Union Pacific Railroad
Safety Assurance and Compliance Program
Report of Findings and Recommendations

Introduction

The Federal Railroad Administration (FRA) is the Federal government's railroad safety regulatory agency that oversees the safety of more than 600 passenger, freight, and commuter railroads currently operating in the United States. The agency has established an ultimate goal of "zero tolerance" for railroad accidents, injuries, and fatalities. In the summer of 1997, FRA became concerned about the safety performance of the Union Pacific Railroad (UP). UP experienced five major train collisions between June 22 and August 31 that resulted in the deaths of five employees and two trespassers. These tragic main line train accidents were in addition to a series of yard switching accidents that claimed the lives of four additional UP train service employees in the first 8 months of 1997.

FRA had a number of UP safety initiatives already underway, including a regional train riding safety review. However, the collision which occurred on June 22 in Devine, Texas, prompted FRA to escalate safety assurance efforts by conducting a thorough investigation and analysis of UP dispatching practices. Based on what was learned through this investigation, FRA issued Safety Directive 97-1 to all railroads to ensure sound dispatching procedures and enhance the effectiveness of railroad operational testing and inspection programs.

As accidents continued to occur, FRA expanded and intensified its safety enforcement efforts on the UP. On August 23, following a review of the circumstances surrounding the major train collisions and yard incidents, FRA launched a comprehensive system-wide safety audit of UP's operations. In the ensuing 14-day period, as many as 80 Federal and State inspectors were on the UP property to determine the magnitude and extent of safety problems and recommend measures to address those problems. As a result of the audit, FRA concluded that UP lacked many safety initiatives which may have addressed or prevented many accidents and operational breakdowns on the system.

FRA established a working partnership with UP's management and rail labor under the auspices of the Safety Assurance and Compliance Program (SACP). Through the SACP process, railroad safety teams, composed of representatives from FRA and rail labor and management, began working together to identify the root causes of systemic safety problems, including many of the issues identified in the safety audit that are noted below. The safety teams then focused their collective knowledge and experience regarding railroad safety to devise effective, long-term solutions to these safety concerns.

Subsequent to the first safety audit, UP continued to experience service delays. Then, two additional train accidents occurred on October 25 and 29. This prompted a second safety audit, which FRA conducted on November 3-7, 1997.

The following report focuses on critical safety concerns involving UP's operations that were identified by FRA during the 14-day safety audit between August 23 and September 5, as well as a five day safety audit between November 3 and 7. The report also provides an overview of efforts taken through the SACP process to identify and implement measures to address the safety concerns. UP has submitted and FRA has approved a comprehensive Safety Action Plan addressing these safety concerns. As the SACP is a continuing process, FRA will continually monitor the safety of UP's operations and may periodically issue additional safety recommendations as the need arises

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Breakdown in Safety - A Summary of Major Train Accidents on the UP in 1997

During the approximately four month period between June 22 and October 29, seven main line accidents occurred on UP that resulted in five railroad employee fatalities and two trespasser fatalities. Additionally, four UP train service employees were killed in yard switching accidents since the beginning of the year. One was coupled between two railroad cars; two were struck by yard locomotives; and a fourth fell from the railroad car on which he was riding. Taken together, these tragic accidents demonstrated an alarming trend on the UP. The major accidents are summarized below:

- On June 22, in Devine, Texas, two UP freight trains collided head-on, killing two crew members and two trespassers, and injuring two other crew members.

- On July 2, in Kenefick, Kansas, a UP freight train failed to stop for a stop signal at the west end of the siding and struck the sixth head car of a passing UP intermodal train. The engineer on the westward train was killed.

- On August 20, in Fort Worth, Texas, an unattended UP locomotive consist, consisting of four locomotives, moving eastward at an estimated speed of 60 mph, collided head-on with a UP freight train as it departed UP's Centennial Yard. The freight train's engineer and engineer pilot were killed.

- On August 23, at Shawnee Junction, Wyoming, a UP unit coal train struck the rear of a standing BNSF coal train. The UP conductor and engineer were injured.

- On August 31, in Barstow, California, a UP freight train struck the rear of a standing BNSF freight train. The derailed equipment struck the side of a passing UP freight train. The UP conductor was injured.

- On October 25, 1997, in Houston, Texas, two UP freight trains collided head-on. Five of the six locomotives involved derailed, caught fire, and were destroyed. Fortunately, the collision resulted in only minor injuries to the four crew members involved.

- On October 29, 1997, in Navasota, Texas, a southward UP freight train derailed after it struck the rear of another southward standing UP freight train. One employee suffered minor injuries.

FRA's Safety Audit

Following a review of the circumstances surrounding the incidents and operational breakdowns, FRA dramatically increased its intervention between August 23 and November 7 by initiating a comprehensive, system-wide safety assurance review of UP's operations. In the ensuing period, as many as 80 Federal and state inspectors were on the UP property to determine the magnitude and extent of the problem.

This safety initiative sought not only to identify impediments to good safety processes, but also to identify ways to correct those impediments. It is FRA's judgment that this approach will ensure effective solutions to the systemic safety shortcomings. FRA will continue its safety oversight of UP's operations through random site-specific inspections and, if warranted, team-based, focused inspection activities to to ensure that corrective measures are properly and effectively implemented.

Initial Steps Towards Safety Improvement

During the audit, FRA has worked closely in partnership with thousands of UP employees, labor representatives, and managers who contributed information, observations, and ideas. Both labor and management have expressed absolute commitment to resolve the critical safety issues identified on the UP. During the course of the safety review, FRA made its findings and recommendations known to UP's management and to labor leaders who represent UP employees in order to focus and expedite the railroad's safety improvement activities.

In response to FRA's recommendations, UP and its rail labor organizations established safety committees under the auspices of FRA's Safety Assurance and Compliance Program to address many areas of concern highlighted in this report. Ultimately, careful planning and a sustained commitment of railroad resources and personnel will be required to meet the safety challenges identified in this report; however, through the work of these safety committees, significant steps already have been initiated to address major safety concerns.

> ***Development of a Safety Culture:*** In response to FRA's recommendations to foster a railroad culture dedicated to safety improvement, UP has committed to become the model for railroad safety partnerships. Following the safety audit, UP began to review its safety program to ensure full employee involvement and empowerment. A joint Safety Steering Committee, composed of representatives from rail labor, rail management, and FRA, was established to provide oversight and direction to the railroad's safety program. Six subordinate safety committees were established to address specific areas of concern identified by FRA and other safety-related matters. Safety committees were established

to address crew management, train dispatching, fatigue, training, culture, and inspection and training.

UP also made a change in its management hierarchy by having its chief safety officer report directly to the President. Furthermore, UP established the President's Safety Hotline which was made available to all employees on the railroad to call in their safety concerns. All calls were confidential and callers could remain anonymous. These measures ensured that safety concerns could be brought to the direct attention of top management.

Crew Utilization and Fatigue Abatement: On October 29, UP President Jerry Davis signed an agreement with FRA Administrator Jolene Molitoris that provided UP's train crews the right to guaranteed time off after working a pre-determined number of days. Furthermore, the agreement committed UP to adopt the recommendations of the SACP safety teams to improve the train lineup system and improve crew utilization. As far as FRA is aware, UP is the first major carrier to make such system-wide commitment to address crew fatigue.

UP also appointed a Director of Alertness Management and has retained the expertise of Alertness Solutions, Inc., a leading consulting company in the area of fatigue mitigation which has developed fatigue countermeasures for the U.S. space program. Recognizing that an aggressive and comprehensive program was absolutely essential for dealing with problems related to employee fatigue in the workplace, UP's experts have begun to develop a comprehensive fatigue abatement program to address the needs of all employees at all levels of the company. The fatigue countermeasures program involves educational, technological, crew scheduling, health, science, and cultural issues.

Shortage of Transportation and Operating Personnel: UP began an aggressive hiring program among train and engine service personnel, transportation and crew managers, and Train Dispatchers to address critical shortages of safety sensitive personnel in the operating and transportation departments. Since September 1, UP has hired 500 train and engine service personnel and 33 Dispatchers. Furthermore, UP has projected attrition levels among train crews through the year 2015 in order to anticipate future hiring and training needs.

Electronic Hours of Service Record-Keeping: FRA found extensive problems with inaccurate Hours of Service record-keeping. To address this problem, FRA assisted UP in developing and electronic Hours of Service record-keeping system. This computer-based system permits train crews to enter information regarding call and release times directly into the central record-keeping repository. The system also reconciles payroll and hours of service information and is designed to prohibit back-dating of information to ensure accurate reporting.

While FRA is encouraged by UP's initial progress in addressing the safety concerns identified during the safety review, meaningful safety improvements will require a dedicated partnership between labor and management, careful planning, and a sustained commitment of resources and personnel. ***Therefore, UP is required under the terms of FRA's Safety Assurance and Compliance Program (SACP), to submit written Safety Action Plans, in accordance with the recommendations and findings outlined below. The Safety Action Plans are subject to FRA approval , and FRA will monitor UP to ensure the Safety Actions Plans are properly implemented and are effective in enhancing the safety of UP's operations. Enclosed is UP's Safety Action Plans with supporting attachments (20).***

Findings and Recommendations

FRA concluded that a fundamental breakdown existed in some of the basic railroad operating procedures and practices essential to maintain a safe operation. The railroad did not appear to have a uniform safety culture and lacked an effective safety hierarchy. Safety policies, applauded by senior management, were not effectively implemented in the field by first line supervisors.

Corporate Culture and the Importance of a Labor/Management Safety Partnership

As FRA began its review on the UP, varying corporate cultures within the now merged UP and Southern Pacific (SP) Railroads became evident. It is FRA's judgment that these divergent cultures play a key role in how UP approaches railroad safety. FRA believes the goal of UP's senior management is to conduct rail operations in a safe environment. However, FRA has experienced through other mergers, consolidations, and acquisitions, that when the discrete corporate cultures and philosophies are themselves merged into one, safety issues often become diluted as the merged entity focuses on improving operational efficiency.

FRA has found that some employees on UP, at least for the short term, were confused as to the direction they were required to take with respect to the safety of operations versus operational efficiencies. As mentioned above, in the areas FRA has identified, FRA believes that a fundamental breakdown in UP's ability to effectively implement basic railroad operating procedures and practices essential to a safe operation has been lacking and can be directly or indirectly attributed to the issue of corporate culture, discussed below. Perception a of double standard was widespread due to dissimilar expectations and actions on the part of some managers. This means that managers and employees had not been not working together as a team. Some managers appeared to place more emphasis on moving trains, than with safety. Many employees commented that the safety program and the discipline program were one and the same.

FRA found that overall, UP had the support of its labor unions, including the international and regional officers. At the same time, many local union people stated that safety still appeared to be a lower priority than corporate profits. It is a widely held belief that while selected senior managers, especially President Jerry Davis, might be serious

about safety, they were insulated by their staff from the real state of the railroad. Many rank-and-file employees indicated they did not believe they were considered valued members of the safety program, but were involved only when expedient to advance a program developed by management. This means that UP management has the seeds of a collaborative relationship with its employees, but has been less than effective in truly involving its labor organizations in establishing and implementing formal safety programs.

