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Safety Study - Alcohol/Drug
Use and It's Impact on Railroad Safety

(U.S.) National Transportation Safety Board
Washington, DC

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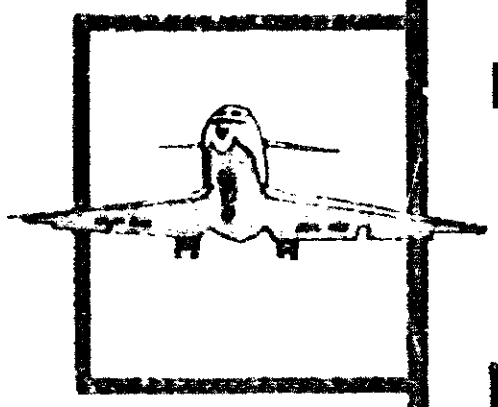

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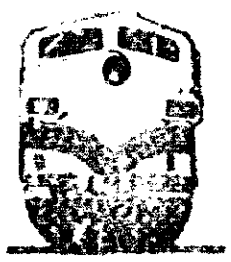

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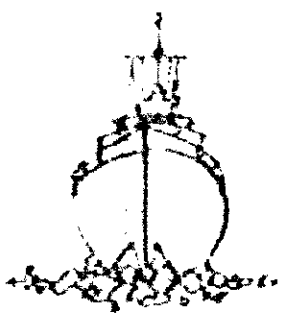
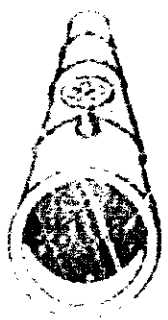


SAFETY STUDY

ALCOHOL/DRUG USE AND IT'S IMPACT ON RAILROAD SAFETY



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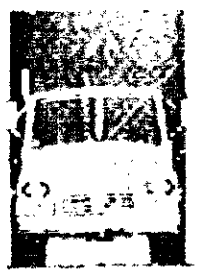

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16. Abstract

In 1987, the National Transportation Safety Board undertook a safety study to review the first full year of implementation of the current Federal Railroad Administration's alcohol and drug rul. Also, the Safety Board wanted to examine what actions beyond those required by the rule could be undertaken by the railroads and the Federal government to reduce high losses from accidents involving railroad employees in safety-sensitive positions who continue to use alcohol and/or drugs on the job.

In 1987 and 1988, attention has been focused on accidents/incidents in which the use of alcohol and/or drugs by railroad employees has led to fatalities and serious injuries. The Safety Board's study reviewed the results of its accident investigation activities over the past 16 years (1972-87), all safety recommendations related to those accidents, and the responses of the organizations (public and private) to the Board's recommendations. Additionally, the Safety Board visited 10 railroads and interviewed more than 120 people directly involved in the railroad industry.

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EXECUTIVE SUMMARY

In 1987, the National Transportation Safety Board undertook a safety study to review the first full year of implementation of the current Federal Railroad Administration's alcohol and drug rule. Also, the Safety Board wanted to examine what actions beyond those required by the rule could be undertaken by the railroads and the Federal government to reduce high losses from accidents involving railroad employees in safety-sensitive positions who continue to use alcohol and/or drugs on the job.

In 1987 and 1988, attention has been focused on accidents/incidents in which the use of alcohol and/or drugs by railroad employees has led to fatalities and serious injuries. The Safety Board's study reviewed the results of its accident investigation activities over the past 16 years (1972-87), all safety recommendations related to those accidents, and the responses of the organizations (public and private) to the Board's recommendations. Additionally, the Safety Board visited 10 railroads and interviewed more than 120 people directly involved in the railroad industry.

The safety issues discussed in this report are:

- railroad supervisory controls to address alcohol/drug use;
- railroad supervisory and employee training concerns;
- current drug testing procedures and sample collection delays;
- work/rest scheduling concerns;
- railroad employee testing provisions;
- requirements for mandatory testing for reasonable cause;
- programs to identify and help troubled employees;
- random testing;
- requirements for a medical certificate for railroad employees; and
- Federal oversight of the alcohol and drug issue on rail rapid transit systems.

Recommendations were issued to the Federal Railroad Administration, the railroads, the Association of American Railroads, rail labor unions, and the Urban Mass Transportation Administration.

Recommendations focused on the following safety concerns:

- the need to expand postaccident toxicological tests to all employees in safety-sensitive positions;
- the need to adopt mandatory reasonable cause testing programs;
- the need to reduce the dollar reporting threshold that triggers mandatory postaccident testing;

- the need to require alcohol and drug screens for medical examinations of employees in safety-sensitive positions;
- the need to require alcohol breath testing immediately after accidents;
- the need to require a Federal medical certificate for all railroads employees in safety-sensitive positions;
- the need to require railroads to develop programs to monitor relevant behavior and performance;
- the need to require annual drug and alcohol detection training for all employees who act in the capacity of a supervisor;
- the need to encourage more union participation in railroads programs to identify troubled employees;
- the need to require medical examinations including alcohol and drug screening for rail rapid transit employees in safety-sensitive positions; and
- the need to implement a Federal rule to control alcohol and drug use for rail rapid transit operations.

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

SAFETY STUDY

ALCOHOL/DRUG USE AND ITS IMPACT ON RAILROAD SAFETY

INTRODUCTION

The National Transportation Safety Board has had a longstanding commitment to reduce losses from accidents involving railroad employees in safety-sensitive positions who use alcohol and/or drugs. The Safety Board has completed a number of investigations of major catastrophic accidents involving the use of alcohol and/or drugs that resulted in fatalities, serious injuries, evacuations of the public, or the release of hazardous materials, and these type of accidents continue to occur. On March 21, 1988, two Chicago and Northwestern Railroad trains collided head-on in Dixon, Illinois. The accident resulted in one serious and two minor injuries. Toxicological tests taken of the dispatcher and both train crews revealed that the dispatcher had a blood alcohol concentration (BAC) of 0.15 percent (0.10 percent is considered legally intoxicated under every State's traffic laws); two crewmembers tested positive for marijuana.

Even more recently, on April 6, 1988, a Metro-North commuter train stopped near Mt. Vernon, New York, was struck in the rear by another commuter train. 1/ The striking train's engineer was killed; two crewmembers on the struck train were injured. Toxicological tests showed that:

- the striking train's engineer tested positive for marijuana;
- the dispatcher tested positive for opiates (morphine and codeine);
- the block operator tested positive for butalbital (barbiturate);
- the assistant block operator tested positive for butalbital; and
- the leverman tested positive for marijuana

The 1987 rear-end collision of Amtrak passenger train 94 (the Colonial) and Consolidated Rail Corporation (Conrail) freight train ENS-121 on the Northeast Corridor illustrates some of the issues examined in this study: the use of illegal drugs by operating train crewmembers in disregard of public safety, inadequate supervision of railroad employees required to submit to toxicological testing, and poor supervisory oversight and management of railroad employees.

1/ Both the Dixon, Illinois, and the Metro-North accidents are still under investigation by the Safety Board.

At 1:16 p.m on January 4, 1987, northbound Conrail train ENS-121 departed Bay View yard at Baltimore, Maryland, on track 1. 2/ The train consisted of three locomotive units, all under power and manned by an engineer and a brakeman. At nearly the same time, northbound Amtrak passenger train 94 departed Pennsylvania Station in Baltimore; it consisted of two locomotive units, nine coaches, and three food service cars. On board were about 660 passengers, in addition to the 12 railroad employees (engineer, conductor, 3 assistant conductors, and 7 Amtrak service employees).

About the same time, the Edgewood block station operator requested that switch 12 at Gunpow, a remote-controlled interlocking, be lined for straight through movement for train traffic on track 2 on which Amtrak train 94 was operating. About 1:30 p.m., the Conrail train entered track 2 through switch 12, disregarding restrictive signals. The Amtrak train went into emergency braking. However, the train was traveling between 120 and 125 mph and could not be stopped before colliding with Conrail train ENS-121. The engineer and 15 passengers aboard train 94 were fatally injured and 174 train occupants received minor to serious injuries. Damage was estimated at $16,561,000. (See figure 1.)

The Safety Board's postaccident investigation revealed several manifestations of degraded performance by the train crew of ENS-121 before the trains collided; their failure to make predeparture tests, their possibly mistaking the deadman cut-out for the automatic cab signal cut-out, the engineer's delayed throttle responses, and their failure to respond to restrictive signals. Toxicological analyses of the blood and urine specimens obtained from the Conrail engineer and brakeman indicated the presence of marijuana metabolites in sufficiently high levels to show that they were heavy users of marijuana and that they may have used marijuana within 24 hours before the time they provided the specimen. In addition, the brakeman's specimens indicated the presence of phencyclodine (PCP). Further, both men had been drinking the night before, and some residual alcohol effect may have been present. Both crewmembers on train ENS-121 eventually acknowledged use of marijuana while on duty.

Additionally, the investigation uncovered the decision of an Amtrak official to not require the surviving crewmembers of train 94 and the dispatcher to provide specimens for toxicological testing, contrary to Amtrak's rules and the Federal Railroad Administration's (FRA) regulations. Further, Amtrak officials at the accident who were responsible for ensuring that Conrail crewmembers submitted specimens for toxicological testing "as soon as possible" after an accident, failed to do so. Amtrak had the responsibility for actions of the crewmembers of both trains at the accident location.

The Safety Board concluded that the crewmembers of train ENS-121 were inattentive or distracted from their duties before the accident because they were impaired by the effects of marijuana and possibly the aftereffects of alcohol from the night before the accident. The Board determined that the probable cause of the accident was, in part, the "failure, as the result of impairment [from] marijuana, of the engineer of Conrail train ENS-121 to stop his train in compliance with home signal IN before it fouled track 2 at Gunpow " in front of the onrushing high-speed passenger train.

On February 10, 1986, after a lengthy rulemaking process and several court challenges, the FRA's rule on "Control of Alcohol and Drug Use in Railroad Operations" went into effect (the rule's subpart's were phased in over several months), requiring railroads to implement alcohol and drug testing programs. (See page10, for a detailed explanation of the rule.) During 1987 (the first complete year under the FRA's new rule), the role of alcohol and drug use and its impact on railroad safety began to be more fully revealed. Between 1975 and 1984, data reported by the railroads to

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2/ Railroad Accident Report--*Rear-end Collision of Amtrak Passenger Train 94, the Colonial, and Consolidated Rail Corporation Freight Train ENS-121, on the Northeast Corridor, Chase, Maryland, January 4, 1987* (NTSB/RAR-88/01)

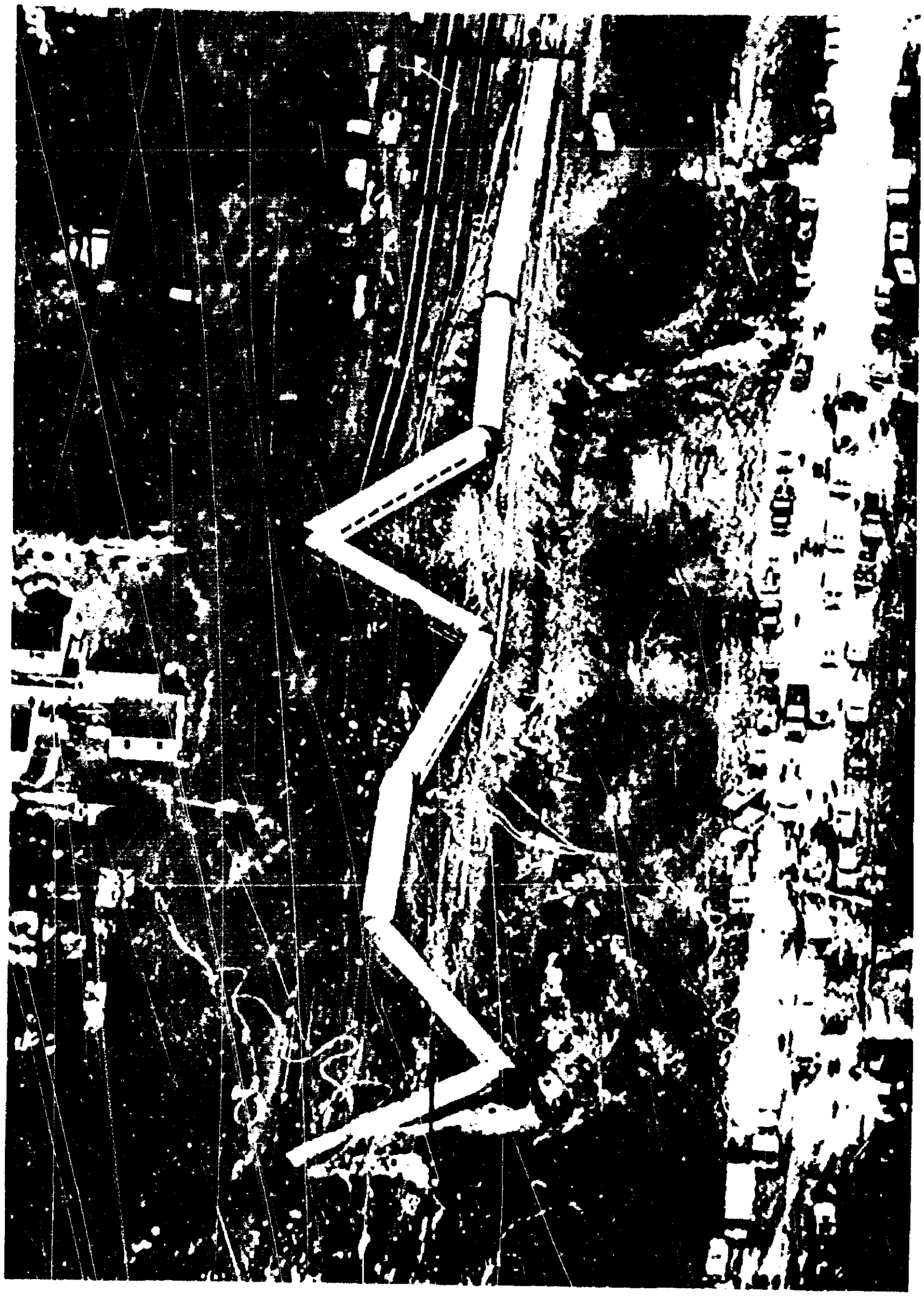

Figure 1.--Accident site at Chase, Maryland.

the FRA had identified only 48 accidents/incidents nationwide involving alcohol and/or drug use that resulted in 37 fatalities and property damage reported at about $20 million. 3/ As unacceptable as this record was, it apparently was only a portion of a much larger problem. During 1987 alone, the FRA reported 37 accidents/incidents involving alcohol and/or drug use by railroad employees, resulting in 19 deaths, 220 injuries, the evacuation of more than 22,000 people, and approximately $20 million in railroad-reported depreciated property damage. 4/ (Of course, the true cost of these accidents far exceeds the limited damage estimates reported by the FRA. For example, in the Chase accident, just Conrail's settlement to the 16 fatal victims of the accident is reported to have been $58 million.) In 13 of these accidents, the presence of alcohol and/or drugs in railroad employees was identified by the FRA as possibly contributing to the cause or severity of the accident/incident.

