and various impacts of schedules and a twenty-four-hour operation. These seminars have been presented to the Florence Pilot and to the Steering Committee. Additional future targeted groups will be other field locations as well as Crew Management and Train Dispatchers.

Illinois Central (IC)/Canadian National Rail (CN)

Manpower Issues

As part of the CANALERT program, CN has developed a comprehensive lifestyle training program for its Canadian and US operating employees. CANALERT is an in-depth study of the impact of fatigue on locomotive engineers utilizing the principles of circadian sleep and alertness physiology. Participating carriers are Canadian Pacific Rail, Canadian National Rail, and VIA Rail Canada. The study was conducted under the auspices of Transport Canada.

The railroad is also hiring additional train crews to handle workload increases and anticipated employee retirements. CN anticipates losing nearly 300 employees in the Southern Districts and an additional 300 employees in its Northern Districts due to changes in the Railroad Retirement law which allows a lower retirement age. CN calculates that nearly 77 percent of eligible employees will retire. The carrier has begun recruiting new employees.

New SACP Process

The CN proposes to alter its existing SACP process. Divisional Senior Health and Safety Committees will perform local SACP activities and try to solve local issues before being elevated up to a System SACP review. The System SACP will meet annually to review those issues which could not be handled locally.

Kansas City Southern Railway (KCS)

Safety Programs

1. Safety Through Awareness and Responsibility (STAR)

The KCS initiated a safety program that was jointly developed during a series of SACP employee/management meetings. STAR outlines 17 core safety rules that are common to all

railroad crafts and specific rules that are craft-specific (Transportation, Mechanical, Engineering, and Clerical). These safety rules are printed in separate books for each craft. Additionally, Safe Job Procedures have been developed for each task for which the risk of injury is high.

2. Derailment Prevention

A SACP Derailment Prevention Team was formed to address the high number of derailments on the KCS. In 2001, the KCS experienced 87 derailments, of which 48 and 31 were attributed to human factors and track factors, respectively.

The SACP Derailment Prevention Team established three derailment prevention focus teams as follows:

- Bypassed Couplers
- Industry and Yard Track
- Mechanical

Following is a synopsis of the focus team's activities:

Bypassed Coupler Team

- Field people on safety audits looking for:
  1) Stacking of long and short cars,
  2) Closed knuckles,
  3) Switching on curves,
  4) Couplers not straight,
  5) Excessive speed.
- Produce video, "The Last Move of the Day."
- Safety posters at all switching facilities regarding bypassed couplers.
- Testing supervisors for consistency and speed of reporting.

Industry and Yard Track Team

- SACP partnership to:
  1) Determine root causes of derailments.
  2) Take corrective actions.
  3) Properly document derailment.
  4) Improve quality of documentation of expenditures.
  5) Meet quarterly with industry, MOW, Operations, and Marketing.
- Increased expenditure on improving yard tracks.

- Increased emphasis on yard-track inspections (focused on wide-gage, defective switch points, and broken rails).

Mechanical Team

- Mechanical Team focused on inspections in the following areas:
    1) Wheel derailments
    2) Bearing inspections
    3) Hanging equipment
    4) Truck abnormalities
    5) End of car cushioning
    6) Hopper car outlet gates

Highway-Rail Grade Crossings

In 2001, 121 Grade Crossing Collisions resulted in 16 fatalities and 58 injuries to occupants of vehicles. Additionally, 7 KCS Transportation Employees were injured. Overall, the number of fatalities and injuries during 2001 (74) was nearly identical to those that occurred in 2000 (76).

	Incidents	Fatalities	Injuries
2000	148	19	57
2001	121	16	58
YTD 2002	25	9	7

To improve highway-rail grade crossing safety, KCS Operation Lifesaver presenters gave approximately 400 presentations to nearly 10,000 individuals. In addition, KCS grade crossing instructors participated in 18 grade crossing courses for Law Enforcement Officers.

National Railroad Passenger Corporation (Amtrak)

Cultural Transformation

9. Though temporarily on hold, due to corporate restructuring, Amtrak has plans to institutionalize the SACP process through formal recognition of six existing safety committees—the three Amtrak NEC System Safety Working Groups, Massachusetts Bay Transportation Authority, Amtrak Intercity, and Amtrak West—as SACP committees with labor appointees and FRA representatives.