Recommendations to Change Corporate Culture

Based upon FRA's findings and recommendations, UP was directed to develop a Safety Action Plan in order to establish a strong, well defined culture of safety on the railroad that would foster the active involvement of all UP employees in the safety process and that would ensure that corporate safety policies are uniformly understood and implemented system-wide in the field. FRA required that the Safety Action Plan contain the following provisions:

- Promote railroad safety teams that include employee representatives and invite employee representatives to participate as equal partners at all levels of the safety process. (FRA recognizes that for this relationship to be successful, it is imperative that each labor organization fully support the partnership approach.);

- Make a strong commitment to safety that emanates from the top of the organization, is very visible, and follow***s*** well-defined lines of authority to ensure that senior level safety policies are properly implemented in the field; and

- Re-define safety training procedures, particularly for Dispatchers and train and engine service personnel, to promote an open and trusting environment where employees are encouraged to ask questions and seek assistance.

Shortage of Qualified Train Crews

FRA found that additional train and engine service crews were needed to fill vacancies caused by attrition, and to meet the demands for increased service. One factor contributing to the crew shortage stemmed from the difficulty in anticipating when vacancies would occur. During the first half of 1997, UP experienced extremely low rates of retirement and attrition among train and engine service personnel, while the second half of the year saw a sharp increase in retirements. Another factor contributing to UP's crew shortage was an increase in train traffic brought about by an increase in business.

The unpredictability of job vacancies was compounded by the long development time that

was necessary to properly train and qualify train and engine service personnel. UP provides a minimum of six months training to become a locomotive engineer, and additional time is required for engineers to become qualified on the territories in which they operate.

Longer training and qualification periods were often necessary to operate freight trains in highly demanding service over mountain grade territory.

UP's crew shortage problem has been exacerbated by the fact that the railroad industry is currently experiencing a growth in employment for the first time since de-regulation of the industry in 1980. For much of the past 15 years, as railroads have downsized, a pool of qualified employees was often readily available to fill vacancies on short notice; however, this situation no longer exists. Recently, railroads nationwide have been expanding the ranks of train and engine service personnel; consequently, an available pool of qualified trainmen no longer exists.

Recommendations to Address Train Crew Shortage

FRA directed UP to develop a Safety Action Plan to address staffing levels, particularly among Operating and Transportation personnel. FRA required that the Safety Action Plan contain the following elements:

- Projections of future hiring needs to accommodate employee attrition and increases required because of a growth in business; and

- A schedule for filling vacancies that currently exist or are anticipated in the near future.

Crew Utilization and Fatigue

FRA examined daily, monthly, and quarterly reports and records at the Crew Management Center in Omaha. In addition, FRA monitored the activities of crew Dispatchers and conducted listening sessions and interviews with train and engine service employees and their representatives. Based on its investigation, FRA determined that problems in crew management and utilization have contributed to problems of fatigue, overwork, and poor morale among train crews, which in turn, undermines the mental acuity and judgment that is necessary for safe train handling.

> ***Under Staffing of Crew Management Services*:** FRA found numerous problems with UP's Crew Management Services (CMS). CMS is organized into four crew dispatching districts designated as Crew Dispatching Central, North, South, and West. The CMS centers were responsible for coordinating the work assignments

and rest cycles of train crews to assure that crews were available when needed. At the time of this review, there were 144 crew Dispatcher desks in Omaha. UP indicated that 214 people were required to cover those positions at this facility. Since the recent mergers of the SP and the Chicago and North Western Railroad (CNW) with UP, substantial growing pains have been experienced within the CMS which appears to have negatively impacted the efficiency of the crew dispatcher system.

***Inefficient Train Crew Utilization*:** FRA believes that the resulting excessive CMS workload has led to questionable crew management decisions. Specifically, FRA noted numerous examples where train crews spent the majority of their time at an away-from-home terminal, denying them time with their families, creating poor morale, and resulting in less efficient train movements.

Cumulative fatigue and workplace stress was reported as a major concern for train and engine service crews. FRA observed examples where crews were off-duty at home terminals for only eight to ten hours. Yet, at away-from-home terminals, they were off duty for 30 to 48 hours. Crew members reported that the only way to get a day off was to lie about being sick. One engineer's board had 31 members with 18 on sick leave; another had 50 members with 28 on sick leave.

For example, a train crew departed Lloyd Yard and operated westward toward San Antonio. Twelve hours later, the crew tied up per the Hours of Service Law at West Junction, 25 miles from Lloyd. The crew was picked up in a carry-all and transported about 200 miles to an away-from-home terminal in San Antonio for rest.

***Inability to Provide Timely Relief for Train Crews*:** FRA found significant evidence of ineffective crew utilization which could cause crew fatigue and stress, poor morale, violations of the Hours of Service Law, and a reduced ability to comply with operating rules. Compounding CMS staffing shortages was the shortage of vans and drivers to transport train crews to and from job assignments. Although crews usually worked the statutory limit of 12 hours on-duty and eight hours off-duty, they frequently remained on railroad equipment (waiting for transportation) several hours beyond the statutory limit.

FRA observed that in many cases, crews had to remain on trains after the expiration of the Hours of Service. In those cases, crew members typically waited two to three hours for the arrival of crew vans or relief crews. Many crews reported waiting three to four hours for deadhead transportation with occasional delays of eight to ten hours. One crew from San Antonio reported working 12 hours, then waiting for a carry-all from 11:00 p.m. until 9:00 a.m. the next day, for a total of 22 hours on duty. The crew was ten miles from its home terminal.

***Unpredictable Work Assignments Due to Inaccurate Train Lineup Information*:** FRA found that UP's system for providing train lineup information was highly inaccurate. As a result, train crews seldom had reliable advanced notice of when they would be called for duty and were unable to plan for rest. FRA believes that unpredictable work schedules have contributed to problems of cumulative fatigue and job stress.

FRA found that the automated voice system did not function well, creating inaccurate lineups, which crew members relied on to set rest cycles. One locomotive engineer commented that lineups were so inaccurate that he was happy when they were only off by six to eight hours. In one case, a train lineup for the Houston pool, shown to FRA inspectors, listed a train two days behind schedule; however, the train had been annulled two days before. Other trains were several hours behind their expected arrival times, making it virtually impossible for employees to plan their rest.

***Fatigue of Crew Transport Drivers*:** Fatigue was also a serious issue for contractor carry-all drivers who transported crews in road service. Many drivers reported working long hours and numerous consecutive days. When train crew members felt compelled to take over the driver's duties because of driver fatigue, the crew member was performing commingled service and could have been performing excess service in violation of the Hours of Service Law. FRA believes that crews, drivers, and the general motoring public alike were placed at risk needlessly through such practices.

One contract driver reported that she worked 18 to 20-hour days for a 6-month period while in road service. She reported sleeping in her van between calls in truck stops and roadside parks off and on for as many as five days in a row because she was simply too tired to drive home after dropping off a crew. Another driver reported his employer recently had established a 6-day work week with move-on-call periods of "only" 16 hours per day. FRA found instances where carry-all drivers admitted that train crew members periodically drove the crew vans because the drivers were too fatigued to drive safely.

***Adequacy of Lodging Facilities*:** In some instances, the condition of lodging facilities at away-from-home terminals was found to be a contributing factor toward crew fatigue. FRA believes that these facilities should be maintained in a condition that would permit crew members to obtain proper rest. However, this was often not the case, as illustrated by the following examples:

FRA found a modular crew housing facility in California that was located between the main track and an automobile body shop. There was a grade crossing

nearby, for which trains blew the whistle. In addition to the local noise, there was also noise from the adjacent lobby/TV room and housekeeping room. This noise impeded the ability of crews to obtain rest and added to their fatigue. Crews also feared for their safety, as the housing was located in a high crime area. Several incidents of theft and vandalism have been documented.

Another lodging facility in Arizona, located near a main track and yard in an extremely high crime area, has been a source of noise, health, and safety concerns for several years, as well. Numerous rooms in this wooden structure lacked smoke detectors, or the smoke detectors were faulty. Problems with shower doors have resulted in the bathroom floors becoming saturated to the point that the floors were sagging and employees feared they would fall through the floor. The facility was infested with insects. Crew members have been bitten and have received medical treatment from spider bites.

Recommendations to Improve Crew Utilization and Combat Fatigue

Experience has shown that cumulative fatigue erodes the ability of railroad employees to perform their duties safely. When crews worked long hours with erratic schedules for days on end and were subject to inadequate rest facilities, their ability to read and follow instructions, identify and comply with signals, react appropriately in emergency situations, make safety critical decisions, and act on those decisions may become impaired. The end result can be train accidents and employee fatalities.

FRA directed UP to develop a Safety Action Plan to improve utilization and combat fatigue particularly among train crews and other employees in safety sensitive positions. FRA required that the Safety Action Plan contain the following elements:

- Identification of appropriate staffing levels for UP's Crew Management Services Facilities and development of a schedule to ensure sufficient staffing levels are met and maintained;

- Development of an improved system to provide accurate train lineup information so that train crews can be given accurate information about job assignments sufficiently in advance to properly plan rest periods;

- Requirement that UP's crew transportation contractors to provide an adequate number of vans and drivers, or arrange alternate transportation, to ensure the safe and timely transit of train crews to and from job assignments;

- A survey of away-from-home loading facilities to ensure they meet sufficient standards to ensure proper rest; and

- Provide a means for train crews who may experience cumulative fatigue to obtain rest time.

Inefficient and Unsafe Practices at the Harriman Train Dispatching Center (HDC)

FRA observed inefficient and unsafe practices by Supervisors and Dispatchers at the HDC, which can be attributed to lack of training and extreme work overload.

***Training*:** FRA found that as a result of inadequate training, some supervisors in the HDC were unfamiliar with the territories of the Dispatchers under their supervision. Consequently, some supervisors were unable to readily determine whether or not the employees they supervised were complying with applicable Federal regulations and carrier operating rules. New Dispatchers receiving on-the-job training were often placed on second and third shifts because the first shift was so busy that first shift Dispatchers lacked the time to properly train new Dispatchers. However, when a new Dispatcher was considered qualified to work a position, the carrier did not take into consideration that the new Dispatcher had not qualified on the first shift, the busiest of all the shifts. The new Dispatcher, usually placed in the position with an initial heavy workload, would become overwhelmed by the pace, and begin to get behind in the work.

FRA found instances of mistakes that could have affected the safety of railroad employees and members of the public. These mistakes included Dispatchers losing track of trains in their territories and being unaware of critical track safety information. During one incident, FRA inspectors from the field contacted the Dispatchers regarding a speed restriction. It took over one hour for officials at the center to decide if there was, or was not, a speed restriction at the subject location. In another case, an official stated that he was involved in a situation in which a Dispatcher wanted to back a loaded coal train five miles down a one-percent grade with the conductor riding the point for the entire distance. The official indicated that the Dispatcher was not even aware that there was a grade at this specific location. FRA inspectors considered this a serious example of how insufficient Dispatcher training could jeopardize railroad safety.