In late 1987, the Safety Board undertook this study to evaluate the effectiveness of the FRA rule and its implementation by the railroads. Through investigation of railroad accidents, and of some other accidents not currently covered by the FRA rule (such as rail rapid transit accidents), the Board wished to examine what actions beyond those required by the current FRA rule could be taken to reduce the losses from accidents involving railroad and transit employees in safety-sensitive positions whose performance is affected by alcohol and/or drugs.

The Safety Board views the FRA rule as a model approach for Federal regulations to reduce alcohol and/or drug use in the transportation industry. The Safety Board has addressed several specific areas where it believes meaningful changes can be accomplished to strengthen the FRA rule's effectiveness, such as expansion of the rule to employees other than "covered" employees, mandatory testing for cause, and a lowering of the damage "triggering" threshold.

Study Methodology

As part of this study, the Safety Board has reviewed the findings of its railroad accident investigations over the past 16 years (1972-87), safety recommendations related to those accidents (see appendix A), and the responses of the recipient organizations to which the recommendations were issued. Additionally, the Safety Board visited a representative sample of 10 railroads (see appendix B) and interviewed more than 120 people directly involved in the railroad industry at all levels, including executive, managerial, supervisory, and union positions. The personnel interviewed were from various parts of the industry, representing a large number of those actively involved in dealing with alcohol and/or drug use in the industry. The Safety Board also reviewed applicable FRA safety regulations, recent judicial decisions applicable to this issue, and Congressional initiatives driven by railroad accidents, including the crash at Chase.

3/ Mark J Weihofen, *Alcohol and Drug Control Program Economic Evaluation*, U S DOT, FRA Docket No RSOR-6, Notice No 7, May 2, 1985, Testing Program, May 5, 1988

4/ *Railway Labor Executive's Association, et al*, Plaintiffs-Appellants vs *James H Burnley, Secretary of Transportation, et al*, Defendants-Appellees, Motion of Appellees for Stay of Mandate, No 85-2891, filed on February 25, 1988, United States Court of Appeals, 9th Circuit and FRA Docket No RSOR-6, Notice No 18, Notice of Proposed Rulemaking; Random Drug Testing Program, May 5, 1988

Finally, the study presents the lessons learned from Safety Board accident investigations undertaken in 1987, a year in which the Board investigated a total of 156 selected accidents. 5/ Of the 156 accidents, toxicological tests for alcohol and/or drug use were undertaken in 103 cases (88 under the FRA rule, 14 transit, and 1 other). In 29 of these accidents, one or more railroad or rail/rapid transit employees used alcohol and/or drugs (including prescription drugs), an area of accident selection emphasis for the Board. (See appendix C.) Twenty-three of these accidents, (including two rail rapid transit accidents), such as Chase, Maryland, were extremely serious, involving a collision or major derailment with either fatalities, injuries, released hazardous materials, and/or high property damage. (See table 1.) The remaining six accidents involved railroad employee fatalities. (These are not listed in table 1; briefs are presented in appendix C.)

Of the 29 alcohol/drug-involved accidents, the use of alcohol and/or drugs was the probable cause or one of the probable causes in 8 accidents--Chase, Maryland (collision); Ardmore, Pennsylvania (collision-transit); Manhattan, New York (employee fatality, not listed in table 1); Pittsburgh, Pennsylvania (derailment/collision); New York, New York (collision); Gilman, Illinois (collision); Yuma, Arizona (collision); and North Platte, Nebraska (collision). In two other accidents, alcohol and/or drug use was found to be a contributing factor--East Point, Georgia (collision-transit); and Kemmerer, Wyoming (collision). Alcohol and/or drug use by the engineer or operator of the train was involved in 8 of the 10 accidents in which alcohol and/or drug use was determined to be causal or a contributing factor. In the remaining 19 investigations, alcohol and/or drug use was not considered to be a causal or contributing factor.

Historical Background

The Safety Board's earliest accident investigation that addressed alcohol and drug use involved a June 25, 1972, collision of two trains on the Southern Pacific Transportation Company at Indio, California. 6/ The engineer of one train failed to control his train because of alcohol impairment. As a result of its investigation, the Safety Board recommended that the FRA:

> R-74-9
>
> Include in their proposed Standards for Rules Governing the Operations of Trains, regulations that will in effect prohibit the use of narcotics and intoxicants by employees for a specific period prior to their reporting for duty and while they are on duty.

5/ With respect to the National Transportation Safety Board's Railroad Safety Program, the Independent Safety Board Act of 1974 (P.L. 93-633) provides, in part, that the Board investigate or cause to be investigated each:

a. Railroad accident in which there is a fatality
b. Railroad accident in which there is substantial property damage
c. Railroad accident which involves a passenger train
d. Other accidents which occur in connection with the transportation of people or property which, in the judgement of the Board, are catastrophic, involve problems of a recurring character, or would otherwise carry out the policy of the Independent Safety Board Act of 1974

In 49 CFR 840.2, Definitions, the Safety Board defines "railroad" as meaning any system of surface transportation of persons or property over rails. It includes, but is not limited to, line-haul freight and passenger carrying railroads, and rapid transit, commuter, scenic, subway, and elevated railways.

6/ Railroad Accident Report--*Rear-end Collision of Two Southern Pacific Transportation Company Freight Trains, Indio, California, June 25, 1972* (NTSB-RAR-74-1)

The FRA revised its accident causal code to include a category in its accident report database and supported a cooperative labor-managernent program through the Railroad Employee Assistance Programs (REAP). However, it never took the recommended regulatory action. 7/

In December 1979, a report prepared for the FRA 8/ examined the drinking practices of 234,000 railroad workers during 1978. The study found that:

- There were an estimated 175,000 drinking rule violations in 1978;
- Twelve percent, or 28,000, of the workers in the study drank alcoholic beverages on an average of 3 days while on duty in 1978;
- Five percent, or 11,000, workers were "very drunk" at least once upon reporting for duty or while on duty. Fifteen percent, or 35,000, workers were a "little drunk" at least once upon reporting for duty or while on duty;
- The highest percentage of problem drinkers is found among the operating craft employees. (Twenty-three percent, or about 16,000, of the 72,000 operating personnel studied are problem drinkers);
- Seven thousand of the 234,000 workers reported seeing an alcohol-related train accident.

One of the significant conclusions of this study stated; "There is evidence that employee drinking is an important contributing factor to railway accidents, but the connection between drinking and safety is not being adequately investigated."

On September 28, 1982, a derailment at Livingston, Louisiana, involved 36 tank cars; 20 tank cars were punctured or breached in the derailment. 9/ Rocketing tank cars and belching fires forced the evacuation of about 3,000 people living within a 5-mile radius of the site. Environmental damage was extensive when more than 200,000 gallons of toxic chemicals were spilled and absorbed into the ground. Damage estimates exceeded $16 million. (See figure 2.)

A week later, on October 3, 1982, two Missouri Pacific Railroad Company trains collided at a junction near Possum Grape, Arkansas. 10/ Two railroad employees were killed and one was seriously injured. Damage was estimated at $1,047,000.

In both accidents, the Safety Board determined that an alcohol-impaired engineer had relinquished the controls to an unqualified employee and that his abandonment of those controls contributed to the accident. As a result of these accidents, the Safety Board recommended on March 7, 1983, that the FRA:

7/ Safety Recommendation R-74-9 was "Closed -Superseded" as a result of the issuance of R-83-30.

8/ Mandello, T A and Seaman, F J. *Prevalence, Cost and Handling of Drinking Problems on Seven Railroads* DOT-TSC-1375)

9/ Railroad Accident Report--*Derailment of Illinois Central Freight Train Extra 9629 East (GS-2-28) and Release of Hazardous Material at Livingston, Louisiana, September 28, 1982* (NTSB RAR-83/05)

10/ Railroad Accident Report--*Side Collision of Two Missouri Pacific Railroad Company Freight Trains at Glase Junction, Near Possum Grape, Arkansas, October 3, 1982* (NTSB/RAR-83/06).

Table 1. Selected railroad/transit accidents in which post-accident testing/interviews indicated positive alcohol and/or drug results (including prescription drugs) reported to the National Transportation Safety Board for the period of January 1, 1987 through December 31, 1987.

Railroad(s)/Transit System Involved	NTSB Accident Identifier	Location	Date of Accident	Type of Accident	Position of Employee	Substance Found/ Reported	Type of Train(s)	Fatalities	Injuries	Estimated Dollar Damages	Hazardous Materials Involved	Number of Persons Evacuated
1. Amtrak and Conrail	NTSB/RAR-88/01 and DCA-87-MR002A	Chase, MD	1/4/87	Collison	Engineer Brakeman	THC COOH (marijuana metabolite) THC COOH PCP (hallucinogenic drug)	Freight and passenger trains	16	174	$16.6 million	No	None
2. Southeastern Pennsylvania Transportation Authority	NYC-87-FR009	Ardmore, PA	1/26/87	Collison	Operator Train No. 202 Operator Train No. 207	BE (cocaine metabolite) THC COOH THC COOH	Light rail transit trains	—	18	$148K	No	None
3. Metro North Commuter	NYC-87-FR012	Bronx, NY	2/17/87	Collison	Engineer	THC COOH	Commuter trains	—	20	$19K	No	None
4. Southern Pacific (SP)	FTW-87 FR014	Cleveland, TX	2/27/87	Derailment	Conductor	THC (active ingredient marijuana) THC COOH	Freight train	—	8	$6.165 million	Yes (toluene diisocynate, vinyl acetate, trichloro-ethane)	U.S. Highway 59 closed (unknown)
5. Union Pacific (UP)	LAX-87-FR008	Meadow Creek, ID	3/8/87	Derailment	Brakeman	BE (cocaine metabolite)	Freight train	—	—	$823K	No	None
6. Burlington Northern (BN)	FTW-87-FR016	Alvord, TX	3/19/87	Derailment	Brakeman	THC THC COOH	Freight train	—	—	$1.256 million	No	None
7. Conrail	CHI-87-FR010	Pittsburgh, PA	4/11/87	Derailment Collison	Engineer	Butalbital Codeine	Freight train	—	122	$1.953 million	Yes (phosphorous oxychloride)	22,000
8. Kansas City Southern and UP	FTW-87-FR020	Texarkana, TX	4/25/87	Collison	Brakeman	THC THC COOH	Freight trains	—	4	$58K	No	None
9. Port Authority Trans Hudson	NYC-87-FR020	New York City, NY	4/27/87	Collison	Engineer	THC THC COOH THC COOH	Heavy rail transit trains	—	24	$7K	No	None
10. Atchison Topeka and Sante Fe and Illinois Central Gulf	CHI-87-FR012	Gilman, IL	5/2/87	Collison	Brakeman	BE (cocaine metabolite)	Freight trains	—	—	$126K	No	None
11. Metropolitan Atlanta Rapid Transit Authority	ATL-87-FR013	East Point, GA	5/4/87	Collison	Operator	Micro K Extencaps Lanoxin Aloril Nitro Durpads*	Heavy rail transit trains	—	3	$415K	No	None

*Prescription drugs reported by operator to Safety Board investigator

**Reported as result of post-accident medical treatment

Table 1. Selected railroad/transit accidents in which post-accident testing/interviews indicated positive alcohol and/or drug results (including prescription drugs) reported to the National Transportation Safety Board for the period of January 1, 1987 through December 31, 1987.