10. In response to locomotive engineer injuries, Amtrak management, the Brotherhood of Locomotive Engineers, the Volpe National Transportation Systems National Transportation Systems Center, and FRA formed a SACP team to identify and address locomotive ride quality issues with the Amtrak West Cascades Service. The joint partnership effort, focused on locomotive suspension, track, and locomotive seats, has reduced the incidence of injuries. In 2001, there were three locomotive-engineer injuries attributed to ride quality, one in January, two in February, and none thereafter.

11. "Amtrak Intercity" approached FRA requesting assistance with ride-quality issues on several long distance routes where both passengers and employees have sustained rough ride injuries. FRA responded by deploying its T-16 track geometry car to survey ride quality on the routes of the Empire Builder, the California Zephyr, the Southwest Chief, and the Coast Starlight. The SACP effort identified areas which, despite meeting minimum FRA Track Safety Standards, nevertheless produced excessive vertical and lateral accelerations. In some of those areas but not all, but especially in FRA Region 8, the host railroad made track improvements to enhance ride quality. However, during 2001, FRA encountered resistence from a number of other host railroads for using ride quality criteria. FRA will continue to work with these railroads in order to achieve enhancements to rider quality.

12. As Amtrak undergoes its reorganization, FRA continues to encourage the SACP partnership approach to optimizing safe operating practices and the safety of employees.

SACP Process Improvements and Audit Results

The three joint Amtrak labor/management/FRA High-Speed System Safety Working Groups (representing the New England Division, Metropolitan Division, and Mid-Atlantic Division), and tasked with the safe integration of Amtrak's high-speed train service into its existing service, continued their effective utilization of the operational hazard analysis process to identify, evaluate, and resolve safety issues in the first half of 2001. However, by late summer, the Amtrak reorganization had severely impacted the effectiveness of the division safety officers and, consequently, had a detrimental effect on the three working groups. Meetings were cancelled and the entire system safety process came to a halt by early fall.

Training Improvements

The intense FRA oversight of the Advanced Civil Speed Enforcement System (ACSES) onboard installation project for MBTA equipment promoted an accelerated training program for Amtrak mechanical and operating personnel. The training was a factor in reducing MBTA ACSES failures. In January there were 122 ACSES failures. By December 2001, the number was down to 27 ACSES failures.

Fatigue Management and Improvements in Manpower, Staffing, and Crew Utilization

The FRA Office of Railroad Development contracted the Volpe National Transportation Systems National Transportation Systems Center to study the Amtrak Intercity locomotive-engineer assignments with a three-hour-or-greater incursion into the midnight to 6:00 a.m. time period. The study identified numerous "at-risk" assignments, which are being evaluated. With few exceptions, Amtrak Intercity kept its commitment to FRA to place a second qualified train engineer on train movements with a three-hour, or greater, incursion into the midnight to 6:00 a.m. time period.

A Circadian Technologies, Incorporated (CTI) project was undertaken in 2001 to optimize locomotive engineer assignments at Jacksonville, Florida to mitigate fatigue. CTI commenced analyses of other crew bases. As these projects and analyses advance, FRA continues to closely monitor the second qualified engineer issue.

SOFA

Amtrak incorporated the SOFA rules into its efficiency test program. In addition, when working in yards, new van train service employees will be required to wear orange arm bands. Senior conductors will accompany new employees and act as mentors.

Norfolk Southern Railway Corporation (NS)

Cultural Transformation

During 2001, SACP partnerships were extended to include representatives from the International Brotherhood of Electrical Workers (IBEW). This action reflected the continued growth and support of the SACP by rail labor and management throughout the properties of the Norfolk Southern (NS). The IBEW now participates with other labor organizations in the System Teamwork and Responsibility Training Program (START). The START program involves labor officials in the disciplinary process and relies on alternative training rather than disciplinary hearings for minor rules infractions. The program also eliminates formal disciplinary hearings for employees who sustain injuries.