UP's officials who monitored dispatching practices also were in need of better training. For example, during a routine audit of 15 track warrant authorities, UP's Computer-Aided Dispatching (CAD) auditors noted only one exception. However, when FRA inspectors randomly reviewed only six of the same authorities, over twenty exceptions were noted.

***Heavy Dispatcher Workload*:** FRA has found that Dispatchers have a heavy workload which forces them to take shortcuts that may jeopardize safety, i.e.

Dispatchers were not monitoring the CRT screen as employees in the field repeated a track warrant because they were frequently answering telephone calls, observing other track movements, talking to other Dispatchers, reading lineups and/or performing transfers with their relief Dispatchers. FRA found evidence that heavy Dispatcher workload and resultant stress at the HDC, combined with inexperienced and poorly trained supervisors, increased the likelihood of rule violations. FRA found instances where dispatchers issued track warrants and track bulletins in which critical safety information was inaccurate.

Preliminary interviews with Dispatchers at the HDC indicated that some were regularly working six days a week. As mentioned earlier, UP admitted to a shortage of qualified Dispatchers and had initiated a process of hiring people off the street to train as Dispatchers; however, it will take considerable time to train new hires to become qualified Dispatchers. Due to staffing shortages, some Dispatchers have been asked to line switches and signals for territories other than their own, while the Dispatcher working the adjacent territory was away from his or her desk. FRA believes that this practice is very dangerous and has notified the carrier that it should be stopped immediately.

The problem at HDC is not related to staffing alone; FRA believes that some dispatching desks were assigned too much territory for one person to handle safely and efficiently. A review of the UP Dispatcher rule violation incidents occurring at the HDC from January through August 1997, indicated that 52 percent of the rule violation incidents occurred on seven of the 43 positions at the HDC. These seven positions typically had multiple authority territories and/or an unusually high number of track warrants. FRA monitored one position which handled about 125 miles of double and some triple track in which FRA observed 45 trains within the area. Additionally, two other positions averaged in excess of 150 track warrants per shift. FRA recommends that the carrier re-evaluate, at a minimum, seven positions that appear to have very heavy workloads.

Software problems in the CAD system also were found to exist. FRA inspectors discovered instances where track warrants showed trains in the subdivision in the wrong sequence. In FRA's judgment, placing trains in their actual arrival order is essential to the safe use of track warrants. Having trains arrive out of sequence is setting up a potential misunderstanding on the part of a crew that must "wait" for the arrival of an opposing train before acting on its movement authority.

Recommendations to Improve Dispatching

The dispatching problems identified by FRA at the HDC represent a serious safety concern. FRA directed UP to develop a Safety Action Plan to improve operations at the Harriman Dispatch Center. FRA required that the Safety Action Plan contain the

following elements:

- UP's managers to evaluate the workloads of Dispatchers, realigning the work loads of existing Dispatcher positions and creat***e*** additional Dispatcher positions to relieve excessive workloads;

- UP to move aggressively to fill dispatching vacancies;

- UP to provide better training to supervisors and corridor managers, which includes hands-on experience. UP ***to*** ensure, in writing, that all supervisors are trained and qualified regarding the territories over which they supervise the movement of trains; and

- UP to review and upgrade Computer Assisted Dispatching software, as necessary, to improve the efficiency of the dispatching technology.

Supervisory Staffing and Operational Compliance

FRA found that supervisors' workloads prevented them from effectively monitoring and evaluating their employees' performance; this is particularly true in train and engine service. Supervisors performed a multitude of tasks not directly related to their supervisory responsibilities. FRA believes that this lack of supervisory oversight contributes to a breakdown in the safety process, because supervisors may not verify employee knowledge and application of current rules, revisions, local speed restrictions, and system instructions for the territories in which they operate. While UP's operational testing program is based on sound, effective procedures, FRA found that some officers did not have time to conduct meaningful operational tests; and, as a result, some simply recorded tests not actually conducted. The operational testing program has become a numbers-generating exercise, according to one railroad official. The following sections provide examples.

Inadequate Levels of Supervision**:** In some places, employees had the perception that they could report for duty without being observed by a manager. For example, FRA inspectors encountered an employee reporting to work with a personal injury, which could have affected the employee's ability to perform the job safely. FRA searched for a company officer to investigate this concern, but no one was available on the property. This case was indicative of a general lack of supervision that existed during evening hours at various locations. UP must ensure that an adequate number of supervisors are in place to monitor employee compliance with carrier and Federal rules and regulations.

Insufficient Compliance With Safety Regulations**:** FRA's operational compliance concerns involve inattention to Federal safety regulations concerning

the qualifications of train and engine crew members, Hours of Service infractions, drug and alcohol testing, locomotive engineer records, excessive time on duty, securement of equipment, blue signal practices, hazardous materials records, and movement of defective equipment.

The railroad was unable to show records for "manager" locomotive engineer familiarization trips. FRA found that many managers have been called for train and engine service without regard for qualifications or familiarization with the territories for which they were responsible. Several records indicated that the managers were performing service on one subdivision and making a qualifying trip on another subdivision on the same calendar day. Either the record was falsified or the manager had performed excess service. In most cases, when managers received the opportunity to familiarize themselves with a territory, they only received one trip over districts as long as 250 miles.

Similar reports regarding lack of familiarization trips have been reported for regular train and engine service crews. Locomotive engineers operating in unfamiliar territory have a substantially increased risk of involvement in train handling/human factor train accidents. Furthermore, FRA is concerned that if the railroad's managers are less than diligent in observing Federal safety standards and basic railroad operating rules, standards, and program requirements, their employees might assume that indifference to compliance is an acceptable part of the corporate culture.

***Training and Instruction of Train and Engine Service Crews*:** FRA found instances of insufficient training for train and engine service crews. In many areas, job briefings occurred infrequently. In some instances, crews lacked familiarization with operating rules, safety requirements, and other railroad operational instructions. Also, some employees had not received sufficient training regarding new or unfamiliar equipment. This problem was exacerbated by a lack of supervision to provide train crews with needed expertise and advice. For example:

- On August 20, in response to the train accident at Centennial Yard in Fort Worth, Texas, UP published General Order (GO) 137, entitled, "Securing Equipment." The GO was issued as a Track Bulletin to all crews until it was published and posted at all GO locations. Inspections for compliance with this GO revealed that two sets of yard locomotives and one through-freight power consist with three locomotives, which were found in Centennial Yard, that had not been secured in accordance with GO 137 instructions.

- FRA inspectors also found locomotives unsecured at Settegast and

Englewood Yards in Houston, Texas. At Settegast Yard, 19 switch engines and one locomotive consist were found improperly secured. At Englewood Yard, two locomotive consists were found improperly secured. Locomotive shop employees and managers were under the mistaken impression that they were not subject to the GO requiring securement of locomotives. When FRA inspectors discovered this discrepancy, they immediately notified senior railroad managers who promptly corrected the employees' misconception.

Recommendations to Improve the Level and Degree of Supervision

FRA has been working extensively with UP to address inadequate levels of supervision, insufficient enforcement of carrier and Federal safety rules, and lack of training for train and engine service crews. FRA directed UP to develop a Safety Action Plan outlining specific measures to improve supervision and ensure compliance with safety directives. The Safety Action Plan include**s** the following objectives:

- Identification of appropriate supervisory and managerial staffing levels within the operating departments, and development of a hiring schedule to ensure that sufficient levels of supervision are maintained;

- Within the next 12 months, ensure that each UP employee whose job is governed by the operating rules attends a mandatory operating rules class; in addition, a requirement that UP's managers to provide more frequent safety briefings;

- Make sure that all employees whose jobs require operation of moving equipment receive necessary training for each piece of equipment they are expected to use; this training will be verified in writing;

- Take steps to ensure compliance with the Hours of Service Law and Hours of Service record-keeping requirements;

- Ensure compliance with requirements for locomotive engineer certification, operational observation, and efficiency testing; and

- Ensure that train crews receive sufficient qualifying runs over unfamiliar territories.

Mechanical Inspections

FRA found defects on a high percentage of the locomotives inspected during the system-wide review. While not all defects represented significant safety hazards, the overall

findings indicated that locomotives were not being properly inspected and, in many instances, defective locomotives were being used in service.

> ***Improper Maintenance and Inspections*:** Some of the mechanical problems stemmed from improper maintenance and mechanical inspections. FRA inspectors found locomotive daily inspections out of date. Also, daily inspection reports were found showing repeated defects that had not been repaired. Some locomotive engineers reported being pressured to rush calendar day inspections and that they were met with resistance when asking for mechanical personnel to make repairs of noted defects. On trains with multiple units called out of a yard, it was reported that if the lead unit had a current calendar day inspection, the engineer was not allowed to check trailing units for current calendar day inspections.
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> At many locations, UP has hired set-up Carmen who lack the training or experience of fully qualified personnel or *journeymen*. Across the system, FRA found that the range of training provided to these set-up Carmen varied from none to extensive.
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> Knowledge of how to properly conduct initial terminal inspections also varied from location to location. At one location, continuous training and certification was provided in welding and forklift operations, but no training was provided in equipment inspections.
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> Locomotive engineers in a major terminal area reported they were not sure what constituted an FRA defect during a daily inspection. They were required to conduct the inspection, but were not confident that they knew what to inspect. Many reported they had received little training regarding inspection practices.

Recommendations To Improve Mechanical Inspections and Maintenance

A sound and reliable mechanical inspection and maintenance program for motive power and moving equipment is a vitally important component of any railroad safety program. UP has devised adequate policies and procedures that, when followed, ensure the proper inspection and maintenance of motive power and equipment. FRA directed UP to develop a Safety Action Plan that to establish a quality control process for mechanical inspections and maintenance. FRA required that the Safety Action Plan include the following elements:

- UP development of a quality control program to monitor testing, inspection, and maintenance of freight equipment.

- UP development of a structured training program, which would help employees

achieve the necessary level of competence to properly perform mechanical inspections and maintenance.

Harassment and Intimidation

FRA inspectors heard numerous allegations by employees that they had been harassed and intimidated by railroad managers when they delayed train movements to comply with safety regulations. Consequently, UP's goal of empowering employees was short-circuited by the perception of a "command and control" management style that appeared to seriously reduce employee confidence in management's commitment to safety. While specific instances of harassment were difficult to prove, the very perception of such behavior can have a chilling effect on fostering a culture of safety in the railroad environment.

Several employees, including some managers, commented that the discipline system was totally unjust. They indicated that it was not intended to improve safety, but rather, to lessen the number of reportable injuries through intimidation. They also commented that the "Upgrade" policy (where repeat infractions were met with a pre-determined schedule of escalating discipline) was questionable because an employee could receive a 15-day suspension for failure to wear earplugs, yet be ordered to operate a train with non-complying locomotives.