(Continued)

Railroad(s)/Transit System Involved	NTSB Accident Identifier	Location	Date of Accident	Type of Accident	Position of Employee	Substance Found/ Reported	Type of Train(s)	Fatalities	Injuries	Estimated Dollar Damages	Hazardous Materials Involved	Number of Persons Evacuated
12. Chicago and Northwestern	FTW-87-FR021	Kennard, NE	5/17/87	Derailment	Brakeman	THC COOH	Freight train	—	—	$2.27 million	No	None
13. UP	DEN-87-FR014	Oshkosh, NE	5/22/87	Derailment	Brakeman	THC COOH	Freight train	—	—	$494K	No	None
14. BN	FTW-87-FR024	Prosper, TX	6/9/87	Collison	Brakeman	Codeine Morphine**	Freight trains	1	2	$92K	No	None
15. SP	DCA-87-MR003	Yuma, AZ	6/15/87	Collison	Engineer	Alcohol	Freight trains	1	—	$1.713 million	No	None
16. BN	CHI-87-FR019	Lanet, WY	9/13/87	Derailment	Brakeman THC COOH Brakeman	THC train THC COOH	Freight	—	—	$609K	No	None
17. UP	CHI-87-FR021	North Platte, NE	9/17/87	Collison	Hostler	THC THC COOH	Freight trains	—	—	$277K	No	None
18. ATSF	FTW-88-FR001	Brenham, TX	10/1/87	Derailment	Brakeman	THC COOH	Freight train	—	—	$1.09 million	No	None
19. UP	FTW-88-FR004	Morrison, MO	10/16/87	Collison	Engineer	Librium	Freight trains	—	—	$826K	No (sulfur trioxide – did not release)	200 precautionary evacuation
20. UP	DEN-88-FR003	Kemmerer, WY	11/8/87	Collison	Brakeman	Cocaine (active) BE (cocaine derivative)	Freight train	1	6	$873K	No	None
21. Norfolk and Southern	ATL-88-FR009	Charleston, TN	12/2/87	Derailment	Conductor Brakeman	Methaqualone THC THC COOH	Freight train	—	—	$404K	Yes (acetic anhydride)	900
22. UP	FTW-88-FR008	Urania, LA	12/6/87	Derailment	Fireman	THC COOH	Freight train	—	—	$823K	Yes (caustic soda)	60
23. St. Louis Southwestern	FTW-88-FR009	Eylau, TX	12/11/87	Derailment	Engineer	Codeine	Freight train	—	—	$886K	Yes (denatured alcohol)	None

* Prescription drugs reported by operator to Safety Board Investigator

**Reported as result of post-accident medical treatment

Figure 2.-- Accident site at Livingston, Louisiana.

R-83-30

Immediately promulgate a specific regulation with appropriate penalties prohibiting the use of alcohol and drugs by employees for a specified period before reporting for duty and while on duty.

R-83-31

With the assistance of the Association of American Railroads and the Railway Labor Executives Association, develop and promulgate effective procedures to ensure that, after a railroad accident, timely toxicological tests are performed on all employees responsible for the operation of the train.

In its June 5, 1983, response to Safety Recommendations R-83-30 and -31, the FRA stated that it was committed to combating alcohol and drug use in the industry. One month later, the FRA issued an Advance Notice of Proposed Rulemaking (ANPRM) to address the alcohol and drug use problem (48 FR 30723, July 5, 1983). The FRA held a series of public hearings on the possible content of a rule. The Safety Board participated and provided formal comments at every hearing.

The Safety Board reiterated Safety Recommendations R-83-30 and -31 on May 14, 1984, as the result of its investigation of yet another alcohol-related railroad accident, this time a rear-end collision between two Seaboard System Railroad trains at Sullivan, Indiana, on September 14, 1983.11/ Both the alcohol-impaired engineer and the brakeman of the striking train had fallen asleep; the collision killed two railroad employees. The Safety Board reiterated the safety recommendations to continue its pressure on the rulemaking process.

As the rulemaking progressed, the Safety Board held a 5-day accident investigation public hearing beginning June 4, 1984, in Denver, Colorado, as the result of two catastrophic collisions involving Burlington Northern Railroad trains. These two accidents resulted in the deaths of seven railroad employees, four injuries, and property damage estimated at $5,150,000. 12/ A contributing factor in both accidents was the use of alcohol or drugs. The Safety Board made it very clear at the hearing that a rule needed to be issued immediately and that further delays were unacceptable.

The FRA's Alcohol/Drug Testing Rule

At the Safety Board's June 1984 public hearing in Denver, the FRA announced that it was prepared to issue a Notice of Proposed Rulemaking (NPRM) that would address alcohol and drug safety concerns, and indeed, within a few days (June 12), the FRA issued an NPRM which proposed to:

a) Prohibit the use of alcohol and drugs in railroad operations;

b) Require toxicological testing of employees following major accidents and incidents;

11/ Railroad Accident Report--*Rear-end Collision of Seaboard System Railroad Freight Trains Extra 8051 North and Extra 1751 North, Sullivan, Indiana, September 14, 1983* (NTSB/RAR-84/02)

12/ Railroad Accident Report--*Head-on Collision of Burlington Northern Railroad Freight Train Extra 6714 West and Extra 7820 East, Wiggins, Colorado, April 13, 1984 and Rear-end Collision of Burlington Northern Railroad Freight Trains Extra 7843 East and Extra ATSF 8112 East Near Newcastle, Wyoming, April 22, 1984* (NTSB/RAR-85/04).

c) Require pre-employment drug urine screens for applicants for certain positions;

d) Authorize the railroads to require employees to cooperate in breath and urine tests administered by or for the railroad in certain circumstances that would be deemed to constitute "just cause" for testing;

e) Require the railroads to institute policies to encourage the identification of employees troubled by alcohol or drugs; and

f) Institute improvements in the accident/incident reporting system to document better the extent of alcohol and drug involvement in train accidents.

The Safety Board supported the FRA's concept of the rule (see appendix D) but suggested certain technical improvements:

a) All employees directly involved in an accident should be covered by the rule;

b) Specific reference should be made to the fact that marijuana is a controlled substance as defined by 21 U.S.C. 802;

c) The rule should not convey an implication that any blood alcohol level in an operator is permissible for safe operation of a train;

d) Testing for marijuana use must be based on a reliable blood analysis for THC and its metabolites;

e) Post-accident toxicological testing of railroad employees involved in grade crossing accidents should not be excluded; and

f) Railroad employees who refuse to be tested should be terminated from railroad employment.

On July 29, 1985, the FRA issued its final rule on "Control of Alcohol and Drug Use in Railroad Operations," with six basic elements: 13/

a) Federal prohibition on alcohol/drug use (Part 219, Subpart B);

b) Post-accident toxicological testing (Part 219, Subpart C);

c) Authorization to test for reasonable cause (Part 219, Subpart D);

d) Identification of troubled employees (Part 219, Subpart E);

e) Pre-employment drug screening (Part 219, Subpart F); and

f) Improved accident reporting (Part 225.17).

13/ See FRA Final Rule, "Control of Alcohol and Drug Use in Railroad Operations," 50 FR 31508, August 2, 1985.

Federal prohibition (Part 219, Subpart B).--The Federal prohibition (so-called "Federal Rule G") 14/ applies to all employees assigned to perform service subject to the Hours of Service Act (45 U.S.C. 61-64b). These employes are generally called "hours-of-service or "covered" employees. Primarily, this includes all operating employees: engineers, conductors, firemen brakemen, signalmen, and dispatching personnel. The rule prohibits on-the-job use of, possession of, and impairment by alcohol and/or any controlled substance; it allows exceptions for prescribed drugs, subject to each railroad's own control system. Further, the rule sets an alcohol per se impairment level of 0.04 percent blood alcohol concentration (BAC). The rule is a minimum standard. It does not authorize monetary penalties directly against railroad employees; each railroad must enforce the rule through its own disciplinary systems.

Post-accident toxicological testing (Part 219, Subpart C).--Toxicological testing of certain employees is mandatory under the FRA rule after the following types of accidents:

1) A major train accident resulting in

   - A fatality;
   - Hazardous materials release with evacuation, injury from the product; or
   - Damage of $500,000 or more.

2) An impact accident (collision) resulting in

   - A reportable injury; or
   - Damage of $50,000 or more.

3) An employee fatality in a train incident.

The postaccident toxicological testing subpart of the rule allows railroads to not test railroad employees involved in rail/highway grade crossing accidents; furthermore, if in an impact accident or an "employee fatality" incident, the railroad determines that the involved employees had no role in causing the accident or incident, the railroad need not test. Additionally, the rule allows the railroad to make "good faith determinations" of whether an accident meets the testing trigger, based on the railroad's estimate of the monetary damage levels to railroad property. Finally, an employee is disqualified for covered service for 9 months for refusing to be tested under this subpart of the rule.

Authorization to test for reasonable cause (Part 219, Subpart D).--The reasonable cause testing authority element of the rule is not mandatory; it simply allows the railroad to test for cause if the observed behavior or events occur during duty hours. Breath tests for alcohol and urine tests for alcohol or drugs are permitted. The rule specifies three circumstances in which this authority may be exercised:

- There is reasonable suspicion of impairment based on specific, personal observations that a supervisory employee(s) can articulate.

14/ The railroads have had various versions of "Rule G" for many years; 49 CFR 219.101(b) codifies "Rule G" requirements as Federal requirements

- An employee is involved in a reportable accident or incident and the supervisor reasonably suspects that an employee's acts or omissions contributed to the severity or occurrence of the accident or incident.

- An employee has been involved in one or more specific rule violations (such as passing a restrictive signal, failure to stop short of a derail, issuance of train orders that do not protect the train).

Identification of troubled employees (Part 219, Subpart E).--This element of the rule outlines minimum requirements for programs to help identify and treat employees with alcohol or other drug dependency or related problems. The intent is to give employees the opportunity to obtain counseling or treatment in detected violations of the rule (so-called "voluntary referral policy"). Additionally, this element of the rule attempts to foster a co-worker report policy to prevent violations before they occur.

Pre-employment drug screening (Part 219, Subpart F).--Pre-employment drug screening is required for all final applicants for hours-of-service (covered employee) positions. The rule sets out the requirements for notification and safeguards for this process.

Improved accident reporting (Part 225.17).--Finally, an element of the rule attempts to address underreporting of railroad accidents and incidents involving the use of alcohol and/or drugs. The FRA requires railroads to investigate thoroughly for the presence of alcohol and other drugs and to report any allegation or suspicion of alcohol or other drug involvement in an accident, even if a railroad determines that the alcohol or other drug was not a causal factor.

Issues Addressed in This Study

This study examines the following issues identified during interviews and from Safety Board accident investigations:

- Needed improvements to railroads' alcohol/drug programs and procedures and the Federal rule:

  - Supervisory controls (some accidents demonstrate that the policies and procedures issued by railroad management to address alcohol/drug use are not being enforced) and the need for strengthened supervisory control programs at departure locations.

  - Supervisory training (although the Federal rule requires training of supervisors in detection of alcohol and/or drugs, some employees who are held responsible for monitoring other employees' fitness for duty (including alcohol/drug use) are not receiving this training).

  - Employee training (the need for training railroad employees about the effect of alcohol and/or drug use on their particular job is explored) and communication of railroad policy to railroad employees.

  - Adequacy of current drug testing procedures and equipment used by the railroads and the problem of sample collection delays.

  - The role of work/rest scheduling procedures that may create an inducement to alcohol and/or drug use.

- Expanding the rule to include all railroad employees in safety-sensitive positions, such as maintenance-of-way, maintenance-of-equipment, and railroad officials, under the testing procedures.

- Making mandatory the testing for cause subpart of the rule.

- Lowering the testing "trigger" for a major accident from the $500,000 railroad property damage level to $150,000, and requiring that replacement costs, not depreciated value, be used for estimating property damage losses.

- Programs to identify and help troubled employees:

  - Employee assistance programs (all the railroads reviewed for this study have EAP programs; however, the ratio of counselors to employees may be inadequate) and communications to railroad employees and first-line supervisors about available EAP services.

  - The impact of voluntary referral programs, which provide a way for employees to enter treatment before they must be disciplined for alcohol and/or drug use.

- Other actions that have been proposed to address the alcohol/drug problem:

  - Random testing.

  - A Federal medical certificate for railroad employees in safety-sensitive positions that can be withdrawn by the government if serious medical concerns including alcohol and/or drug abuse are discovered.

- The lack of Federal oversight of the alcohol and drug issue on rail rapid transit systems.

CHAPTER 1

EXAMPLES OF RAILROAD ALCOHOL/DRUG PROGRAMS

The current alcohol/drug programs of the railroads are extremely varied. All 10 railroads interviewed during this study had implemented policies in keeping with the mandatory requirements of the Federal rule (postaccident testing procedures and employee assistance programs). Though some have not implemented the optional "authorization to test for cause" subpart, others, have very strong programs that exceed the Federal requirements. The railroads selected for review in the study represented mostly large railroads from different geographic quadrants in the country, the national passenger railroad, and a number of smaller railroads. Some railroads emphasize detection and disciplinary procedures to halt alcohol and/or drug use by railroad employees. Other railroads stress various employee outreach programs, such as "Operation Redblock," and "Operation Stop," to intervene with employees before disciplinary measures are required. Since there are many different types of programs, a brief description of each railroad's program may help demonstrate the variety. Table 2 summarizes some of the testing results provided by the interviewed railroads over various periods.

Southern Pacific Transportation Company

The Southern Pacific Transportation Company (SP) has put into effect a comprehensive program of toxicological testing following incidents or accidents caused by "human factors," and major derailments or derailments of consequence (based on such criteria as blocking or interfering with main line operations, major rules violations, abnormal behavior, and reasonable suspicion). The reasonable suspicion criterion includes vehicular accidents involving SP equipment and personal injuries. The SP applies its program to hour-of-service employees and employees in other job categories.