SACP Process Improvements and Audit Results

1. A multi-regional, FRA and State Motor Power and Equipment (MP&E) team conducted a SACP Locomotive Shop Safety review. The review identified five systemic concerns, one of which was NS's operating procedures for inspecting, identifying, and documenting locomotive defects and maintenance. FRA found that about 57 percent of the carrier's locomotive fleet had reportable defects. An NS and labor partnership developed a safety action plan in April

2001. For the second half of 2001, the number of reported locomotive defects dropped to 35 percent.

2. The FRA rejected NS criteria for calibrating Head of Train Devices (HOTD), which did not comply with Federal regulations. FRA partnered with NS to assess their testing criteria. Changes have been made that have greatly increased NS compliance and have resulted in a significant reduction in defect ratios.

3. The FRA initiated a SACP meeting with the Brotherhood of Railroad Signalmen (BRS) to determine issues and safety concerns affecting their members. A total of 15 issues were identified and a draft action plan was developed for use in further SACP meetings with NS management. Concerns being addressed by the action plan include: (a) locations where signal cables and insulated wire is left on top of the ground and unprotected from mechanical injury; (b) locations where the pole line is in bad repair and maintenance is not projected; (c) the railroad does not have a standard policy affording Railroad Worker Protection (RWP) safety to employees working in Hump Yards; and (d) the need for continued initial RWP training and particularly, refresher training on RWP.

4. An NS/FRA/Operation Lifesaver, Inc., partnership program for highway-rail grade crossing safety has resulted in a 13 percent reduction in reported accidents, from 585 incidents in 2000 to 507 in 2001. Trespasser incidents were 105 in 2000 compared with 109 in 2001.

5. An FRA/NS partnership is working to correct reporting errors in the railroad's electronic Hours of Service recordkeeping.

Training Improvements

The NS developed a one-day training program for the carrier's first-line transportation supervisors to improve management/employee lines of communication. The program title is, "For Safety's Sake . . . Communicate."

A video was developed to address the rear end collisions. It was shown to all transportation employees.

Fatigue Management and Improvements in Manpower, Staffing, and Crew Utilization

As of the end of 2001, a total of 14 localized work/rest agreements had been implemented covering 4,930 employees. In addition, there were two systemwide agreements, designed to help combat fatigue. These are: (1) mandatory 24 hours of undisturbed rest after seven consecutive calendar days (covering 11,600 road/yard engine service employees), and (2)

mandatory 10 hours of undisturbed rest at home terminals (covering 8,300 road and engine service employees). Additionally, seven agreements are pending that involve assigned days off (affecting 111 transportation employees).

SOFA

Using SACP partnerships, NS expanded the SOFA program to include non-fatal, and rules violation derailment cases. A pilot project, having representatives from the NS/FRA/BLE/UTU, reviewed the accident statistics and made recommendations for reducing accidents in the Decatur Terminal on the Illinois Division. As the result of this partnership, the number of FRA-reportable injuries at the Decatur Terminal remained the same for 2000 and 2001. However, there were no reportable injuries from June through December 2001 at this location. In addition, train derailments caused by rule violations dropped from 11 in 2000 to 9 in 2001, an 18 percent reduction.

Union Pacific Railroad (UP)

Cultural Transformation

1. The UP SACP Task Force continued to monitor the three basic programs which serve as the foundation for shifts in the culture and working environment on the railroad between management and labor. They are: (a) Business Conduct for Managers, (b) Managerial Conduct - Supplemental Review Process, and the Discipline Diversion Program (Upgrade Policy). Through the utilization of these programs, the number of employee-discipline cases is declining, while there is a rise in the number of counseling cases.

2. A pilot program to educate and enhance train crew performance was initiated in the summer of 2001. The pilot program consists of Field Training Exercises (FTX), which replace efficiency tests. Employees may consent to receive a debriefing after an FTX event, in lieu of the formal investigation process. An employee will be granted three debriefing sessions per year, however, a fourth training event deviation will revert to the normal disciplinary channels. The FTX process does not relieve the employee and/or the carrier of issues not in compliance with Federal regulations.