Regardless of the merit of these allegations, even the perception of harassment and intimidation is detrimental to establishing a team ethic and cooperative atmosphere that is essential for safe and efficient coordination of railroad operations. While UP's employees expressed a strong belief in the commitment of top UP management to fostering a culture of safety on the railroad, they remained skeptical of the commitment by first line supervisors and field managers.

FRA acknowledges that UP has already taken the first steps to address this issue. On September 23, in a letter to all railroad employees, UP President and Chief Operating Officer, Jerry Davis, announced the establishment of a SACP partnership between rail labor, UP, and FRA "to identify and resolve mutual safety concerns and establish a positive safety culture." This letter, drafted in concert with railroad labor under the new SACP partnership program, stated that intimidation, discrimination, or harassment by any UP employee shall not be tolerated. The letter further recommitted UP to the empowerment process by stating, "No employee shall be required to perform any unsafe act…" and "No employee shall be disciplined, discriminated against, or harassed as a result of their decision to empower themselves regarding safety issues that directly compromise personal safety."

Recommendation to Address Perceptions of Harassment and Intimidation

FRA directed that UP develop a Safety Action Plan that contains concrete measures to institutionalize a corporate-wide commitment to foster a safety culture that is free from harassment and intimidation.

Control of Alcohol and Drug Use

The elimination of drugs and/or alcohol by covered service employees is of the utmost importance in maintaining a railroad's safety. The success or failure of a carrier to implement 49 CFR Part 219, Control of Alcohol and Drug Use, is critical to maintaining safe railroad operations. FRA conducted a review of UP's Drug and Alcohol (D&A) program from October 20-24, 1997. Generally, FRA found that the program itself was in compliance with Federal regulations. However, FRA identified several significant issues with respect to program implementation.

Recommendations to Improve UP's D&A Program

FRA directed UP to develop a Safety Action Plan to address the following recommendations:

- UP should make its Post-Accident D&A testing program a priority, update training and guidance documents, and then periodically audit its program for effectiveness;

- UP should audit its Pre-Employment D&A testing program to ensure that all management employees who perform "covered" service have been tested, and that the test results are documented;

- UP's Random D&A testing program must be corrected to remove any appearance of bias and to ensure random testing is occurring in an unpredictable manner throughout the duty period;

- UP's MRO assigned to mandatory post-accident cases must perform verification of positive results in a timely fashion;

- UP's Substance Abuse Professional (SAP) function must be changed to ensure it is being administered in compliance with Federal regulations; and

- UP must improve its system (self auditing recommended) to ensure its collection agents are knowledgeable and proficient in the collection procedures required by 49 CFR Part 40/219.

UNION PACIFIC RESPONSE

TO

FRA REPORT OF FINDINGS AND RECOMMENDATIONS

February 24, 1998

For the past several years, Union Pacific has shown significant improvement in core safety indicators: employee injuries, derailments, and grade crossing accidents. These improvements were the result of a great deal of hard work and commitment by our employees and an overall safety process that has been refined over many years. Even though this positive trend continued into 1997, it was marred by a series of serious accidents that resulted in eleven employee fatalities. These unfortunate accidents, and the subsequent assessment and recommendations by the FRA, caused us to take a hard look at our safety process and how we might improve it. The following summarizes some of the changes that we have made to improve safety on Union Pacific Railroad.

Safety Assurance and Compliance Program (SACP): In cooperation with the FRA and labor, we have implemented SACP which has brought together the key stakeholders (labor, management, FRA) in Union Pacific's safety improvement efforts. SACP is well defined and hard at work addressing many safety-related issues. This process is providing important input into our safety strategy and offering ideas to turn strategy into tangible actions.

Culture: Union Pacific believes that a healthy culture is a cornerstone for a safe operation. Consequently, we are currently involved in several initiatives which we believe will reinforce a safety-centered culture. These initiatives include significant revisions to our discipline policy, an open communication channel to voice safety concerns from the front-line supervisor to the President, and a cultural audit of our employee workforce. In addition to these specific initiatives, Union Pacific's support of the SACP process is a shift from past practices. By including employee representatives in defining strategic direction, we have strengthened employee involvement in safety at every level of our organization.

Fatigue: The addition of a full time Director of Alertness is an indication of the priority Union Pacific places on addressing fatigue issues within our company. Additionally, we have contracted with Alertness Solutions, a highly respected and credentialed consulting firm specializing in fatigue management. Alertness Solutions, together with our SACP fatigue working team, has developed a comprehensive plan to address fatigue. This plan incorporates employee education and training, work scheduling, work-rest cycles, work practices, and lodging. The plan also takes into consideration unique fatigue countermeasures based upon distinct operational variables across the system. We believe that this plan, the first comprehensive plan in the railroad industry, will help us to address a very complex, industry-wide issue, using the best empirical data available.

Quality of Life: Union Pacific is addressing quality of life issues to help employees balance their work and personal lives. A significant issue in this regard is the timely relief of train crews. Through a SACP-sponsored Crew Utilization pilot, we have addressed several key variables which impact the timely relief of train crews. Because this pilot significantly improved crew relief, we have targeted its implementation on a system-wide basis by the end of April. Another concurrent SACP effort that is addressing a major quality of life issue is our initiative to improve train lineups. We are implementing a number of initiatives which are designed to improve train

lineup accuracy, thus providing employees with enhanced predictability in their work scheduling.
Hiring: Perhaps the best indicator of a company's commitment to a goal is reflected in the resources it is willing to invest to achieve that goal. Union Pacific hired 3,800 employees in 1997 and is projecting to hire between 4,300 and 4,800 in 1998. These unprecedented hiring figures are two to three times the rate of hiring which occurred during the previous four years. But, more important than the numbers themselves, is the planning process that has been implemented to maintain a workforce level that is conducive to a safe and a productive operation.

Communication and Awareness: Union Pacific is committed to being a leader in employee communications within the transportation industry. By continuing our pledge to utilize every available means to communicate with, receive feedback from, and educate our workforce, Union Pacific will ensure that the critical message of safety is kept in the forefront of everything we do. We use immediate, intermediate and long range media to deliver consistent safety messages including a system-wide video text monitor system (ITV), a daily computer newsletter, a satellite business television network, and a network of local newsletters.

Results: Compared to 1996, Union Pacific's 1997 reportable injury rate was reduced by 23 percent and the lost work day case rate declined by 26 percent. Similarly, derailment frequency dropped by 21 percent. Union Pacific is confident that this trend will not only continue, but improve as we implement further safety enhancement measures.

Why is Union Pacific confident that it won't experience another series of accidents like those that occurred in 1997? - Union Pacific is committed to doing everything possible to have the safest workplace and the safest workforce in the industry. That commitment, along with a fundamentally sound safety process, has helped us achieve safety improvements for the past several years. However, we have learned some valuable lessons from the unfortunate accidents that we experienced in 1997. The major lesson that we learned was that regardless of how good a safety process is in concept, or regardless of past successes, every process can be improved, whether it's through better technique or better deployment. Through our safety assessment, we have taken this lesson to heart. As summarized above, and more fully described in our response to FRA, we are developing improved approaches that will make our safety process stronger.

Recommendations to Change Corporate Culture

FRA Recommendation

Promote railroad safety teams that include employee representatives and invite employee representatives to participate as equal partners at all levels of the safety process. (FRA recognizes that for this relationship to be successful, it is imperative that each labor organization fully supports the partnership approach by effectively coordinating its local, state, and national safety activities).

Union Pacific Response

Union Pacific has an extensive network of employee involvement in Safety. Local employee involvement activities have now been augmented, through the initiation of the SACP process, which involves labor representatives at a strategic level. Consequently, Union Pacific employee involvement in safety is represented at every level of the organization. Following is a summary of our action plan for employee involvement:

SACP Oversight group meets regularly to review progress on SACP safety initiatives, provide direction to initiative teams, and discuss issues relating to safety. These issues include crew management, train lineups, crew relief, dispatcher training and workloads, fatigue, culture and discipline, and inspection and testing procedures **(Attachment 1)**.

More than a dozen SACP initiative teams have been formed to address key systemic safety and cultural concerns. These teams have identified and prioritized their issues and are progressing toward resolution.

Local safety committees will continue to address local safety and health issues, participate in safety audits and training, and assist in communicating safety awareness information.

Through monthly business television(BTV) broadcasts to 110 satellite downlink sites, we will continue to provide education and direction to over 550 Safety Captains, representing all crafts across Union Pacific.

Through our 33 local safety hotlines, the Presidents Safety Hotline, and our Values Line, we ensure employees have ample opportunity to raise safety-related issues and provide input into the safety process. Every issue is addressed and a follow up contact is made with the employee to discuss corrective actions taken or planned. Those issues which can not be addressed locally or are systemic in nature are escalated to the appropriate individuals.

A Safety Leadership Conference for labor and management employees is held annually to recognize personal and group safety performance, share successful safety and health practices, and to outline safety strategy and focus for upcoming year.

We conduct local labor/management meetings, weekly safety 'stand-downs', and daily safety contacts with employees. These provide employees at all levels the ability to participate in the safety process.

FRA Recommendation

Union Pacific's commitment to safety must emanate from the top of the organization, be very visible and follow well-defined lines of authority to ensure that senior level safety policies are properly implemented in the field.

Union Pacific Response

Union Pacific employs a variety of mechanisms to ensure understanding and deployment of company safety policies and to reinforce the company's commitment to safety.

Our Safety processes have been refined and improved over many decades of experience, and through benchmarking and the use of expert consultants. These processes (Injury Prevention, Derailment Prevention, Grade Crossing Collision Prevention) have been documented and communicated at all levels of the organization **(Attachments 2-5)**.

We hold weekly and monthly performance review meetings at all levels of the organization. Safety results and safety-related policies and initiatives are discussed as a standard agenda item. To ensure safety policies are implemented, senior Operating Department managers regularly conduct work unit Safety, Health, Environment and Operating Practices (SHEOP) safety reviews. Included in the reviews are labor and manager interviews, facility inspections, and an assessment of the effectiveness and deployment of system safety policies and local safety initiatives **(Attachment 6)**.

All departments and work units complete annual safety action plans. These plans incorporate company-wide safety requirements along with specific activities to address local safety needs. The effectiveness of the plans and the implementation of system safety policies are primarily assessed through the SHEOP Process. In addition, weekly system and service unit safety calls serve as both a communication vehicle and a process check to monitor deployment of system policies.

Safety responsibilities and required activities are part of each manager's annual job agreement.

Safety policies and initiatives are communicated through a safety overlapping process described in Attachment 6. This process ensures that policies are directly communicated between management levels. Additionally, we use departmental and company wide communication tools to communicate on a daily, weekly, and monthly basis, safety related information and performance.

Senior management sponsors and participates in the annual Safety Leadership Conference, quarterly BTV employee business updates, and the communication of best practices.

A personal letter was sent to all employees, on September 23, 1997, from Jerry Davis, Union Pacific's President. In the letter, Mr. Davis gave his assurance that employees would not be disciplined or otherwise singled out for empowering themselves regarding safety issues **(Attachment 7)**. This letter was reinforced through BTV broadcasts and Informational Television.