The SP does not not use the FRA's regulation as its authority to test for reasonable cause, rather it uses its management authority and its responsibility to provide a safe workplace. SP officials call the documented results of its program "dramatic." Reportable personal injuries have decreased from 2,351 in 1984 to 908 in 1986 (a 61 percent reduction). "Human factor" train incidents/accidents have decreased from 911 in 1983 to 168 in 1986 (an 88.4 percent reduction). The dollar cost of "human factor" accidents in 1983 was $6.4 million, compared to $1.2 million in 1986 (an approximate $5.2 million reduction). The number of employees who tested positive for alcohol and/or drugs dropped from 22 to 24 percent in 1983 to about 2.3 percent in 1987.

The SP told the Safety Board it trains its officials, managers, and supervisors on alchol and/or drug use through a 1- to 3-day course. Additionally, according to the SP officials interviewed, the railroad has instituted a Rule G slip signoff procedure; any employee who performs the functions of a supervisor must sign a slip attesting that employees under his or her control are fit for duty. Some supervisors hold the slip until the end of the workday as a check that employees under his or her supervision remained alcohol- and drug-free during that work day. This procedure also applies to train crews for each trip (the conductor of the train has the supervisory responsibilities). Conductors generally complete their checks for fitness when reporting for duty before the train's departure and do not certify that employees under his /her supervision remained alcohol-and drug-free during the trip.

As of May 1, 1988, the SP discontinued the Rule G slip signoff procedure and replaced the procedure with an expanded employee awareness program, including training sessions targeted for all employees on detection of unfit employees and responsibilities under SP's expanded Rule D, issued April 21, 1988 in General Order No. 10. Rule D now states:

Table 2. Interviewed railroad alcohol/drug testing results reported over various time periods.

Railroad	Type of Testing	Authority	Time Period	Number of Tests	Number of Positives for alcohol and/or drugs	Percent of Positives
Southern Pacific	Reasonable cause	Railroad	1/1/84 to 12/7/87	4,806	373	7.6%
Union Pacific	Mandatory/ Reasonable cause	FRA	1/1/86 to 12/31/87	637	60	9.4%
CSX Transportation	Mandatory/ Reasonable cause	FRA	1/1/87 to 12/31/87	113	4	3.5%
	Medical	Railroad	8/1/87 to 12/31/87	216	11	5.1%
Florida East Coast	Mandatory/ Reasonable cause	FRA	1/1/87 to 12/31/87	20	0	0 %
Conrail	Mandatory	FRA	1/1/86 to 12/31/86	69	5	7.2%
	Medical	Railroad	3/15/87 to 12/31/87	13,929	581	4.2%
Denver and Rio Grande Western	Medical	Railroad	1/1/87 to 12/31/87	664	18	2.7%
Central Vermont	Mandatory/ Reasonable cause	FRA	1/1/87 to 6/1/88	1	0	0 %
Illinois Central	Mandatory	FRA	1/1/87 to 12/31/87	20	1	5 %
	Medical	Railroad	1/1/87 to 12/31/87	258	10	3.9%
Burlington Northern	Mandatory	FRA	1/1/87 to 12/31/87	3	3	100 %
	Reasonable cause	FRA	1/1/87 to 12/31/87	635	39	6.1%
	Reasonable cause	Railroad	1/1/87 to 12/31/87	1,083	92	8.5%

> Any employee observing another employee's condition which would interfere with their ability to perform their assigned duties, must immediately inform their own supervisor who will then report to proper authority.

Additionally, the SP is providing to each employee a pocket-size drug information guide on the physical symptoms, what to look for, and the dangers of such drug categories as inhalants, narcotics, stimulants, depressants, alcohol, cocaine, marijuana, and hallucinogens to assist in their detection responsibilities under Rule D. The railroad also uses pre-employment screening. In 1986, it rejected 36.8 percent of the applicants because of positive tests for illicit drugs and alcohol. Finally, the SP requires testing as part of the medical examinations for employees either returning from furlough or being called back to work.

The SP's reported reasonable cause testing from January 1, 1984, through December 7, 1987, indicated that, of 4,806 urine/blood tests, 373 (7.76 percent) were positive; 50 persons (1 percent) refused to take the tests. Among the positive tests, marijuana was the most commonly detected drug (50 percent), cocaine the next most commonly detected (about 30 percent), and alcohol was detected in about 16 percent of the positive tests.

Union Pacific System

The Union Pacific System's (UP) program to address alcohol/drug use involves the mandatory postaccident and reasonable cause testing of covered employees found in the FRA's rules. Additionally, the UP includes alcohol and drug testing for all applicants for employment. The UP program does not include annual physical testing or return-to-work testing, and it does not involve testing of nontrain service employees, with the known exception of train dispatchers and signal maintainers.

During calendar years 1986-87, the UP reportedly tested 637 employees under the mandatory and reasonable cause testing provisions of the FRA rules; 60 (9.4 percent) tested positive for alcohol and/or drugs. Seventy-three percent of the positive tests were for marijuana, cocaine was found in about 10 percent of the positives, and alcohol was found in another 10 percent.

UP places great emphasis on its Operation Redblock and employee assistance programs. Operation Redblock, a union-run program, permits a one-time waiver of disciplinary investigation by the railroad upon a confirmed report from a co-worker (known as a "Rule G Bypass") that an employee has violated Rule G, if no other rule violation is involved. Additionally, the UP has companion agreements with some labor unions that participate fully in Operation Redblock to allow an employee a one-time return to service following a disciplinary investigation when caught in a Rule G violation. (See Chapter 3 for further discussion of Operation Redblock.)

Currently, 8 of 16 unions are in the Operation Redblock program, covering an estimated 20,000 of about 28,000 UP employees (the unions in the program primarily represent the covered hours-of-service positions). About 84 Operation Redblock committees are involved. As of May 1988, the committees had confronted 175 employees about their apparent alcohol and/or drug problems. Further, since April 1988, 35 additional Operation Redblock Committees have been formed within each system gang 15/ in the maintenance-of-way department.

15/ A gang consists of about 10 to 40 persons

Each of the 12 UP employee assistance program counselors is responsible for a territory with 2,800 to 3,000 employees. Alcohol and drug problems account for approximately 63 percent of the counselors' caseloads (the other 37 percent of their caseload deals with other counseling-related services). Since the Rule G Bypass and companion agreements became effective in 1984, the UP reports significant increases in referrals to the program. The general emphasis on the alcohol and drug issue also appears to have increased voluntary referrals. The number of cases involving alcohol and drugs increased by about 100 in 1983 (to 375), as compared to 1982 (275), and continued about the same level (375) for 1984 through 1986. The impact of Operation Roadblock and the employee assistance programs on accidents and incidents on the UP has not been measured.

CSX Transportation, Inc.

CSX Transportation, Inc. (CSX), primarily uses toxicological testing as set forth in the FRA rules with its primary focus being mandatory tests. In 1987, the CSX conducted 107 mandatory tests and 6 tests under the rule's authorization to test for reasonable cause. Of these 113 tests, 4 (3.5 percent) were positive (2 for alcohol and 2 for marijuana). Three of the positive tests results were under the mandatory testing provisions and one was under the reasonable cause provisions.

CSX also undertakes testing under the medical department in accordance with recently signed labor agreements. Information provided by the CSX's chief medical officer for August through December 1987 showed that, of 216 tests performed, 11 (5.1 percent) were positive for one or more prohibited substances. Of these, six (2.8 percent of the total tests) were positive for cannabinoids (metabolites of marijuana); three (1.4 percent) were positive for benzodiazepines (a controlled substance); and one each was positive for barbiturates or cocaine (0.5 percent).

The CSX, like the UP, supports the Operation Redblock program, and approximately 25,000 CSX covered employees (of the total 30,000 CSX work force) are now involved. Since the program only recently had been implemented, the CSX was not able to document the total number of employees contacted or referred to EAP programs. However, as of May 1988, 75 employees (cumulative from 1984 to 1988) had been referred by coworkers (as part of the Operation Redblock program).

The CSX employee assistance program involves 11 counsr .s, or about 1 counselor for every 2,700 employees. CSX claims that it has the highest qualifications requirements for EAP counselors in the industry, requiring as a minimum an undergraduate degree and 5 years of paid experience in counseling.

At a minimum, each CSX supervisor receives 3 hours of training in alcohol and drug detection and application of FRA rules. Additionally, supervisors meet monthly with their division managers to explain all serious injuries and accidents and to report actions taken or not taken in response to testing requirements.

The CSX estimates that its annual budget for all alcohol and drug activities -- EAP program, Operation Redblock, testing agreements, and supervisors' training -- is about $2,842,000.

Florida East Coast Railway Company

The Florida East Coast Railway Company's (FEC) approach to the alcohol/drug problem is probably best summed up in the following statement by its President to all employees:

> So that there may be no misunderstanding, any employee who reports for service or goes on duty and has the odor of alcohol on his breath or displays any of the symptoms of intoxication, will be subject to dismissal from the service of the Florida East Coast Railway, even if he has less than 0.04 percent or more alcohol in the blood, as developed by subsequent testing. 16/

Since the FEC's implementation of the FRA rule in 1986, the railroad has undertaken about 20 tests; none were positive. The railroad employs approximately 1,500 persons. FEC employees are expected to enter EAP under their own referral, another employee's referral, or through the employee's collective bargaining unit. FEC officials said that they do not support concepts such as Operation Redblock because they believe it is management's responsibility to control alcohol and drug use, and FEC does not want programs that dilute that responsibility.

FEC supervisors are expected to meet with every train crew before train departure to observe the employees for possible alcohol and/or drug impairment. A weekly report of safety discussions and crew evaluations is submitted to the president. (See appendix E.) About 40 railroad supervisors have been trained in the use of alcohol breath testing devices. The FEC provides 2 days of training on the devices, the Federal and FEC rules, and the detection of alcohol use and a 1-day course on the detection of drug use.

Also trained dogs are used to search for hidden drugs. The FEC has located hidden drugs using this method in camp cars that house maintenance-of-way employees.

Consolidated Rail Corporation

The Consolidated Rail Corporation's (Conrail) alcohol/drug program testing requirements closely follow the FRA rules. In 1986, Conrail tested 69 employees under the mandatory provisions of the regulations; 5 (7.2 percent) tested positive. In 1987, the company began a "reasonable cause" testing program.

Conrail stresses drug screening during the following types of medical examinations:

- Pre-employment physical examinations;
- required periodic and return-from-furlough physical examinations;
- before return to duty and during a follow-up period after a disqualification for any reason associated with drug use; and
- executive physical examinations.

Routine periodic examinations are required for operating employees every 3 years until age 50, and every 2 years thereafter (except for locomotive engineers in New Jersey, where State law requires annual examinations).

The chief medical officer provided to the Safety Board the following information on medical examinations and drug screening results from March 15 to December 31, 1987:

16/ Florida East Coast Railway Company Bulletins Nos. C-16 and CL-8, January 29, 1988

Type of Examination	*Drug Screens*	*Positive*	*Percent Positive*
Periodic-Regular	5,259	29	0.6
Returned from Furlough	5,632	471	8.4
Returned from Non-occupational Illness	1,639	39	2.4
Returned from Occupational Illness	756	21	2.8
Transfer or Promotion	19	1	5.3
Mandatory Post-Accident	59	3	5.1
Mandatory Reasonable Cause	565	17	3.0
Totals:	13,929	581	4.2

Conrail told the Safety Board it has not hired any new trainmen or engineers recently. However, in testimony before the FRA in February 1987, Conrail referred to its tests of 24 candidates for signalman positions under the pre-employment section of the rule. Four of the 24 tested positive for drugs. Since the Safety Board's interview, Conrail has begun to hire in certain crafts; however, preemployment screening results are not yet available.

Since 1983, Conrail's Employee Counseling Service has sponsored a 2-day Management Awareness Program for all supervisors and managers. The program objectives are to:

1. Provide Conrail supervisory personnel with the necessary knowledge to identify and respond to alcohol and drug use by Conrail employees which affects job performance.

2. Reduce and eliminate on-duty use of mood-altering substances by Conrail employees.

3. Inform Conrail employees that Conrail will not tolerate on-duty alcohol and drug use, and inform them of the consequence of alcohol and drug use. 17/

Conrail estimates that 3,200 to 3,300 supervisors, police, yardmasters, and agreement personnel have taken its course. In 1986, a 4-hour refresher course was instituted. Additionally, about 700 field supervisors have been trained for 4 hours on the FRA rule.

Denver and Rio Grande Western Railroad

The Denver and Rio Grande Western Railroad (D&RGW) has implemented the mandatory testing provisions of the FRA's rule. D&RGW supervisors use work performance or behavior as the basis for ordering a "reasonable cause" drug or alcohol test, under the railroad's authority, not the authority provided by the FRA rule. The railroad relies on its management initiatives to test for any

17/ Consolidated Rail Corporation, *Management Awareness Program* (undated), Philadelphia, Pennsylvania.

infraction of its safety and safety operating rules. 18/ The D&RGW also does not use the 0.04 percent per se BAC level found in the FRA rule; it accepts only a 0.00 percent BAC and no illegal drug indications. An employee whom management/supervision uncovers as having violated the company's Rule G policy is dismissed for 1 year. If the employee enters an EAP treatment program, the dismissal may be reduced to 6 months.