SACP Process Improvements and Audit Results

Grade Crossing Safety and Trespass Prevention

The UP Task Force formed a new Grade Crossing working group. Emphasis is placed on areas of high-incident occurrences (a trespasser, vehicular accident, near misses) and where multiple grade-crossings exist in an effort to possibly upgrade some crossing and eliminate

others. In addition, seldom used and poorly located rail-crossings are being targeted for closure. The crossing group will work with local, city, county, and state governments along with the public.

Process Improvements and Audit Results

Maintenance-of-way, locomotive, and car subgroups

- The maintenance-of-way subgroup developed inspection and testing procedures and machine-certification criteria for employees.

- The locomotive subgroup developed a Locomotive System Safety Action Plan to address inadequate/improper inspection, servicing, and testing. Also, a training video for operating department employees relating to daily locomotive inspection was finalized. The video will be presented as mandatory viewing to crewmen during Session "B" (Rule) training.

- The car subgroup developed a Car System Action Plan to address mechanical car defects.

Signal subgroup

- The UP SACP Signal subgroup has developed a new training video related to human-factors false proceeds. The video is mandatory viewing for all signal employees and will be tracked through the use of the PINS identification system. The video addresses proper procedures for signal employees to follow when performing cut-overs and routine maintenance of the signal system.

- To reduce occurrences of Activation Failures and False Proceed Signal Failures caused by human factors, related to poor testing procedures between construction vs. maintenance forces, a "cut-over" training course was developed and administered to key employees and managers to raise awareness and standardize practices among signal personnel. (FY 2000, 18 false proceeds - eight human-factors-caused; FY2001, 17 false proceeds - four human-factors-caused. Of the four reported human-factors-caused false proceeds, three were errors made by maintainers (switch-replacement-control wires, relay replacement, and wrong lense replacement in a dwarf signal), only one construction wiring error occurred.

<u>Fatigue Management and Improvements in Manpower, Staffing, and Crew Utilization</u>

Fatigue

The UP SACP Fatigue subgroup identified a number of related concerns that could be addressed and established subgroups to pursue resolution of concerns that included: Operational (Ops), Non-Operational (Non-Ops), staffing, awaiting transportation, awareness training, education, crew balancing, and lodging. Among the accomplishments/initiatives for 2001:

Development of family support programs (ongoing).

Closure of dormitory style facilities.

In June 2001, a fatigue-management pilot was implemented in Fort Worth, TX. The pilot is intended to educate employees and family members on benefits of fatigue management and also offer assistance in screening for sleep disorders. Included within the pilot is the video "Cost of Sleep Deprivation" was developed specifically to address those issues encountered by employees and managers.

In December 2001, UP commenced working with Foster-Miller, a private contractor who specializes in fatigue-related issues, to begin a nonrailroad operations pilot in the Des Moines/Mason City, Iowa, area.

The Houston yard napping pilot has ended. Beginning December 3, 2001, a new yard napping pilot commenced at North Platte, Nebraska.

Labor relations is working closely with Train & Engine personnel in the North Platte, NE area on a new plan for reducing fatigue. Although the plan and associated agreements are not yet implemented or ratified, the basic idea is to permit T&E employees to "bid" on a given time of day to report to work; if the railroad does not have a train for that period, the employee is released to return home.

Crew Utilization/Crew Management Systems

During 2001, a UP SACP working group addressed many crew utilization/crew management system issues including the timely relief of crews prior to the expiration of their tour of duty under the Hours of Service Act. Among the specific accomplishments/initiatives:

In-depth analysis of data related to van availability, especially related to increases in van waiting periods and crews held for excessive hours.

Integrating the efforts of the Crew Utilization subgroup with those of the Predictability subgroup in an effort to resolve the "deadheading issue" and how it affects the utilization of crews and quality of life of the train, engine, and yard employees.

In June 2001, a new review process (site visit) was implemented for the purpose of eliminating crews being held on trains for excessive periods of time. The process consists of a SACP representative of the Crew Utilization subgroup to make site visits at locations where the following parameters existed: crews have had an event (one) where a crew was held on a train greater than 17 hours, or where 25 percent of all crew tie-ups greater than 13 hours exceed an average of 15 hours, within a 30-day period.