FRA Recommendation

Redefine safety training procedures to promote an open and trusting environment where employees are encouraged to ask questions and seek assistance.

Union Pacific Response

Safety and rules training is conducted by both management and labor representatives. This collaborative approach encourages peer interaction and questions.

Approximately 130 full to part time peer trainers, consisting of engineers and brakemen, provide system wide training in electronic tie up, Hours of Service reporting, switchmen training, and computer entry (TCS, CMS, ATCS).

OSHA-mandated training is conducted by peer trainers.

Switchman/Brakeman training and Safety Certification use management/labor teams.

Survey forms following training sessions provide trainers with personal feedback.

Comprehensive training plan for each department based on safety, operational, and regulatory needs. This plan consists of classroom and field training. Training provided varies by department, with multiple options and opportunities.

All training is documented and training effectiveness is assessed through multiple mechanisms including written responses from employees, manager observations, efficiency tests, and post-training discussions with employees.

Training deployment is monitored through several mechanisms including: SHEOP field audits of conducted by senior managers, Engineer Quality Management System (EQMS) used to track ongoing locomotive engineer activities, Train, engine, and yardmen (TE&Y) training database, and weekly safety calls.

Employee discussion and participation is built into both 'A' and 'B' segments **(see Attachment 14)** of our TE&Y training. Segment 'B', dealing with communication in the locomotive cab, is designed to be interactive to ensure that this critical information is discussed and practiced during the training exercise.

Recommendations to Address Train Crew Shortage

FRA Recommendation

Projections of future hiring needs to accommodate employee attrition and increases required because of a growth in business.

Union Pacific Response

Union Pacific has a developed a detailed process **(Attachment 8)** for determining future hiring needs and dynamically updating hiring projections as needed. This revised process has been shared with the SACP Oversight group. In addition, the number of new employees hired and anticipated new hires are reviewed with the Oversight group on a regular basis.

For 1998, this plan calls for hiring 1,200 to 1,500 trainmen. This projection is in addition to the nearly 800 train and enginemen hired in 1997.

As part of Union Pacific's key management focus for 1998, we established a Workforce Planning Team charged with improving all aspects of workforce management including planning, hiring, training and utilization.

An important new element in the planning process is sharing our hiring plans with employees and using their input as a 'reality check' to ensure accuracy and reasonableness of the process and hiring plans.

FRA Recommendation

A schedule for filling vacancies that currently exist or are anticipated in the near future.

Union Pacific Response

Approximately 1,250 TE&Y employees are expected to be hired by March 1, 1998 **(Attachment 9)**. We are also hiring additional crew callers and dispatchers.

We are revising our employment sourcing process to include employee referrals. We are targeting 50 percent of our agreement applicants to be selected from employee referrals.

Recommendations to Improve Crew Utilization and Combat Fatigue

FRA Recommendation

Identify appropriate staffing levels for the Union Pacific Crew Management Services Facilities and develop a schedule to ensure sufficient staffing levels are met and maintained.

Union Pacific Response

Recent augmentation to our Crew Management workforce will provide an immediate level of staffing to effectively plan and manage train crews. In addition, by forecasting our manpower needs out approximately 12 months, we plan to stay ahead of the attrition curve and maintain a constant surplus of crew management employees. This is a major improvement to our previous personnel maintenance process which often resulted in deficit staffing.

Since October 1997, we have hired 80 crew dispatchers. We intend to hire 20 to 30 additional crew dispatchers by March 15, 1998.

We intend to maintain a constant surplus of approximately ten (10) crew management employees to deal with attrition. This is approximately three percent above actual required need for 330 crew callers. We expect to reach this surplus level by June 1, 1998.

We employ a crew caller 'reserve board' to fill vacancies. Employees on the reserve board are assigned regular days off and regular shifts. We believe this feature is a unique practice within the industry.

FRA Recommendation

Develop an improved system to provide accurate train lineup information so that train crews can be given accurate information about job assignments sufficiently in advance to properly plan rest periods.

Union Pacific Response

We are taking some immediate and innovative steps to improve train lineups. We believe that the integrative approach we are taking will enhance the accuracy of train lineups in the short-term and sustain lineup accuracy over the longer term. Accountability for manual updating processes to improve train lineup accuracy is receiving revitalized focus.

Train lineups is one of our key SACP initiatives **(Attachment 10)**.

Union Pacific employs a daily measurement on train lineups to place heightened emphasis on lineup accuracy.

A matrix, which defines field and Harriman Dispatch center responsibilities for updating lineups, has been developed to ensure updating responsibilities are clear. This matrix will be communicated to appropriate managers by March 1, 1998.

We have rescheduled trains by crew district to ensure train schedules are reflective of normal transit times.
Software has been installed to enhance and simplify updating at the Harriman Dispatching and

on-line Command Centers.

Instructions have been issued to address updating trains-held-for-crews, "dead-heading," and service interruptions.

A 24 hour-a-day train lineup desk will be established on the Northern Region, on a pilot basis. This pilot will be implemented by March 15, 1998 and will last 60 to 90 days. The sole purpose of this desk is to keep train lineups updated.

Beginning in the year 2000, we will be implementing CADIII at a cost of approximately 50 million dollars. CADIII will be a state-of-the-art computer assisted dispatching system which will greatly improve train lineups by integrating mainline and terminals, along with various train activities, to automatically update train lineups. Union Pacific train dispatchers are involved in designing in the human interface component with this new system. A time line for system design, construction, testing, and implementation is under development.

FRA Recommendation

Require Union Pacific crew transportation contractors to provide an adequate number of vans and drivers, or arrange alternate transportation, to ensure the safe and timely transit of train crews to and from job assignments.

Union Pacific Response

The service-related problems that Union Pacific experienced in 1997 resulted in unusually high recrew rates. These recrew rates, in turn, contributed to van and driver deficits. Since our service has improved, we have made improvements in significantly reducing the number of recrews **(Attachment 11)** and reduced the drain on vans and drivers. However, we have used this experience to review our process for managing crew transportation contractors. A major contributor to this improvement effort was our SACP Crew Utilization team. This group recently completed a pilot on the Northern Region. The focus of the pilot was relief of train crews and the identification of key variables impacting timely crew relief. A significant variable in this regard was transportation. Key accomplishments of the team included:

Established a crew transportation process and assigned responsibilities for dispatching vans and relieving crews. This included meetings with major transportation suppliers to define Union Pacific's expectations and vendor responsibilities. Additionally, several tactical changes were made to ensure proper implementation at the field level (all drivers required to leave radios on at all times, relocation of vendor van dispatcher to Union Pacific's command center, additional resource in Command Center - Manager of Asset Utilization).

Arranged for back up vans at strategic locations/points (Grand Island, North Platte, Council

Bluffs, and Marysville) where recrew rates are traditionally high.

Reviewed transportation contracts on the pilot region and clarified contractors obligations to provide additional vans when needed. These reviews resulted in specific contractor action plans which included elements such as contractor response time, drive times, number of drivers needed, and required number of vans.

The process developed in the Northern Region pilot is scheduled to be implemented on the Southern Region beginning March 15, 1998, and we anticipate system-wide implementation of the Crew Utilization process by April 30, 1998.

Each contracted transportation company must develop a safety action plan that contains a set of minimum requirements defined by Union Pacific. These plans typically include defensive driver training, driver and van audits, and maximum hours (12) a driver is allowed to work. Drivers are also subject to random drug tests and their driving records are audited annually. We meet with all van contractors once a year to review overall performance and communicate additional expectations. More frequent meetings are held as needed.

FRA Recommendation

Survey away-from-home lodging facilities to ensure they meet sufficient standards to ensure proper rest.

Union Pacific Response

Our current survey process is based on direct employee input, local labor involvement, and physical evaluations. At each lodging location we supply three-part survey cards that employees can complete. One copy goes to the lodging facility, another copy is sent to Crew Management in Omaha, and the third copy is kept by the employee. Each complaint we receive is fully investigated by CMS and/or local management and the findings/corrective actions are reported back to the employee. In addition to this ongoing survey process, we have also physically surveyed all of our away-from-home lodging facilities. As a result of these assessment mechanisms, we have, or are taking actions to:

Close and replace facilities as needed. We are in the process of closing 10 dorm facilities. These facilities will be replaced by commercial and/or new facilities **(Attachment 12)**.

Continue our established practice of providing labor the opportunity to review all planned commercial facilities before agreeing to a lodging contract.

Eliminate the policy requiring double occupancy where accommodations for single occupancy are available.
SACP Fatigue Group and Alertness Solutions are currently working on lodging facility

guidelines which will be included into our lodging selection and maintenance policy.

FRA Recommendation

Provide a means for train crews who experience cumulative fatigue to obtain rest time .

Union Pacific Response

Fatigue Management is being addressed through a very comprehensive process that includes a full-time Director of Alertness, a long-term contract with Alertness Solutions (recognized experts in fatigue management practices), and employee participation through SACP. Consequently, a fatigue management plan **(Attachment 13)** is being developed which employs a balance between railroad, operational experience and the best scientific information available. In addition, a number of counter measures have already been implemented or are in the process of implementation. A summary of the Union Pacific's accomplishments and further plans include:

Director of Alertness - Full time position was established on September 16, 1997, to ensure a comprehensive fatigue management plan is in place, implemented, and managed.

Contract with Alertness Solutions - A four year contract was signed on November 13, 1997, with the preeminent fatigue management experts in the world.

Comprehensive Fatigue Management Plan - A plan that addresses scientific, behavioral, and operational issues and covers all employees.

SACP Fatigue group - Ensures employee input, operational 'know-how', and involvement.

Education and training - Fatigue management training covering system wide fatigue awareness, targeted training for specific crafts, and individual training and counseling. This is scheduled to begin with TE&Y training on March 1, 1998.

Lodging Guidelines - Guidelines that apply scientific criteria for selecting and maintaining lodging facilities to ensure an environment conducive to quality rest. These guidelines have been reviewed by the SACP working group and will be presented to the SACP Oversight Group on February 25, 1998.

Aggressive hiring plan - Union Pacific is addressing train crew shortages through a renovated hiring process and an aggressive hiring schedule. This process considers key variables such as anticipated business growth, attrition, absenteeism, and traffic patterns. These variables and hiring plans will be continuously monitored and updated to ensure a realistic forecast.

Single Occupancy for MofW crafts - Changed lodging guidelines on February 4, 1998 , to address double occupancy concerns. This change guarantees employees single room occupancy.

Napping pilot - Policy is nearly complete and St. Louis Service Unit has been selected to pilot the

policy. The target date for the pilot implementation is March 15, 1998.

A SACP initiative team is currently working on a minimum, undisturbed rest and A.M. markup proposal. Labor representatives on the team are currently recruiting General Chairmen to participate in the pilot(s).

Crew Scheduling - The Fatigue plan recognizes there are many variables that must be considered and that there is no 'one size fits all' approach. Consequently, an important element of the plan is developing countermeasures that are appropriate for the individual operating circumstances. In this regard we have initiated crew scheduling pilots in 1996, one of which has been in place in North Little Rock for over a year. The North Platte to Marysville corridor agreement is being developed and will consider all key elements identified by Alertness Solutions and the SACP fatigue group. Once effective strategies are identified on this pilot, a crew scheduling plan will be developed for system wide implementation.