Any medical positive alcohol/drug test (as low as 50 ng/ml for marijuana on the D&RGW) requires an employee to meet with a D&RGW employee assistance counselor who arranges a prescribed treatment course. Treatment varies from 1 day to several months. Once employees complete treatment and the counselor approves their return to work, the D&RGW will randomly test them to monitor their progress.

D&RGW supervisors are provided an 8-hour training program that explains the testing requirements mandated by the FRA and the D&RGW's more stringent probable/reasonable cause testing policy. Additionally, the railroad has held "town meetings" with its employees to explain the alcohol/drug program. Supervisors are required to meet train crews as they report for duty and must sign a "call sheet" (see appendix F) that denotes that the crew was checked for duty.

In 1987, the railroad reported six violations of Rule G. Also that year, the railroad undertook 664 drug and alcohol screens through its medical examinations. Eighteen employees tested positive for marijuana, 1 for cocaine, and 2 for alcohol (2.7 percent of the total).

Central Vermont Railway, Inc.

The Central Vermont (CV) implemented reasonable cause testing on January 1, 1988. The railroad has had one accident in which it used the postaccident testing requirements. The train crew involved in the accident tested negative. CV officials, however, said numerous incidents in 1986 of alcohol and/or drug use by maintenance-of-way employees had been uncovered.

Ten CV managers have been trained in the use of alcohol breath testing devices. It relies on a State of Vermont EAP program and a program in the State of Massachusetts. Employees have been notified of these programs through union representatives. Additionally, the General Manager of the CV has written to employees explaining the CV's policy.

In interviews with the Safety Board, CV employees were very frank in their assessment that programs implemented after promulgation of the Federal alcohol and drug rule have played a major role in almost eliminating overt alcohol and drug use on this railroad.

Illinois Central Railroad

Illinois Central Railroad's (IC) policy forbids on- and off-the-job use of illegal drugs. Additionally, the presence of alcohol in the blood at any level while on duty is deemed a violation of company policy. The IC policy does not require any specific proof that a railroad employee is under the influence of a substance or impaired by it on the job; the mere presence of the substance in the system, i.e., if test results are positive, is a violation of Rule G. IC's policy on alcohol and drug safety are posted annually (every January 1) in the superintendent's bulletin.

The railroad provided the following information on observations and tests for 1987:

18/ Denver and Rio Grande Western Railroad, *Supervisor's Guidelines* (undated), Denver, Colorado.

- 7,057 employees were documented 19/ by supervisors for Rule G compliance;
- two breath tests were conducted; both were positive, and both employees were charged with Rule G violations;
- 35 urine tests were conducted; all were negative;
- Four blood tests were requested by employees; all were negative;
- 20 mandatory tests were conducted; 1 was positive for drugs.
- 258 employees were given medical examinations that involved a drug test; 10 tested positive.

IC employees are drug tested as part of their regular physical--every other year for management and every fourth year for railroad employees in scheduled service. Any employee returning from a furlough of longer than 6 months is tested for drugs before returning to work. The IC uses many medical facilities and said none had refused to take their tests.

All IC trainmasters have been provided a 2-day course of training in the identification of drug and alcohol users and proper testing procedures. Trainmasters who work on districts remote from terminals, or where assistance from IC's Police and Special Services Department is more than 2 hours away, have been trained to use the Alco Sensor III (breath testing device) in keeping with the FRA's regulations under the "reasonable cause " testing provision. Twenty-five of these units are in service on the IC.

The IC's employee assistance program is a contractural service separate from the company. The IC believes an employee should request EAP assistance before the employee is charged with a violation of company rules. In most cases, a medical leave of absence will be granted for the employee to undergo a treatment program. Co-workers can report an employee who seems to be impaired, unsafe to work with, or in violation of the IC's alcohol and drug rule without jeopardizing that employee's job if:

1. The reported employee has not previously been disciplined for violation of the IC's alcohol and drug rule.
2. The reported employee elects to waive investigation on the rule charge and contacts the EAP counselor within 5 days.

The IC has reduced its operations over the last few years and has had corresponding reductions in its supervisory work force (reported at more than 80 percent) and a 60 percent or more reduction in its railroad work force. The reductions have left the railroad with a small supervisory staff.

Burlington Northern Railroad Company

The Burlington Northern Railroad (BN) has a well documented program including substantative manuals and training materials for supervisors to address the alcohol and drug use issue. The company's Rule G states that no alcoholic content in the blood is acceptable and that any employee with an illegal controlled substance or its metabolite found in a toxicological test is presumed to be under the influence. The BN rule addresses prescription drugs, i.e., an employee cannot work under the influence; employees who operate company vehicles are also under the rule.

19/ Employees were checked for Rule G compliance during rules' efficiency checks

BN emphasizes the use of drug screens through various medical examinations. The chief medical officer indicated that, from 1985 through 1987, approximately 17,000 examinations had been completed under the following guidelines:

- All candidates for employment
- Routine periodic examinations (operating employees every 4 years until the age of 50; every 2 years from age 50 to 60; and annually after 60. All other crafts every 5 years after the age of 30; truck drivers examined every 2 years).
- Return to work if furloughed for more than 90 days or following dismissal for any reason or following medical disability of more than 60 days.

The BN provides a notification letter to the employee before the examination.

The chief medical officer stated initially that during the program's first quarter, about 15 percent of those taking toxicological tests during the medical examination process failed (i.e., the employees tested positive for drugs, primarily marijuana). Overall that year about 11 percent failed. During the first 3 months of 1988, the failure rate was 4.5 percent.

Data on the BN's testing and observation program are reported annually. In 1987, three accidents qualified under the mandatory testing requirements: in one (Alvord, Texas), one employee tested positive; in the second (Lariat, Wyoming), two employees were positive; and in the third, one employee tested positive but was found to have taken medicine after the accident (Prosper, Texas). The BN reported that in 1987 it undertook 35,495 "breath tests," with 16 positive for alcohol (these tests did not use breathalyzers but relied on supervisors' recognition of alcohol odor). These tests were completed on hours-of-service as well as other employees.

The same year, the BN undertook 1,718 urine tests (1,083 under BN authority and 635 under FRA "reasonable cause" authority). There were 130 employees who tested positive: 35 for alcohol, 75 for marijuana, one for a depressant, 8 for stimulants, 17 for narcotics, and 8 for other drugs (some employees used more than one drug). Of the 130 employees who tested positive, 39 were positive for tests conducted under the FRA authority, 17 for alcohol, 19 for marijuana, 2 for stimulants, 2 for narcotics, and 2 for other drugs (some employees used more than one drug).

The cost of BN's drug testing program was approximately $500,000 for 1987.

The BN has trained its first-line supervisors in alcohol and drug use detection and has provided a training handbook. Between December 1985 and April 1986, about 1,300 trainmasters, assistant trainmasters, and roadmasters received 8 hours of training. Although there is no requirement for refresher training, the BN is providing some followup at its supervisory training center.

The BN expends approximately $1.5 million on its EAP program. Program use increased from 3 percent in 1983 to 5.3 percent of the estimated 35,000 BN employees in 1987. The program's recordkeeping has been improved to report more closely the referral sources of the 2,658 new EAP cases it received in 1987. The sources are as follows:

Self	40 percent
Family	21 percent
Supervisors	11 percent
Medical Department	10 percent (as result of toxicological tests)
Mandatory Referrals	6 percent (as result of Rule G and testing programs)

In 41 percent of the referrals, alcohol and/or drug use was the primary problem.

National Railroad Passenger Corporation (Amtrak)

Amtrak has had drug and alcohol testing procedures for several years. The railroad's latest revisions were issued on August 15, 1987, in Section PERS 19 of the railroad's "Procedures Manual." A summary of the company's testing policy is found in "Amtrak and You: Working Together for a Drug- and Alcohol-Free Work Place," issued to all employees in October 1987.

Basically, Amtrak's testing guidelines cover all employees (union and nonunion) and job applicants. There are primarily four testing categories: pre-employment testing, return-to-work and periodic testing, reasonable cause, and post-accident testing.

Pre-employment physicals, including drug tests, are required of all job applicants; any applicant who refuses to be tested is not considered for employment. Company-required physicals, such as return-to-work and periodic fitness-for-duty physicals, also include a drug test; these physicals apply to both union and nonunion employees.

Amtrak's current employee assistance program is outlined in a March 1, 1986, policy document, "Employee Assistance Program" (PERS-39). The program meets the EAP requirements of the FRA rule.

Agreements have been signed by Amtrak and local union officials (Brotherhood of Locomotive Engineers and the United Transportation Union) to implement an Operation Redblock program. The Amtrak program is in the development stage. Peer intervention training for union Operation Redblock leaders is scheduled for July 1988.

CHAPTER 2

IMPROVEMENTS NEEDED IN RAILROAD ALCOHOL/DRUG PROGRAMS AND IN THE FRA RULE

Supervisory Controls

The Safety Board has been concerned about supervisory oversight at departure locations for several years. After completion of its investigation of a collision of two Missouri Pacific freight trains near Possum Grape, Arkansas, in 1982, 20/ the Safety Board recommended that members of the Association of American Railroads:

> R-83-60
>
> Establish supervisory procedures at crew-change terminals to ensure that all operating department employees coming on duty at any hour of the day are physically fit and capable of complying with all pertinent operating rules.

The response by the railroad industry has been largely positive (see appendix G) to this safety recommendation. The Safety Board, however, will continue to monitor the actions of railroads in expanding supervisory procedures to ensure that all operating employees are fit for duty.

During interviews undertaken for this study with officials of 10 railroads, the Safety Board discussed how the railroads had increased supervisory control. First, all 10 railroads said they had acted to meet the requirements of the FRA's rule including applicable training requirements for supervisors, employee assistance programs, and increased management and supervisory oversight. Some railroads (for example, the SP and the BN) have policies in this area that far exceed the Federal rule requirements. The SP, as previously reported, required a written certification by all first-line supervisors that employees under their supervision were fit for duty (the SP applies this procedure to all crafts, not just hours-of-service employees). BN increased its supervisory oversight on several divisions as a result of serious casualties and Safety Board recommendations. In all cases, the railroads have documented policies and procedures that supervisors are to take to stem alcohol and drug use on their various properties.

In a number of serious accidents investigated by the Safety Board in 1987, proper supervisory policies and procedures were in place, but railroad supervisors had failed to enforce or execute their duties under these policies. For example, in the Chase, Maryland, crash, the Safety Board found that Conrail management had a substantial supervisory force to oversee its operations and that management required its supervisors to make frequent checks of fitness for duty at reporting points. However, two Conrail supervisors at Bay View Yard, the train's departure location, did not recognize that the train crew of ENS-121 failed to make a proper and complete automated cab signal test, failed to secure a proper radio, and failed to make a predeparture brake test. The Safety Board concluded that Conrail should have supervised the crewmembers of train ENS-121 better during the predeparture tests at Bay View Yard.

Further, the accident illustrated the importance of monitoring relevant aspects of operating employees' behavior, such as reviewing their motor vehicle driving record, absenteeism, job performance, and refusals to work. In this case, the engineer of ENS-121 had a very poor driving

20/ Railroad Accident Report--NTSB/RAR-83/06.

record and if motor vehicle record checks had been in place on this railroad, supervisory personnel may have been able to determine that the engineer's motor vehicle driving record was indicative of possible substance abuse.

A 1986 commuter railroad accident investigated by the Safety Board illustrates the potential value of checks of drivers' licenses and work attendance records for identifying employees with alcohol/drug use problems before they become involved in an accident.

On December 10, 1986, SEPTA train 0151 of the Regional Rail Division passed two restricting signals and collided with the rear of train 9843, which was stopped at Suburban Station, Philadelphia. In subsequent toxicology tests, the engineer of train 0151 tested positive for cocaine use. Two passenger attendants on train 9843 tested positive, respectively, for marijuana use and for marijuana/cocaine use. 21/ The Safety Board determined that the probable cause of the accident was, in part, the failure of the engineer of train 0151 "to comply with the approach and stop signals."

The engineer of train 0151 had been with SEPTA since January 11, 1983 (and had previous employment with Conrail). A review of the Pennsylvania Department of Motor Vehicles' driving records indicated that the engineer's license had been suspended for more than 3 years for failure to respond to citations and failure to pay fines. SEPTA appeared unaware of the engineer's driving record.

The engineer's work/performance record was, however, even more suggestive of an employee with an alcohol/drug abuse problem. In the previous 2 years, his record showed nine occasions in which he was disciplined for attendance issues --often for missing work surrounding weekends. In addition to a pattern of substandard work attendance, the engineer's performance record also showed warnings and a suspension for violating company rules and regulations. Despite the patterns of attendance and performance problems, the engineer received only written warnings or supervisory "counseling." There was no evidence that any inquiry into possible alcohol and/or drug use problems was made by company supervisors.

The FRA *Field Manual For Control of Alcohol and Drug Use In Railroad,* issued to railroads before the December 10 accident at Philadelphia, presents important guidance to railroad supervisors in the "early identification of work performance problems" (Section 9.5.2). A partial list of key criteria for early recognition of employee problems includes:

- drowsiness or sleeping on the job;
- increased absenteeism, especially on Mondays, after holidays, and after paydays;
- increased tardiness or unexplained absence from the work station;
- increased or frequent use of sick leave;
- increased risk taking behavior;
- decreased quality of work: and
- encounters with police.

21/ Railroad Accident/Incident Summary Reports--Philadelphia, Pennsylvania, December 10, 1986, and Ardmore, Pennsylvania; January 26, 1987 (NTSB/RAR-88/01/SUM)

If those responsible for supervision of the engineer of train 0151 had been more familiar with the information contained in the FRA Field Manual and also had been aware of the engineer's driving record, more appropriate supervisory actions (including referral to an EAP counselor for evaluation and drug screening) might have avoided this accident.