Initiated a proposal for a twice-per-day deadheading pilot project. Should the proposal be adopted, the pilot would allow for terminal-to-terminal deadheading only twice per day; 6:00 a.m. and 6:00 p.m. as the time periods.

Continued monitoring of train line-up (TL) accuracy level. The goal is to achieve a TL accuracy level of 75 percent. As of July 1, 2001, the systemwide TL accuracy level, excluding deadhead traffic, is 73.8 percent, the highest since the service crisis of 1997.

Dispatcher Workload

Since early 1998, FRA has closely monitored the operations of the Union Pacific's Harriman Dispatch Center in Omaha, Nebraska. Using SACP partnerships, significant improvements in both operational efficiency and staffing levels are being achieved. For 2001:

- Finalized the conversion of General Line-up Territories to Rule 9.15, Track Warrant Control (TWC) territory across the system. The UP is now looking into a "Single Authority System-Positive Protection," pending arrival of software upgrades.

- Reviewed system standards for training, re-certification, and efficiency testing for all outlying dispatching offices and control-operator locations.

- Concluded the implementation of rules/instructions governing train dispatchers and control operators to a single source book; (final consolidation of merged railroad rule books, and systems into one source book) Single source book completed and in place making the UP one railroad under one rule book.

Electronic Recordkeeping

On March 1, 2001, the UP converted to electronic hours of service recordkeeping for TE&Y employees systemwide. This action was conformed to FRA's conditionally approval, in July 2000, of UP's waiver submission.

SOFA

To enhance a nationwide emphasis on switching operations safety, the UP SACP formed a new Working Group to oversee efforts to communicate the Five SOFA Lifesavers throughout the UP system. The Working Group is active in the following efforts:

- Transmission of the SOFA Action Plan to all employees.
- Through Quality Safety Meetings, emphasizing employee safety during switching procedures, i.e., caution in "Red Zones," which includes walking on or near tracks, maintaining sufficient distance from moving equipment, switching safety, and the Five SOFA Lifesavers.
- Distribution of more than 300 SOFA safety training videos to field locations.
- Extending the UP new hire training program from five to fourteen weeks with increased emphasis on employee safety during train operations.

As a result of the above initiatives, the UP reported a 15 percent reduction in SOFA-related incidents.

V. Details for Other than Class I Railroads

Alaska Railroad Corporation (ARR)

Cultural Transformation

SACP partnerships with the ARR have been ongoing since 1996. These are important in finding solutions to safety issues.

SACP Process Improvements and Audit Results

Following FRA/ARR SACP listening sessions and safety audits in 2001, FRA requested that the carrier resolve six safety-related issues. FRA is monitoring ARR's efforts to correct these problems.

Training Improvements

- A computer program for tracking employee training and training needs is being implemented. Also, the ARR has purchased safety procedures developed by other railroads for use by the ARR.
- The ARR is exploring cross training of its employees in other craft-specific procedures.

Fatigue Management and Improvements in Manpower, Staffing, and Crew Utilization

The ARR has a manpower shortage in its mechanical department. This requires mechanical employees to work overtime hours. The ARR has agreed to expand the number of mechanical department positions and is recruiting new employees. When this effort is complete, the fatigue and stress of journeyman-level mechanical employees are expected to be improved.

Dakota, Minnesota and Eastern Railroad Corporation (DME)

Cultural Transformation

Active and successful SACP partnerships have been formed involving all crafts and management, which has reduced safety complaints submitted to FRA to insignificant levels. Since SACP began, there has only been one formal safety complaint investigated by FRA.

SACP Process Improvements and Audit Results

Between 1999, when the SACP was initiated on the DM & E, and the present, the personal injury rate per 200,000 man hours worked has been reduced from 8.54 to 1.98. During the same time period, the SACP process resolved 269 safety issues; am impressive record.

Fatigue Management and Improvements in Manpower, Staffing, and Crew Utilization

The DME is implementing a fatigue-countermeasures program that is designed to improve the safety of its employees. The program stresses the importance of employee days-off, fatigue awareness education, and training initiatives.

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