Crew Management - Train-lineup and crew relief actions have been taken to ensure: train schedules are accurate for crew districts, train line up accountability and responsibility has been clearly defined through an updating responsibility matrix, heightened awareness and focus by management, and lineups include all significant factors (i.e. 'dead-heading'). In addition, a pilot desk has been implemented at Harriman to manage train lineup accuracy and a crew relief pilot has been completed with a targeted system wide roll out date of April 30, 1998.

Existing contracts guaranteeing rest - Through collective bargaining agreements, 100 percent of all engineers have the option for taking a minimum of 8, 10, or 12 hours of undisturbed rest. Approximately 75 percent of all trainmen have similar options under collective bargaining, including, the option of 24 hours undisturbed rest for about 25 percent of UTU members. These agreements are not optional for Union Pacific **(Attachment 13a)**.

Approximately ninety percent of Guaranteed Extra Board engineers have the option of taking off 24 hours each payroll half.

Fourteen & two (14 & 2) guaranteed rest time - Policy was implemented on the Southern Region on November 1, 1997. This arrangement provided employees the opportunity, after working 14 consecutive days, to lay off for two days rest.

In response to FRA's request to provide an alternative to '14 & 2', Union Pacific is providing a '7 & 1' **interim** rest option on March 2, 1998. TE&Y employees, working seven consecutive days will have the option to layoff for one day of rest. This interim CMS policy is completely voluntary and has no affect on collective bargaining agreements. The guidelines of this policy **(Attachment 13b)**, will be applied to the entire Union Pacific system as an **interim** measure, until further implementation of science-based fatigue management initiatives.

We are participating with North American Rail Alertness Partnership (NARAP) and intend to be

a signatory to the NARAP charter.

Recommendations to Improve Dispatching

FRA Recommendation

Union Pacific managers should evaluate the workloads of dispatchers, realigning the workloads of existing dispatcher positions and creating additional dispatcher positions to relieve excessive workloads.

Union Pacific Response

A team representing dispatchers, HDC management, and the FRA has been meeting since October 26, 1997, to evaluate and balance the workload of dispatchers. Studies of every dispatching station have been conducted. These studies included both quantitative analysis and qualitative feedback from dispatchers and corridor managers. This team used data from an FRA time and motion study, communication data from the computerized AVTEC system, CAD information on keystroke frequency, and verbal input from dispatchers, corridor managers, directors, and general superintendents. The team used the data to prioritize the heaviest workload positions, as well as those positions with the lightest workloads. Using this data the team developed a plan to balance workloads by adjusting territories and responsibilities. To date eleven positions have had workload reductions. The team recently added a representative from the UTU. This representative is able to provide a field perspective, as he represents transportation employees who receive instructions from the dispatchers. The Workload Team is continuing to address workload balancing and the process will be ongoing to manage temporary fluctuations in traffic.

All computer generated data used in the workload assessment was cross-checked against verbal input provided directly by the dispatchers. Similarly, as dispatchers identified heavy workload positions, their input was matched against computer generated data. In this way, both sets of information were validated.

We have held informational meetings with all dispatchers and corridor managers to solicit recommendations for improvement.

Workloads have been reduced on 11 dispatcher positions to date.

One additional dispatching position has been added on the Southern Region. This position was created to consolidate and dispatch track warrant control territory.

We have added a position to verify trains into general lineup territory, reducing workload of two additional train dispatching positions.
On February 1, 1998, we implemented a process which allows field employees from any craft

the opportunity to schedule time with their dispatchers, allowing each party to better understand the work of the other.

FRA Recommendation

Union Pacific should move aggressively to fill dispatching vacancies.

Union Pacific Response

In 1997, 46 dispatchers were hired, bringing our total dispatcher count to 407 dispatchers. Plans for 1998 include hiring approximately 65 dispatchers. With an anticipated attrition of approximately 40 dispatcher positions, the net change will result in 25 additional dispatchers. Our goal through 2000 is to have 400 dispatchers with two or more years experience. We are currently at 82 percent of that goal. Our hiring and training plan over the next three years is expected to result in a workforce of 400 dispatchers with two or more years experience.

On February 16, 1998, we completed one class of dispatcher training for 17 dispatchers who are now receiving on-the-job training.

An additional class of 16 apprentice dispatchers is scheduled for March 3, 1998.

We added eight Managers of Train Dispatching (total of 12) to monitor train dispatching activities and rules compliance, provide on-the-job training for dispatchers, and to ensure a scheduling balance among dispatchers. These positions also help the corridor managers identify dispatching training needs.

FRA Recommendation

Union Pacific should provide better training to supervisors and corridor managers, which includes hands-on experience. Union Pacific should ensure, in writing, that all supervisors are trained and qualified regarding territories over which they supervise the movement of trains.

Union Pacific Response

We have developed a two-day course for managers with no previous dispatching experience. One day is devoted to rules and CAD/Digicon functions and a second day consists of hands-on experience with a seasoned dispatcher on the manager's territory. Additionally, the Managers of Train Dispatching previously mentioned are available to all managers to answer questions regarding rules and technical aspects of dispatching. The majority of our corridor managers are experienced train dispatchers.

We are training eight corridor managers with no previous dispatching experience. This training

will be completed by March 15, 1998.

To reinforce compliance with dispatching rules, corridor managers and Managers of Train Dispatching conduct efficiency tests on all dispatchers. Additionally, the Harriman Dispatch enter utilizes an 800 toll-free line to receive input from train crews regarding dispatching issues. Managers of Train Dispatching are available to assist those dispatchers identified as needing additional training/coaching.

All corridor managers meet periodically with operating personnel from the territories they supervise. These meetings provide the corridor managers with specific operating information germane to safe and efficient train management. In addition, corridor managers participate in a conference call three times a day with field managers from their respective territories. These calls ensure that field input is designed into the planning and dispatching of trains.

New dispatcher training was completely revised using input from experienced dispatchers and recent dispatcher "graduates." The training is conducted over 27 weeks and includes additional rules training, a broader orientation to basic railroad, and additional field trips.

FRA Recommendation

Union Pacific should review and upgrade Computer Assisted Dispatching software, as necessary, to improve the efficiency of the dispatching technology.

Union Pacific Response

The review, upgrade and development of the CAD train dispatching system software is an ongoing process. Software/functionality changes are made in response to safety issues, train dispatcher input, FRA input, and operational requirements. Seven managers provide full-time support for CAD enhancement and trouble shooting. In addition, Union Switch & Signal provides programming and software support that amounts to one staff-year of dedicated CAD enhancement. In 1997, some of the modifications made to the CAD System included:

The addition of a highly visible, pop-up window requiring the train dispatcher to acknowledge that a track warrant being created contains a Box 7 ("...not in effect until after arrival of...") or Box 9 ("...do not foul limits ahead of..."). This change reduced the risk that a train dispatcher may issue a track warrant and accidentally omit the restriction associated with the Box 7 or Box 9. Boxes 7 and 9 are no longer used in non-signal territory.

An enhancement which displays the track and time permit number on the train dispatcher's overview screen, associating the track and time permit number with the location of the limits. This change made it easier for the train dispatcher to associate track and time permits with limits and added a level of safety into the track and time release process.
Modifications were made to the general lineup software. These changes focused on increasing

the accuracy of the "draft" general lineup generated by the CAD System. These changes simplified the process of verifying the accuracy of the general lineup by train dispatchers.

A computer-generated track warrant summary is targeted to go on line March 15, 1998. This change will serve as a check and balance by having the system generate the total number of included items and duplicate the numbers of those items included, replacing the manual track warrant summary which has been in use since August, 1997.

In addition, during 1997, 23 extended contracts were written to Union Switch and Signal (US&S) for enhancements to the US&S CAD System. This resulted in over 2000 programming hours. Five additional CAD enhancement contracts have been submitted to US&S so far in 1998.

A state-of-the-art train dispatch system (CADIII) is scheduled for implementation beginning in 2000. This system will replace our existing dispatching system.

Recommendations to Improve the Level and Degree of Supervision

FRA Recommendation

Within the next 12 months, each Union Pacific employee whose job is governed by the operating rules should attend a mandatory operating rules class; in addition, Union Pacific managers should provide more frequent safety briefings.

Union Pacific Response

We have recently implemented a new program for our TE&Y employees which covers the critical training elements for maintaining a technically competent and safe work force. This program divides the work force into two groups. In the first year, Group "A" will be provided a full day of rules training and will take an exam. Group "B" will take a full day of training on safety related subjects including fatigue management, communication and rules updates. The following year, the training will be reversed. This program will begin in 1998. This combination of rules training and supplemental safety training will maintain a work force that is well rounded in operating and safety rules and in safe work practices **(Attachment 14)**.

A process for team efficiency testing has been implemented on each Service Unit. Team testing brings together cross-functional managers to jointly observe and test crews on rules compliance and operating proficiency. It also serves as an educational process for our managers to improve efficiency testing skills.

A program of safety "stand downs" during which operations are stopped and specific safety topics are discussed with available, on-duty employees. Stand downs are scheduled at 2-week intervals over the entire system and include all crafts.
Safety contacts with crews, along with safety meetings and efficiency testing, are part of each service unit's safety action plan.

FRA Recommendation

All employees whose jobs require operation of moving equipment should receive necessary training for each piece of equipment they are expected to use; this training should be verified in writing.

Union Pacific Response

Union Pacific training for moving equipment involves a variety of training formats. These include simulators, interactive CD ROM, video tapes, pocket guides, and direct hands-on training under the guidance of an instructor. We have 160 Managers of Operating Practices(MOP) and eight Managers of Operating Technology (MOT) who are responsible for training employees on new equipment and/or technology. The MOP's and MOT's train transportation employees as new equipment and technology is introduced and on an ongoing basis. The eight MOTs are full time positions devoted completely to training transportation employees on new and advanced technology and equipment. At this time, the MOTs are working with the MOPs to qualify locomotive engineers on distributed power. We also use peer trainers for many projects. A peer trainer is utilized to instruct other employees, only after receiving extensive training. These individuals are also utilized to train and coach student engineers.

The type of equipment brought into operation will dictate the method of training. For example, the AC locomotive was a major change in technology. Consequently, a number of training formats were, and are, being employed. These include handouts (operator manuals), video tapes, computer simulation, CD ROM programs, and one-on-one training. Training is planned well in advance of placing the equipment into operation. In fact, the cost of training is included in the budget at the time the equipment is budgeted for purchase.

We are currently using computer simulations to instruct employees on cutting locomotive brakes in and out and conducting proper air tests. We are using computers with CD ROM programs to train employees in the operation of AC locomotives and distributed power.

Employees are notified of the opportunity (and requirement) to train on new equipment through general orders, general notices, track bulletins, or personal communication.