During the course of the Board's interviews with supervisors at the 10 railroads, the staff discussed the related issue of supervisory access to employee performance and attendance records. First level supervisors as well as crew dispatchers and crew chiefs indicated the widespread difficulty in accessing easily, up-to-date records on their employee's attendance and work patterns. Compounding this difficulty is the absence of a consistent, daily supervisory-to-employee relationship because of variable work schedules of employees and supervisors, transfers, and mobility of crews across the railroad's system. Supervisors and crew dispatchers complained that in order to review attendance/performance records they would have to visit records facilities at other locations and examine handwritten or typed paper forms or records.

The development of computerized crew dispatching (and computerized employee records) now in use by other railroads, including the UP and BN, offers a technological solution to the problem of early accessible employee records. A crew dispatcher at the UP indicated to the Safety Board's staff the ease at which almost instant access to relevant employee records can now be made. Considering the capabilities of present day computer systems, the Safety Board believes that a computerized system that would automatically identify patterns of employee absenteeism, tardiness, and/or job performance, and other decrements is conceivable. Short of this, improved access to relevant employee attendance work performance records by supervisors is clearly necessary and achievable for many railroads.

In a more recent accident investigated by the Safety Board, a major safety issue was supervisory oversight. On June 15, 1987, two SP freight trains collided head-on. 22/ One person was killed, several were injured, and property damage exceeded $1.7 million. In this case, supervisors failed to enforce procedures in SP's alcohol/drug policy. The yardmaster told the Safety Board that she believed the engineer of one of the trains had been drinking alcohol before assuming duty. However, she took no action to advise her supervisor so that the engineer could be removed from service for a Rule G violation. Additionally, the conductor of one of the trains failed to complete the required written certification that crewmembers were in compliance with Rule G. Indeed, further investigation by the Safety Board revealed that a number of SP conductors were refusing to complete the required written forms. The trainmaster responsible for supervision of all operations in the division had informed the conductors who are responsible for the direct supervision of the train that it was their duty to complete the forms. However, the trainmaster apparently took no action to enforce the policy.

The supervisory oversight breakdowns evident in this accident demonstrate that a railroad with an aggressive alcohol and drug policy and a strong management commitment to that policy must be vigilant in clearly monitoring the daily actions of its supervisors (including--perhaps most importantly--its lower-level supervisors) in enforcing and carrying out that policy.

The Safety Board sees three areas that railroads must strengthen to improve supervisory controls in regard to alcohol and drug use. A system must be devised by railroads for supervisors to meet train crews at departure and crew-change locations and to observe the conditions and actions of the crews as they undertake their predeparture tests. The Florida East Coast and the Denver and Rio Grande Western railroads use a form that must be signed at all departure locations by a supervisor certifying that the train crew was observed and did not appear to be impaired. The SP

22/ Railroad Accident Report--*Head-on Collision of Southern Pacific Transportation Company Freight Trains, Yuma, Arizona, June 15, 1987* (NTSB/RAR-88/02).

had such a program until May 1, 1988. The Safety Board strongly supports this approach which certifies that train crews have been observed and that they do not show evidence of impairment.

Second, senior railroad management must do a better job of translating to its lowest levels of supervisors that company policies on alcohol and drug use are very serious and that any relaxation of them will be dealt with firmly. Senior railroad management must monitor the actions or inactions taken by lower officials (i.e., review the written certifications periodically) to ensure that the desired actions are actually taking place. The SP, for example, has strengthened its monitoring program at its Yuma facility: additional supervisory personnel have been hired and new train crew reporting procedures require face-to-face meetings between supervisors and train crews, including an examination of safety rules.

Finally, there must be constant reminders that alcohol and drug use may be reflected in actions other than actual visible impairment: for example, lack of proper predeparture tests of safety equipment and violations of any safety and/or operating rules. Further, railroad management/supervision can undertake reviews of past actions by railroad employees, including checks on motor vehicle driver records, absenteeism, and refusals to work.

In sum, the Safety Board believes that stronger railroad management actions can be taken in supervisory control and that increased supervisory control should be applied by all railroads. Training for supervisors is an important element of such a program and is discussed in the next two sections.

Supervisor Training

According to the FRA rule (Subpart D, Authorization to test for reasonable cause):

- If the determination to require urine testing is based upon a suspicion that the employee is under the influence of or impaired by a controlled substance, at least one supervisory employee responsible for the decision to require urine testing must have received at least three (3) hours of training in the signs of drug intoxication. Such program shall, at a minimum, provide information concerning the acute behavioral and apparent physiological effects of the major drug groups on the controlled substances list (narcotics, depressants, stimulants, hallucinogens, and marijuana).

Additionally, if the railroad uses breath testing equipment:

- The operator shall have received training on the operational principles of the particular instrument employed and practical experience in the operation and use of the device and use of the breath alcohol calibrating unit.

The FRA provided information to the U.S. Court of Appeals for the Ninth Circuit on February 25, 1988, that 24 railroads had submitted material related to supervisor training on the symptoms of drug use; 11 railroads had submitted material on training of operators to use breath testing equipment for "reasonable suspicion" alcohol testing.

All 10 railroads interviewed by the Safety Board had training programs in accordance with the Federal minimum requirements. The training varied from 3-hour courses that met the intent of the FRA's rule to 3-day courses that detailed and examined the alcohol and drug use issue. One railroad's training session involved meeting people with the addictions under discussion. Many of the courses had excellent source materials, and at least one--Conrail's "Management Awareness

Program" (MAP)--contained information that the Safety Board would like to see all railroads distribute to its supervisors such as alcohol and drug addiction, pharmacology, the role of the supervisor, and employee counseling services. These are all areas that the Safety Board believes should be covered in a training program.

The Safety Board believes that the FRA should consider expanding supervisory training that addresses alcohol and drug use to include other methods of identifying problem railroad employees; a 3-hour drug course alone may not be enough to train a supervisor effectively.

The employee level at which supervisory training is required by the FRA rules also should be addressed by the railroads and FRA. If, as in the Yuma accident, a yardmaster is a "supervisor" and a conductor is a "supervisor," then employees at this level should receive formal training in detection of alcohol and drug use under the rule's requirements. The Safety Board believes that the person in charge of the train should be required to be trained.

As a result of its investigation of the June 15, 1987, Yuma, Arizona, accident, the Safety Board recommended on June 28, 1988, that the SP:

> R-88-18
>
> Provide training to all employees required to certify another employee's condition relative to Rule G on recognizing the standard signs of drug intoxication.

Further, the Safety Board believes that annual refresher training for supervisors should be required. By requiring refresher training, railroads can keep supervisors updated on the focus of their program, trouble areas, the drugs being used at various locations, review of accidents involving alcohol and/or drugs, and other relevant information.

Finally, training of supervisors must clearly explain the application of the Federal rules. In the Chase accident, three Amtrak crew members and the Amtrak dispatcher at Philadelphia, were not required by Amtrak to provide toxicological samples. Amtrak did not take samples as required by Federal regulations. Samples from one other Amtrak crewmember were obtained after the crewmember went to the hospital for medical aid, and then obtained by the FRA and tested. Application of the rules was far from orderly, and more than half of those who should have been tested were not.

Employee Training

Historically, employee training on the alcohol and drug use problem on most railroads generally consisted of a question on the operating rules examination; more than likely it was a true/false entry. This question would recite the railroad's Rule G and ask if the statement was true or false. This was the only "training" that most railroad employee were likely to receive from his or her company on the subject of alcohol and drug use and its effect on his/her job performance.

Since the advent of the Federal rule, a number of railroad companies have made efforts to notify employees about both the railroad's and the FRA's programs on alcohol and drug detection and enforcement. In general, the railroads use a variety of techniques to inform employees of the alcohol and drug programs, testing procedures, and the FRA's rules. Many use safety meetings, rules examinations, and bulletins posted in work locations. Others have mailed information to every employee. The UP has included articles on its alcohol and drug policy in "INFO," a magazine which is mailed to every employee and has a film available that illustrates the likely effects of alcohol and/or drugs on work performance. The BN and the D&RGW have used the "town meeting" approach, large local meetings at which employees meet with railroad officials face-to-face to discuss the alcohol and drug rules.

In 1983, the Safety Board recommended that members of the Association of American Railroads:

> R-83-61
>
> Enhance the training of all operating employees, especially conductors, in their responsibilities and duties so that they understand their responsibility to monitor the performance of other employees and to take positive action when rules violations occur.

The intent of this safety recommendation was for conductors to monitor their train crew's fitness for duty and take action if a member of the crew was not fit for duty. The response by the railroad industry has been largely positive. (See appendix G.) As a result of this study, R-83-61 has been "Closed-Superseded." A new recommendation is being issued to the FRA to include annual training in alcohol and drug detection for all employees who act as supervisors, including conductors.

Most railroad companies' training on the alcohol and drug rules focuses on the prohibitions and penalties of the rules; only two of the railroad employees interviewed said they had had training designed to teach employees about the effect that alcohol or drug use would likely have on their performance. Additionally, little training has been provided to the employee who is responsible for the safety of the train -- generally, the conductor, in some cases, the engineer--on the effect of alcohol and/or drug use on their performance. Since the conductor is responsible, in most cases, for the actions of the train crew, some type of formal training on alcohol and drug detection and their effects on job performance should be made available. Likewise, the engineer, the person actually operating the train, should be thorougly trained and informed of the likely effects of drug use on his or her performance. In one case, Pittsburgh, Pennsylvania (see Field Accident Briefs Nos. 87-43A and -43B in appendix C), the engineer alledgedly used his mother's prescription drug, butablital (a barbituate). His use of the drug was found to be a major factor in the accident. (See figure 3.) The engineer may not have been fully informed of the prescription drug's likely impact on his performance.

If other union employees who serve as first-line supervisors are required to verify the condition of employees under their supervision, they also should receive formal training in detection of alcohol and drug use. The Safety Board is aware of one railroad, the Norfolk and Southern, that incorporates accident cases involving alcohol and/or drug use by railroad operating employees in teaching its safety rules classes. The SP is training all employees in the detection of alcohol and drug impairment and is providing all employees with an informational pocket guide. The Board believes that innovative training, such as these examples, would heighten the commitment of railroad employees to help reduce alcohol and drug use in the industry. Therefore, the Safety Board believes that railroad management should expand its training programs to include those railroad employees directly responsible for the safety of the train, i.e., engineers or operators, conductors, and those employees who serve as first-line supervisors (track or maintenance-of-way foremen). Additionally, the railroads, with rail labor organizations' assistance, should be more aggressive in developing innovative training programs that describe the impact of alconol and/drug use on railroad operating employees' performance, including discussion of actual accident cases.

Work/Rest Scheduling

During the interviews for this study, a number of railroad employees said they believe that many alcohol and drug use problems result from management's lack of concern about the general health and welfare of its employees. Also, railroad employees believed the lack of proper rest creates a climate for increased alcohol and/or drug abuse by railroad operating employees.

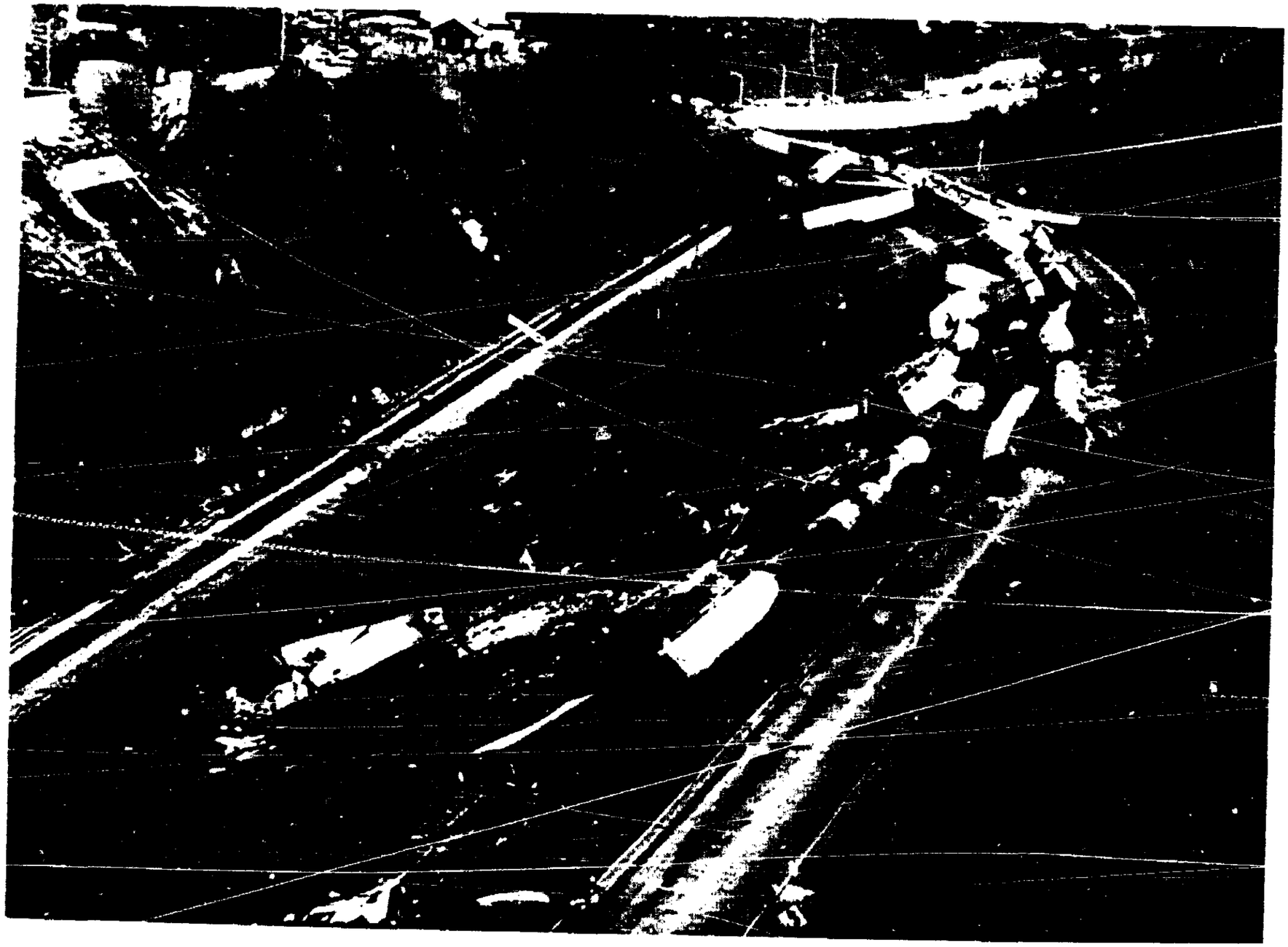

Figure 3.-- April 11, 1987, train derailment at Pittsburgh, Pennsylvania, involving hazardous materials release and evacuation of approximately 22,000 people.

Title 49 Code of Federal Regulations (CFR) Part 228 limits to 12 hours the maximum consecutive time that railroad employees in train service may be on duty; 8 hours is the minimum rest time required between work duties. Some employees are terminated from their 12-hour assignment in a location that is not close to lodging, and they must travel to a lodging location during what should be their rest period. Several employees interviewed during the study confirmed this to be the case.

Further, railroad employees often are called to duty 90 minutes or more before their train is scheduled to depart, further reducing their rest time. Many of those interviewed said employees often decide to stay awake during the rest period instead of going to sleep, and the effect of this lack of sleep becomes aggravated if they drink or take drugs. These employees said that alcohol and drugs were being used in an attempt to stem boredom, fatigue, and insomnia and to "mellow out."

The Safety Board has previously addressed the work/rest scheduling issue in two major accidents that occurred on the BN in 1984. 23/ In these two accidents, seven crew members were killed, four were injured, and property damage exceeded $5 million. The Safety Board concluded that a contributing cause to both accidents was crewmember fatigue, aggravated by irregular work/rest cycles. The Safety Board report strongly suggested that railroad management and labor organizations seem to be unaware that this is a serious problem. The Board urged railroad management and labor organizations to review the latest scientific data regarding operator fatigue and to expand the existing employee training and supervisory programs to include education in this area.

As a result of its investigation, the Safety Board recommended that the BN:

R-85-39

Improve its capability to provide accurate and timely information as to when traincrews laying over at Gillete, Wyoming, and other outlying points may expect to be called to duty.

In their most recent response of January 4, 1988, BN indicated that Phase I of its crew management system, which includes a computerized crew calling system, is nearing completion with the Alliance Division (which includes Gillette) scheduled for the first quarter of 1988. This system will permit updates at away-from-home terminals. In the interim, BN indicated that it is issuing crew lineup updates every 4 hours at all outlying points. Recommendation R-85-39 remains in an "Open-Acceptable Action" status.

The Safety Board found during interviews for this study that most employees and railroad supervisors were not trained about the problems of work/rest scheduling and its impact on safety and performance. However, some railroads had attempted through computerization to improve their crew scheduling procedures by better informing employees at away-from-home locations of their next duty assignment.

Although, there has been some private research on this issue 24/ the Safety Board is unaware of any activity by the Department of Transportation (DOT) to address the safety concerns of

23/ Railroad Accident Report--NTSB/RAR-85/04.

24/ Moore, Ede, Sulzman and Fuller, *The Clocks That Time Us*: Harvard University Press, 1982. Akerstedt, Torswell, and Gillberg: "Sleepiness and Shift Work; Field Studies" Sleep, 5:S95-S106: New York, Raven Press, 1982; and Johnson, L. C. and Naitoh, P., "The Operational Consequences of Sleep Deprivation and Sleep Deficit," AGARDOGRAPH No 193, June 1974. "Biological Clocks and Shift Work Scheduling," Hearings before the Subcommittee on Investigations and Oversight of the Committee on Science and Technology, House of Representatives, Ninety-Eighth Congress, March 23, 1983.

inadequate work/rest scheduling in the railroad or other modes of transportation. Furthermore, based on interviews for this study, railroad management and labor do not consider properly the adverse effects of irregular and unpredictable work/rest cycles on their train crews. Therefore, the Safety Board believes that the DOT should assess work/rest scheduling problems and the impact such irregularity and unpredictability have on fostering a climate for alcohol and/or drug use by transportation employees. Particularly, the DOT and the FRA, with rail labor and management, should identify locations where such scheduling is a problem and find ways to reduce its effect.

Railroad Alcohol and Drug Testing Procedures

Few issues arising from the FRA rule have generated (and continue to generate) as much controversy among railroad employees and their unions as the concern over the accuracy and validity of drug testing. The ultimate success of the rule will depend in large part on confidence in this aspect.

The Safety Board shares the view that drug testing programs, whether operated by the FRA or by individual railroad companies, should meet the highest standards for scientific accuracy and validity. However, there are also other concerns about the toxicological testing aspects of the FRA rule, concerns expressed by the Board before the promulgation of the rule and in subsequent months: delays in sample collection/testing, hospital cooperation in testing, use of breath testing under reasonable cause authority, and drug testing laboratory improvements.

Delays in Sample Collection/Testing.--One of the Safety Board's initial concerns was the potential for delays in postaccident collection of toxicological specimens (blood, breath, urine, etc.) from crewmembers and other individuals. Such delays can seriously diminish and even invalidate the probative value of the tests; this is especially true for alcohol because of its rapid rate of elimination in the body. Yet the rule was promulgated with no specific time limit for sample collection; it merely states that "the railroad shall make every reasonable effort to assure that samples are provided *as soon as possible after the accident or incident*" (emphasis added).

Two years after the rule was promulgated, the FRA administrator echoed the Board's concern when he noted that it had taken an average of more than 4 hours after an accident to obtain toxicological samples collected and that there had been "many cases in which it is seven or eight." 25/

An April 1988 analysis by the U.S. General Accounting Office (GAO) of FRA testing records on accidents from April 1987 to the end of October 1987, 26/ reported that the time between accident and toxicological sample collection averaged about 5 hours and ranged from about 1 to 12 hours in the 70 nonfatal accidents from which data were available. For the 13 fatal accidents studied, the time ranged from 5 to 26 hours.

The Safety Board has examined the time intervals from accident occurrence to sample collection in 46 accidents (involving 47 crews, 189 employees) investigated by the Board in 1987. The average time, for those employees for whom information was available, was about 5 1/2 hours; the range was from 1 1/2 to 14 hours.

25/ Opening comments of John H. Riley, Administrator, Federal Railroad Adminstration, Informal Safety Inquiry Into Alcohol and Drug Use, February 18, 1987, Washington, D.C.

26/ General Accounting Office Report No. GAO/RCED-88-120, *Railroad Safety: Reporting Time Frames and Results of Post-Accident Drug Tests*, issued April 1988

There are many reasons why delays in sample collection occur: the general confusion at accident sites; debriefing of train crew(s) to determine why the accident occurred; a lack of understanding of the rule's requirements; inadequate management direction; the need to treat injured crewmembers; the train crews participation in handing the emergency; and long distances to hospitals or other sample collection sites. However, although a delay in sample collection of 5 1/2 hours is not critical for some drugs such as marijuana because their elimination rate in the body allows the detection of the parent drug or its metabolites in blood and/or urine for a long time, the Board has serious concerns on two counts -- concerns which warrant action by the FRA.

First, sample collection delays should be a prime focus for correction. Delays in sample collection can seriously limit the ability of analysts to detect the parent drug or its psychoactive components (cocaine, some amphetamines, and PCP) in the blood. Information on these components and their respective concentrations in the blood is often vital to the interpretation of possible drug effects on human performance at the time of the accident -- information essential in the determination of the probable cause of the accident.

Second, for the determination of possible alcohol impairment, even a 5 1/2-hour delay can preclude the detection of alcohol in the body. (Most States have established a 3-hour limit for the collection of breath/blood alcohol samples for highway law enforcement purposes.) Therefore, the Board believes that the FRA should amend the rule to set a time period no greater than 4 hours for the collection of toxicological samples, and to require railroads to submit to the FRA a written explanation of the reason(s) for failure to do so. Further, the Federal rule should be explicit in stating that samples must still be collected even if the time period stipulated for sample collection has been exceeded.

Hospital Cooperation.--During the course of the Safety Board's investigation of two 1987 SP accidents near Yuma, Arizona (June 3, Laguirta, Arizona; June 15, Yuma, Arizona) and at the resultant Safety Board public hearing at Scottsdale, Arizona, lack of cooperation by hospitals with SP railroad company requests to collect samples from crewmembers came to light. After the Laguirta accident, the regional medical center refused to collect samples from the crash-involved crew members because of fear of legal liability. Because the regional medical facility is the only medical facility in the area open at night, the SP was forced to drive the crew some 60 miles into California to another medical facility willing to cooperate; testing was thereby delayed many hours.

Twelve days later in spite of efforts by both the company and the FRA to secure the regional medical center's cooperation before the second accident, the hospital again refused to cooperate. At the Safety Board's public hearing on the Yuma accident, testimony from an SP representative and the FRA's director of safety enforcement brought to light a few instances of medical facility refusals to cooperate with rail company requests for toxicological sample collection under the FRA rule.

During interviews, company managers as well as employees were asked about problems with postaccident and reasonable cause testing, in general, and about hospital cooperation, specifically. As noted earlier, in all cases, company representatives reported few problems with obtaining hospital cooperation. Most companies described fairly elaborate processes (before implementation of the rule) to solicit medical facilities, at locations distributed over their entire system, to collect samples. Several railroads had lined up 200 or more medical facilities. The few problems encountered, such as those at Yuma, were characterized as isolated cases, generally associated with the start-up of their FRA rule compliance program.

However, because of the problems with medical facility cooperation that have come to the Board's attention directly and indirectly from information received by Safety Board accident investigators the Board suggests that the FRA closely monitor this area .

Lack of Breath Testing.--As noted earlier, Subpart D of the rule allows railroads to require any covered employee to submit to a breath or urine test under three "reasonable cause" circumstances :

1. "Reasonable suspicion" that the employee is under the influence of or impaired by alcohol and/or a controlled substance(s);

2. Involvement in a reportable accident or incident; or

3. Commission of a rule violation or operating error.

An 8-hour time limitation (from observation of error/violation to sample collection) is also prescribed.

The railroads that were interviewed and that use reasonable cause testing authority reported no major problems. Although employees and union representatives did voice suspicion concerning the fairness and impartiality of reasonable cause programs, they did not provide any evidence to support their suspicions.

The Safety Board is concerned that few railroads use breath testing in their reasonable cause testing programs now being conducted: only three of the eight railroads interviewed conduct alcohol breath testing in addition to urine testing--CV, IC, and FEC. The FRA indicates that only 11 railroads now use breath testing in their reasonable cause testing programs.

The Safety Board believes that the reliance by many companies on urine testing alone may significantly limit their ability to detect alcohol impairment in reasonable cause testing. It is well known that urine is an unreliable specimen for the quantifiation of alcohol in the body (dependent on fluid intake, and time of last voiding). Considering an approximate elimination rate of 0.015 percent per hour and the average delay from accident occurrence to sample collection of 5 1/2 hours, an employee with, for example, a blood alcohol concentration of 0.08 percent or less could escape detection under the urine testing provisions of the rule.

The principal reason cited by railroads for not employing breath testing appears to be the potential cost of such a program. Portable breath testers, such as the widely used Alcosensor, cost approximately $500 per unit (not including training cost). In lieu of using breath testing devices, companies are relying on the ability of supervisors and coworkers to detect alcohol by the "signs and symptoms" of alcohol impairment. However, the inability of law enforcement and medical personnel to reliably detect alcohol impairment by such behaviorial cues in anti-drunk driving programs is well documented. Therefore, the Safety Board believes that the FRA should require the use of alcohol breath testing, in conjunction with urine testing for drugs, in reasonable cause testing programs under this rule.

Drug Testing Laboratories.--In its examination of railroad reasonable cause testing programs, the Board also considered the facilities used by the various railroads to test reasonable cause samples. Unlike testing under the postaccident provisions of the rule, analysis of reasonable cause samples is the responsibility of the railroads, not the FRA. Therefore, rail companies use commercial drug testing laboratories for these analyses. The Board's concern is that there is, currently, no uniform scientific oversight of these commercial laboratories by a recognized scientific or governmental agency.

The FRA rule requires that commercial laboratories that perform "a confirmatory procedure . . . shall regularly participate in an external quality control program that involves the analysis of samples submitted by a reference laboratory." Some laboratories voluntarily participate in the American College of Pathologists' drug proficiency testing program However, some railroads interviewed by the Board also employ private consultants to conduct proficiency tests with the

laboratories they use. There appears to be no common certification standards or proficiency testing criteria which all drug testing laboratories are required to meet.