To ensure understanding of new equipment training and the application of the training, we use a variety of assessment tool including efficiency tests, observations, and interviews. All engineer training, including new equipment and technology (i.e., distributed power, electronic air brakes, AC technology, etc.) and train handling skills, is scheduled, conducted, and documented by the local Manager of Operating Practices.

We have invested millions of dollars in seven locomotive simulators, four of which are mobile units designed for field training. These simulators are used for individualized training and

assessment in areas such as distributed power, new brake equipment, and train handling techniques.

Formal training of student engineers is conducted and documented at the training center in Salt Lake City. This facility has a full time, professional training staff of 33 employees. In addition, training professionals are located at some major facilities.

On-the-job evaluations during the training program are documented in the EQMS database, our system for tracking engineer performance.

Employees operating on-track maintenance of way equipment are qualified on all new equipment. We have an extensive training and qualifying process for these employees that includes both classroom and field training and assessment.

FRA Recommendation

Union Pacific should take steps to ensure compliance with the Hours of Service law and Hours of Service record keeping requirements.

Union Pacific Response

Union Pacific is taking steps to ensure compliance with the hours of service law and hours of service record keeping. We recently requested a waiver to pursue electronic hours of duty record keeping with train, engine, and yard crews. The electronic record keeping system has been designed to permit employees a method of accurately recording information that was not captured under our former paper time slip process. The electronic system uses input from the employee and cross checks data between records in Crew Management and payroll. Additionally, employees are able to directly enter comments into the record to indicate unusual situations.

The electronic record also provides a linkage between every activity that a train, engine, and yard crew member performs. This record will link employee service status in a continuous record for both FRA and Union Pacific inspection. The prior method of capturing hours of service records relied primarily on time slips. These records may have been, at times, inaccurate or lacking required information. Additionally the "continuity" of an employee's record was very difficult to capture. Paper records were also subject to problems of mailing, categorizing, and filing. The electronic system will act as a medium for remote access of current records. Software enhancements went online on January 27, 1998, to correct and tighten edits.

We will continue to train local chairmen on hours of service policies. We are targeting all major terminals/hubs to be completed by April 1, 1998.

In March, we will send trainers to three major terminals to provide on-the-job training to TE&Y

employees. In June or July, we will continue this training for the remaining major terminals.

Over the next 12 months, all employees in covered service will be afforded training in the requirements of the Hours of Service Act.

A help line has been established for the purpose of helping employees in understanding the hours of service requirements (including reporting). This "help desk " is operational 24 hours per day, seven days per week, and is attended by trained employees fully qualified to answer questions concerning the hours of service.

Information concerning the application and proper reporting of the hours of service has been mailed to each train and engine employee and is updated through System General Notices.

Management and labor representatives have been provided instructions by FRA.

Current managers, including those in Crew Management and at the Harriman Dispatching Center, will be trained in reporting and record keeping requirements. This effort will be concurrent with training of covered service employees and is targeted to be completed by the end of the third quarter of 1998.

Plans for signal and dispatcher electronic record keeping will be developed in the future.

FRA Recommendation

Union Pacific should ensure compliance with requirements for locomotive engineer certification, including drug and alcohol screening, and compliance with requirements for operational observation and efficiency testing.

Union Pacific Response

We have a formal process for ensuring compliance for locomotive engineer certification, drug and alcohol screening, and compliance with operational observation and testing requirements. A summary of this process follows.

All new hires or current employees transferring into covered service positions under the Hours of Service Act are given FRA pre-employment drug screening as required by the regulations. This includes management employees performing covered service.

All hours-of-service employees on Union Pacific are presently subject to random testing at a testing level which is currently set by the Office of the Secretary of Transportation to be 25 percent.

Screening of new engineers: An engineer comes from the trainman ranks and, therefore, receives

initial screening before being considered for employment. Once on the job, the employee is also placed in the random drug-testing pool along with all hours-of-service employees.

When application is made to enter engine service, the candidate is again screened. This screening includes prior work history and discipline, including any drug or alcohol violations **(Attachment 15)**.

Operational observation and efficiency testing: Union Pacific submitted a plan for annual monitoring and testing. This plan is in effect and is routinely monitored.

Union Pacific testing standards are more stringent than those required by regulation **(Attachment 16)**.

To ensure compliance with our plan and appropriate testing, all Transportation Department field managers are required to conduct efficiency tests. In addition, we have specific positions which focus on train operations and operating practices.

We have added four Directors of Train Operations Testing in the field, one at the Harriman Dispatching Center.

Eight additional Managers of Train Operations will be in place by March 31, 1998. These positions are responsible for ensuring that rules compliance is achieved and maintained.

We have 165 Managers of Operating Practices responsible for supervising locomotive engineers. These Managers of Operating Practices are supervised by four Directors of Operating Practices/Compliance. This organizational structure ensures that supervisory, testing, and observation practices are consistent across the system.

The locomotive engineer supervisory process **(Attachment 17)** ensures that all engineers are tested and observed per company standards and that engineers receive appropriate coaching, counseling, and training.

The Managers of Operating Practices use a computer-based system (EQMS) to electronically track and schedule every engineer relative to observations, testing, recertification, and rules exams.

We have approximately 950 field transportation supervisors and a TE&Y work force of approximately 20,500. Six hundred of these supervisors are required to conduct efficiency tests. The average number of required tests per month, per individual, is approximately 30.

FRA Recommendation

Union Pacific should ensure that train crews receive sufficient qualifying runs over unfamiliar territories.

Union Pacific Response

Union Pacific has issued instructions contained in System Special Instruction Item 7-A that apply to qualifying runs. The written summary which follows is intended to augment Item 7-A.

Prior to being qualified on a territory over which an employee has never operated as a locomotive engineer, he or she must make familiarization trips over that territory.

The average number of familiarization trips necessary for qualification is determined by the Director of Train Operating Practices (DTOP) and the Manager of Operating Practices (MOP) responsible for that location. The number of qualifying trips may vary from 1 trip, to 6 months of trips, depending on the ability of the engineer, the territory difficulty and /or whether the engineer was previously qualified over the territory.

On demanding territories such as those with grade, the MOP will ride across the territory with the employee after the employee has made sufficient familiarization trips with a qualified pilot. On less demanding territories, after the employee has made sufficient familiarization trips, the MOP may verbally qualify the employee. This is done only after interviewing the employee and his/her pilots regarding the territory and the engineer's performance over the territory

We are currently in the process of updating our Qualification Policy. A preliminary target date for a recommended policy is July 1, 1998. Items being addressed include:

- Initial qualification (promotion) of locomotive engineers.
- Initial qualification (familiarization) of promoted locomotive engineers on new territories.
- Requalification (refamiliarization) of promoted locomotive engineers over territories on which they were previously qualified
- Familiarization of promoted locomotive engineers on new equipment.
- Pilots

To ensure that our process for qualification runs is being implemented, employees are responsible to notify CMS (Crew Management) and the MOP if they lack qualification over a specific territory. Timetable Item # 7A addresses qualification requirements for engineers. It is the MOP's responsibility to see that his /her engineers are qualified. Additionally, the DTOP maintains a master listing of all territories requiring familiarization and the average number of trips for each. **Note:** it may be established that certain non-mainline trackage (i.e. yards, industry track) is of such a generic nature that familiarity with similar or more challenging territories may be used in lieu of trip(s).

The employee is at the operating controls of the train for the majority of the distance of at least

one trip. The train consist is consistent with a type of train which regularly operates over that territory.

The employee is accompanied by a locomotive engineer qualified on the physical characteristics of the territory.

Recommendations To Improve Mechanical Inspections/Maintenance

FRA Recommendation

Union Pacific must develop a quality control program to monitor testing, inspection and maintenance of freight equipment.

Union Pacific Response

Union Pacific has a systematic process for monitoring testing, inspection, and maintenance of all freight equipment. This process is based on the fundamental quality principles of Plan, Do, Check, and Adjust. Elements of this process **(Attachment 18)** include:

Monitoring of inspection quality is a routine part of our daily business and is carried out using multiple audit procedures. These include SHEOP's, Union Pacific regional FRA audits, daily observations by field managers, Derailment Awareness Training Seminar (DATS) follow-up audits, daily failure reviews, use of contract auditors for quality and process compliance, vendor audits, and employee quality teams.

SACP Testing and Inspection Teams have been formed to evaluate locomotive and car inspection and testing procedures. These teams are comprised of management, labor, and FRA personnel and include representatives across all levels of each organization. For example, while the sponsoring team is comprised of general management, FRA, and labor officials, field teams are comprised of local managers, local FRA representatives, and local chairmen. Inspection and testing teams travel to various field locations and assess the effectiveness and deployment of maintenance and inspecting processes. To date, these teams have made changes to car and locomotive inspection processes and are assessing training needs and workforce requirements.

A good example of collaboration at work is the process created to improve switch engine defects in North Platte, Nebraska.. On August 27, 1997, the FRA met with local and Omaha management concerning the condition of the switch engines in use at North Platte. The result of this meeting was the establishment of a joint labor/management team to address the issue. This team was comprised of transportation and locomotive management, a machinist, and an engineer. This team met monthly, working with data gathered on defects, and developed solutions addressing the problem at hand. The process worked. While the process is ongoing, the condition of the switch engines has improved. Currently, North Platte is working on a modification of this process which will affect all engines coming off the service tracks. Based on

input from employees actually working on the service track, a proposal is being made to restructure the entire service track operation, from the establishment of a pre-inspection process to delivery of materials. This proposal, based upon the enthusiastic participation of employees, is designed to produce a properly and efficiently serviced locomotive, as well as provide a measurable system of final product audits.

Monitoring activities focus on FRA regulations, historical defects (company and industry), Union Pacific maintenance specifications, quality standards contained in ISO9002 and AAR M1003, and technological advancements.

Implementation of "cardinal quality rules" which place special emphasis on critical inspection and maintenance practices.

FRA Recommendation

Union Pacific should develop a structured training program which would help employees achieve the necessary level of competence to properly perform mechanical inspections and maintenance.

Union Pacific Response

Union Pacific has a structured program to ensure employees conduct competent inspections and maintenance. The Mechanical Department has a very comprehensive process for planning, conducting, and assessing training. The four principle drivers for training center around FRA regulations, AAR rules, Company and departmental policies, and new technology. Every training program is based on Instructional Design Methodology which involves data collection, employee and field management input, and critical task assessment. A network of union training coordinators is a key link in our mechanical training process. These individuals provide input on training needs, help assess the effectiveness of the training, assist in the identification of critical tasks, and help in scheduling training at their respective locations for the entire year. All training plans include both system requirements and local training needs. Training is recorded in a computer database. We are currently in the process of developing specific training programs based upon proficiency levels of the individual employee. While we have a comprehensive entry level training program, we are building like programs based on levels of skill and experience ('proficient' and 'master' levels). Basic training program elements include:

Establishment of an annual training plan based on inspections, inspection monitoring results, failure analysis, AAR guidelines, FRA regulations, technological advancements, manager observations, employee input, and training feedback surveys.

Provision for providing quarterly training in derailment prevention for all Car Department

employees. This program provides an update on derailments caused by mechanical problems, identifies specific inspection and testing requirements and skills to address them, and allows employees to provide input and ask questions.

Availability of a variety of training formats, including formal classroom training, field training, use of mobile training equipment, video tapes, computerized maintenance instructions, Derailment Awareness Training Seminars **(Attachment 19)**, daily work group meetings, and Business Television (BTV) long distance, interactive training.

A network of training coordinators and trainers across the system. These individuals assist in developing system training plans, conduct training, and assess local training needs.

Routine communication of technical bulletins which highlight procedure changes and alert employees to potential mechanical problems and/ or rule changes.

Training - Over 15 percent of carmen hours is devoted to training. This includes both technical and safety training.

The SACP Inspection and Testing teams are assessing training needs in conjunction with their field assessments.

Recommendations to Address Perceptions of Harassment & Intimidation

FRA Recommendation

Union Pacific should develop a Safety Action Plan that contains concrete measures to institutionalize a corporate-wide commitment to foster a safety culture free from harassment and intimidation.

Union Pacific Response

Union Pacific recognizes that a genuine culture of 'safety first' begins with the individual. Consequently, to support and reinforce individual safety responsibility and a culture free from harassment and intimidation we have taken the following steps:

Mailed Jerry Davis' 'safety empowerment' letter to every employee.

Mailed out 21,000 video tapes with a safety message from Jerry Davis and Administrator Molitoris.

Mailed the Accident, Incident, Injury, & Illness Reporting Policy to all employees **(Attachment 20)**.

Set up the President's Safety Hotline.

Established a full-time Ombudsman position to address any employee concern.

Retained a full-time contractor to manage a Values Line. This line allows any employee to anonymously report any experience or concern that is counter to our company's values. Every call is responded to and the employee is given feedback, if requested.

Addressing cultural issues through a SACP working group. This team has already made substantive changes to the discipline process and is currently considering additional changes. An example of the magnitude of the changes made by this group is the modification made to our discipline process. The team made the following very significant changes dealing with issues that were on the top of the team's cultural improvement list: eliminated the step up feature calling for the next higher level of discipline for rules infractions that result in a loss work day personal injury; reduced the re-entry level of UPGRADE when a dismissed employee is returned to service by an arbitrator or labor relations; and reduced the length of time a discipline level is carried on an employee's record for disciplinary purposes. These changes have been implemented system wide.

As part of the implementation process, we held a 'live' television broadcast to explain the changes. This system-wide broadcast was co-hosted by management and labor representatives. The response to these changes has been very positive from two standpoints -- first, the changes were needed and appreciated, and second, how quickly SACP produced tangible results.

Union Pacific is currently in the process of conducting a cultural audit using a preeminent consultant specializing in organizational improvement.

We have numerous employee teams that have been formed to improve working conditions and work practices. Teams can be found throughout the system. An outstanding example of employee involvement is the Desoto Car Shop. This shop is literally completely managed by self-directed employee teams. While this is a unique example, we have many other examples throughout the system where employees are involved in improving the way we do business.

Recommendations to Improve Union Pacific's D&A Program

FRA Recommendation:

Union Pacific should make its Post-Accident D&A testing program a priority, update training and guidance documents, then periodically audit its program for effectiveness.

Union Pacific Response

Union Pacific has recognized this concern and has developed, in concert with FRA, an enhanced instruction guide for FRA mandatory post-accident toxicological testing. This guide has been issued to all field managers with instructions to follow the defined process. At FRA's request, Union Pacific has also included those instructions in its electronic reporting system for all "for cause" testing situations.

Union Pacific has already implemented a training program for headquarters and field operating supervisors to ensure appropriate and timely mandatory post-accident testing, reasonable suspicion testing and supervisory awareness of drug and alcohol abuse recognition. Union Pacific will also continuously evaluate the knowledge and performance of its supervisors in these areas to ensure proper compliance with Federal requirements.

Union Pacific will work closely with FRA to continuously monitor the implementation of and adjustments, as needed, to the alcohol and drug training program and instruction materials in an expeditious manner.

Union Pacific is fully committed to ensuring that its Post-Accident D&A program is a priority throughout its entire system.

FRA Recommendation:

Union Pacific should audit its Pre-Employment D&A testing program to ensure all "covered" employees have been tested, and test results are documented.

Union Pacific Response

Union Pacific has been using managers to supplement train crews in some of its more congested territories. Union Pacific has developed a plan to ensure that all agreement and non-agreement employees throughout its system who have not been previously tested under FRA guidelines and authority, will be administered a pre-employment/transfer drug test before performing hours of service duties. All management personnel who will be performing covered service will participate in all required testing elements and will have to be cleared for compliance by Union Pacific's Manager Drug & Alcohol Testing.

FRA Recommendation:

The Union Pacific Random D&A testing program must be corrected to remove any appearance of bias and ensure random testing is occurring in an unpredictable manner throughout the duty period.

Union Pacific Response

Currently, Union Pacific is conducting about eighty percent of its train service testing at tie up points. Dispatchers, Signal Maintainers and other employees subject to the Hours of Service Act are being tested throughout the day on which they were selected for testing; however, Union Pacific recognizes that not enough tests, especially alcohol, are being accomplished when crews are coming on duty. Consequently, UP is revising its random testing plan to result in tests being administered more frequently at the beginning as well as the middle of the work event.

Union Pacific will endeavor to maximize, to the highest extent possible, the correlation between the random selection process and the collection process. Union Pacific will ensure that its final action plan includes all of the described elements contained in FRA's random program criteria for audit. Union Pacific will submit its proposed revision to its alcohol and drug program to FRA by July 1, 1998.

FRA Recommendation:

The Union Pacific MRO assigned to mandatory post-accident cases must perform verification of positive results in a timely fashion

Dr. Tim McCormick is the MRO for any positive mandatory post-accident test results. The FRA lab, Northwest Technology, provides Union Pacific with the test results and the custody and control forms. If Dr. McCormick is not available within a 24 hour period, Union Pacific Health Services will send the test results and custody and control form to Dr. Gerson, Union Pacific's contracted MRO from University Services. Dr. Gerson will be considered as the acting MRO in the absence of Dr. McCormick, and will initiate the review process.

FRA Recommendation:

The Union Pacific Substance Abuse Professional (SAP) function must be changed to ensure it is being administered in compliance with Federal regulations.

Union Pacific Response

In response to FRA recommendations, Union Pacific implemented the following actions on January 9, 1998:

a) A list of SAPs available to serve the system will be maintained by the National Employee Assistance Help Line (NEAHL). For covered cases (FRA/FHWA cases subject to DOT rules), Employee Assistance will notify NEAHL to refer employees calling to register their case (as required by the letter received from Union Pacific management) to the regional coordinating source in accordance with standing practice. NEAHL personnel will inform the resource that the employee must be evaluated by the closest, approved SAP. The SAP performing the evaluation shall become the SAP of record and will perform all required SAP functions, as directed in the DOT Office of the Secretary (OST) guidelines. Employee Assistance (EA)

managers will review the actions of the SAP to ensure compliance with OST requirements, and advise the SAP of any discrepancies.

b) OST Guidelines require the SAP to generate two letters to management-one following the initial evaluation and one when recommending return to service. Union Pacific EA managers will function as the company's management representatives and will receive all SAP letters subject to this portion of the rule. The letters will be stored and protected in the EA file.

c) EA managers will monitor the SAP action to assure this requirement is fulfilled.

d) EA managers will request that SAPs include in their second letter (recommendation to return to service) the desired frequency of the follow-up testing and will convey this information to the Union Pacific Drug and Alcohol Program Manager.

e) Periodically, EA managers will review with the SAPs the other requirements contained in the guidelines to assure compliance.

FRA Recommendation:

The Union Pacific must improve its system (self auditing recommended) to ensure their collection agents are knowledgeable and proficient in required Part 40/219 collection procedures.

Union Pacific Response

Union Pacific is fully committed to ensuring that their specimen collection agents are knowledgeable and proficient in all required Part 40/219 specimen collection procedures. Examples of strategies Union Pacific may employ to ensure their specimen collectors are accountable for accurate collections include: requiring collectors to use up to date checklists; and, certifying that individual collectors have been trained or retrained in important collection elements such as sample adulteration attempts, shy bladder, and refusal notifications.

FRA Recommendation:

Union Pacific should assess its Reasonable Suspicion D&A testing program to ensure that supervisors are adequately trained to make a proper Reasonable Suspicion observation and consequent determination for conducting a required Federal test.

Union Pacific Response

Union Pacific is developing a specific action plan for an objective internal assessment of its Reasonable Suspicion testing program for all covered service employees. This plan will include a review of training and handout materials by a Union Pacific committee to ensure that

supervisors understand the importance of this element as a deterrent to drug and alcohol use, how to conduct a proper observation, and that any observed problem behavior by covered employees must result in a Federal test. Union Pacific and FRA will work with rail labor representatives to ensure all covered employees fully understand these requirements. A schedule for supervisor training to reinforce these requirements with all supervisors is being developed as well as a self-audit methodology for the Reasonable Suspicion testing program.

Following is a list of the attachments to the Union Pacific Safety Action Plan.

Attachment 1 - Description of SACP and Accomplishments

Attachment 2 - Overview of Union Pacific Safety Process

Attachment 3 - Injury Prevention Safety Process

Attachment 4 - Derailment Analysis and Prevention Process

Attachment 5 - Grade Crossing Collision Prevention Process

Attachment 6 - Management Visibility and Leadership in Safety

Attachment 7 - Letter to Employees from Jerry Davis

Attachment 8 - Hiring and Forecasting Process

Attachment 9 - CMS Forecasted Training Schedule for new TE&Y Employees

Attachment 10 - SACP Train Lineup Work Group

Attachment 11 - System Recrew Graph

Attachment 12 - Employee Lodging Closures

Attachment 13 - Alertness Management Proposal (includes Attachments 13a and 13b).

Attachment 14 - Training Plan for Transportation Employees

Attachment 15 - Screening Trainmen Seeking Promotion to Engineer

Attachment 16 - Engineer Certification Requirements

Attachment 17 - Supervision of Locomotive Engineers

Attachment 18 - Mechanical Training Process

Attachment 19 - Derailment Prevention Training Bulletin

Attachment 20 - Union Pacific Accident Reporting Policy

Conclusion

FRA believes that Union Pacific's service and safety problems have been inextricably linked, and that both of these issues must be tackled in tandem. An effective solution to the railroad's safety and service problems will require a firm and prolonged commitment from all levels of Union Pacific's management and the cooperation of Union Pacific's employees and their labor organizations. It is evident that seeds of commitment and cooperation have been sewn to propagate a culture of safety partnership on Union Pacific. It will be incumbent upon the parties to follow through with these commitments and to dedicate the necessary resources to implement the changes that are necessary to maintain safe and efficient rail service. It is FRA's role to continue to exercise strong leadership and direction over the safety partnership process. FRA also will continue to monitor the progress of the safety partnership process and will not hesitate to employ whatever means are necessary to ensure the safety of Union Pacific's rail operations.