The U.S. Department of Health and Human Services (HHS) recently promulgated guidelines for Federal drug testing programs which address important scientific and technical issues, including:

- Chain of custody procedures for specimen collection and handling;
- drug testing lab security;
- requirements for quality assurance and performance testing for urine analysis;
- educational and experience requirements for laboratory personnel; and
- reporting and review of results.

The HHS also has established standards for the certification of laboratories engaged in urine testing for Federal agencies (53 F.R. 11970, April 11, 1988).

Because the scientific accuracy of toxicological testing is essential, both for the protection of individual rights and for the effectiveness of rail safety programs, all drug testing laboratories, Federal and private, should participate in a recognized proficiency testing/scientific oversight program. The Safety Board believes that the FRA should amend the rule to require that all commercial drug testing companies engaged for testing under this rule at a minimum meet the scientific and technical standards promulgated by the HHS. 27/

Additional Improvements Needed in the Federal Rule

The FRA has reported that from February 10, 1986, through December 31, 1987, 349 railroad accident/incidents qualified for mandatory post-accident testing. 28/ Of the 1,508 employee tests resulting from these accidents/incidents, 88 (5.8 percent) were positive for alcohol and/or drugs. Marijuana and cocaine were found in 66 of the 88 railroad employees who tested positive (75 percent). Alcohol and medically authorized controlled substances were found in 10 and 12 employees respectively (11.4 and 13.6 percent, respectively). The testing required under the FRA rule has begun to suggest the extent of the alcohol and drug use problem of hours-of-service (covered) employees in the railroad industry.

In calendar year 1987, the Safety Board reviewed 88 railroad accidents that qualified for mandatory postaccident testing. Of the 327 employees that should have been tested, 314 were tested under the FRA rule testing program, and 31 tested positive. The predominant drug of use was marijuana. (See table 1.) Thus, the Safety Board's 1987 accident investigation data reflect that about 8 percent of the crewmembers who were tested postaccident were positive for alcohol and/or drugs.

The railroads are themselves uncovering--through mandatory, reasonable cause/suspicion, periodic, and medical examination testing--about 4 to 5 percent of the employees testing positive, the range being from about 2 to 9.4 percent.

27/ On May 10, 1988, the FRA issued an NPRM which would mandate additional procedures for urine testing. The NPRM proposes to incorporate the HHS guidelines to govern certain aspects of the FRA's railroad drug testing program

28/ Submission to 9th Circuit Court for Writ of Certiorari.

The General Accounting Office also recently reported that at least one crewmember in every five train crews (or about 1 employee in every 20) tested in 1987 under the postaccident provisions of the rule was positive for alcohol and/or drugs. The Safety Board believes that the results of postaccident mandatory tests, reasonable cause testing, periodic, and medical examinations with drug/alcohol screening will best capture those employees who use alcohol and/or drugs in the railroad industry.

A full evaluation of the overall impact of the FRA alcohol and drug rule will first require full implementation of the rule and collection of a wide aggregate of data and experience over a longer period of time. To assist in that full implementation, however, and to direct the future thrust of the rule, the Safety Board has reviewed the application of the alcohol/drug testing requirements through accident investigations and interviews with the railroad companies undertaken for this study (approximately 120 management and labor employees) in 1987 and 1988.

Conceptually, the Safety Board views the FRA rule (with the modifications that are addressed in this study) as the model approach for Federal regulation to reduce alcohol and/or drug use in the transportation industry. The Safety Board has identified several other specific areas where it believes constructive changes can be made to the FRA rule that will strengthen its effectiveness: expansion of the rule to employees other than hours-of-service employees, mandatory testing for cause, and a lowering of the dollar damage "triggering" threshold.

Expansion of Testing to Other Railroad Employees.--One of the Safety Board's principal concerns is the limited scope of the current FRA rule, particularly in terms of employees covered. In its comments of August 15, 1984, to the FRA on its then-proposed alcohol and drug rule, the Safety Board stated:

> Although the Safety Board recognizes the difficulty of the task of defining railroad employees covered by this rule, it believes FRA should include any employee who may be directly involved in an accident. This means that employees other than "covered employees" under the Hours-of-Service Act need to be subject to testing. For example, if a seriously alcohol-impaired train crew reported to a supervisor who did not detect alcohol, there might be a need to test the supervisor to determine if his failure to evaluate the crew properly was due to his own impairment.

Restricting the rule to "hours of service" employees alone limits the effectiveness of the rule. Particularly after an accident/incident, all railroad personnel who may have been involved should be subject to testing for alcohol and/or drugs.

However, the rule as it was issued in final form, applies only to employees assigned to perform service subject to the Hours of Service Act (45 U.S.C. 61-64b) during a duty tour. 29/ In general, the rule covers railroad operating employees (engineers, conductors, brakemen, firemen, and hostlers), signalmen, and dispatchers. Railroad employees not specifically covered by the rule include railroad officials and supervisors, maintenance-of-way employees, maintenance-of-equipment employees, clerks, and a number of specific labor craft employees generally located in terminal locations (electricians, machinists, and pipefitters).

During interviews with management and rail labor employees, the Safety Board discussed expansion of the rule to cover all employees in safety-sensitive positions. Management officials agreed that such an expansion is advisable. Rail labor employees, particularly engineers and

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29/ 49 CFR 219, Control of Alcohol and Drug Use, Subpart A, Section 219.5, provides a more expansive definition of "covered employees" and "covered service."

conductors, interviewed also believed that the expansion of the rule to other labor crafts would be beneficial in improving the safety level on their railroads; most felt this would be a logical extension of the rule. Therefore, the Safety Board believes that all employees in safety-sensitive positions should be covered by an expanded FRA rule.

Expansion of Reasonable Cause Testing.--The Safety Board regards the reasonable cause testing provisions of the FRA rule as the cornerstone of a meaningful alcohol/drug testing program and believes that all employees in safety-sensitive positions should be subject to mandatory "reasonable cause" testing provisions. 30/

SP has an aggressive reasonable cause testing program covering all employees, not just those "covered" by the FRA rule. Since 1984, the SP has had a firm policy that alcohol and drugs have no place in its workforce. The major difference between SP's program and the programs of most other railroads is SP's broad "just cause/reasonable suspicion" testing policy which applies not only to hours-of-service (covered) employees but also to other safety-sensitive employees and is triggered by a wide range of safety-related rules violations or other serious infractions. The SP believes that a drug-impaired clerk who miscodes a hazardous materials-bearing trains may well compromise safety as much as a drug-impaired engineer.

The SP has reported its program is saving lives and reducing accident losses for the company. This is the only railroad of the 10 that were interviewed that could document its accident loss reduction as a result of its alcohol and drug initiatives. In 1983 (before the new alcohol and drug policy), SP experienced 911 "human factors" accidents resulting in damage losses of $6.4 million. After 3 years under its new alcohol/drug program, "human factors" accidents dropped to 168, with a reduction to $1.2 million in damages. During the first few months under its new testing program, 22 to 24 percent of crewmembers involved in "human factors" accidents were tested positive for drugs and alcohol. The incomplete 1987 results (at the time of the Safety Board's interview with SP management) indicated about 2.3 percent of crewmembers tested positive for drugs or alcohol and that "human factors" accidents would probably be about 120 for the year.

The SP reported that if it had limited the application of its alcohol/drug program to accidents/incidents covered by the FRA rule, relatively few employees would have been tested. In fact, only 24 "human factor" accidents in 1986 met the FRA reporting criteria, compared to the 168 recorded by the SP. 31/ The SP also reported that personal injury accidents under the FRA's criteria were 347 in 1986, compared to 821 by the SP's standard.

During interviews, several railroad managers indicated that there is confusion as to the definition of "impact accident" in the rules and whether or not testing is to be undertaken under the postaccident testing requirements of the FRA rule.

One of the types of train accidents that requires mandatory postaccident testing is an impact accident--a train accident consisting of a head-on collision, a rear-end collision, a side collision (including a collision at a railroad crossing at grade), 32/ a switching collision, or impact with a deliberately-placed obstruction such as a bumping post. To qualify for postaccident testing, such an impact accident must have resulted in a reportable injury and at least $5,200 (in 1987) in railroad-reported damage, or $50,000 in railroad-reported damage. Indeed, the FRA has fined at least one railroad for testing employees (two were found positive for marijuana) after an impact accident that resulted in reportable injuries but less than $5,200 in damage. The Safety Board believes that any

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30/ 49 CFR 219.201(d), Authorization to Test for Cause.

31/ SP's *Information Package*, undated.

32/ "Railroad crossing at grade" means at least two railroad tracks crossing and does not refer to a railroad/highway grade crossing.

impact accident resulting in an injury, as defined at 49 CFR 225.5(3)(iii), should require testing and that arbitrary monetary distinctions should not determine whether testing will be undertaken in these cases.

Railroad-Reported Damage.--Some major accidents in 1987 met the mandatory postaccident testing criteria, i.e., exceeded the threshold damage requirement of $500,000; however, the train crews were not tested. In these accidents, the resulting damage should have triggered testing but the railroad's damage estimate fell below the $500,000 threshold damage requirement.

The mandatory testing aspect of the FRA rule is diluted because of several factors. First, the damage criterion of $500,000 or more is much too high. The "good faith determination" language of the rule allows railroad officials to determine if an accident/incident falls in one of the reportable classes of the rule, using any valuation schedule the railroad chooses. Railroad officials use depreciated value of equipment as opposed to actual replacement cost; therefore, the cost of the accident is reported artificially low. Furthermore, the costs of the railroad accident should include railroad equipment replacement costs, the cost of loss of lading (which can be many hundreds of thousands, if not millions, of dollars), and reasonable estimates of other nonrailroad property losses.

On March 11, 1987, a Burlington Northern (BN) freight train near Glendive, Montana, derailed in a descending 3-degree curve while traveling about 45 miles per hour (mph). 33/ The railroad's initial estimate of the damage was simply "$150,000 plus," and none of the traincrew was tested. However, the Safety Board initially estimated on-scene damage at $611,000. (The Safety Board estimated final cost of the accident at $655,000 which included railroad property damage of $643,000 and wreck clearing costs of $12,000.)

On October 3, 1987, an eastbound BN train traveling at an estimated 58 mph, derailed in a curve about 1.5 miles east of Kenesaw, Nebraska. 34/ Twenty-six flat cars loaded with vans derailed, turned over, and were destroyed. Again, the BN initially estimated damage at "$150,000 plus," and did no toxicological testing. The Safety Board initially estimated the damage to be about $603,000; the final cost of the accident--accounting for damage to railroad property, loss of lading, and wreck clearing--was approximately $785,000.

Because the FRA currently permits the railroads to use depreciated values to estimate property damage, the damage estimates are more likely to be under the $500,000 threshold meant to trigger toxicological testing. The most striking case of this so far involved hazardous materials impinged by fire and evacuation. On November 9, 1987, a Norfolk Southern train derailed near the town of Morenci, Michigan. 35/ Twenty cars were involved in the derailment and a fire ensued, involving an empty tank car last containing sodium hydroxide. Local officials evacuated two farmhouses (8 people) because of the danger of the fire impinging the tank car. The railroad official at the scene estimated the damage at $400,000, and therefore no toxicological tests of the train crew were taken. The final railroad depreciated value cost estimate for the accident was $480,000. The Safety Board's final damage estimate, however, including the cost of railroad property, lading loss and wreck clearing, was $1,034,000.

Another accident, on November 11, 1987, at Stanton, Tennessee, involved the derailment of a CSX freight train. 36/ The train was traveling about 49 mph when 4 of the 5 locomotive units and 32 cars derailed A fire broke out around the locomotives, due to ruptured diesel fuel tanks. The Safety Board's total damage estimate, based on railroad property damage, lading loss, and wreck

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33/ Currently under investigation, NTSB Docket No. DEN-87-FR-008, Glendive, Montana

34/ Currently under investigation, NTSB Docket No DEN-88-FR-001, Kenesaw, Nebraska

35/ Currently under investigation, NTSB Docket No CHI-88-FR004, Morenci, Michigan.

36/ Currently under investigation NTSB Docket No FTW-88-FR005, Stanton, Tennessee.

clearing, was approximately $2 million. However, the railroad did not test the train crew; subsequently, the railroad reported its final damage (using depreciated value) as $400,000. The Safety Board's final damage estimate, including railroad losses, lading loss, and wreck clearing, totaled $2,030,000.

The Safety Board believes that the number of mandatory tests conducted under the FRA rule should be expanded. This can be done by reducing the railroad property damage criterion. The railroads are now required to use $150,000 "current replacement cost" as the criterion for reporting accidents to the Safety Board, and this would also be an appropriate amount to use as the property damage estimate criterion to trigger postaccident testing.

Furthermore, the FRA mandatory program should capture all serious railroad accidents. As noted earlier in this report, the Safety Board believes that all impact accidents involving a reportable injury under 49 CFR 225 should result in mandatory toxicological tests of all involved railroad employees.

If the changes suggested by the Board are made, approximately 600 accidents would qualify and an estimated 4,000 employees would be tested each year under the mandatory provisions of the rule, as opposed to the 179 events and 770 employees tested in 1987 (of whom 46 tested positive for alcohol and/or drugs, including prescription drugs). 37/

37/ FRA Accident/Incident Bulletin No. 155, Calendar Year 1986, published June 1987.

Chapter 3

Identification Of Troubled Employees: Employee Assistance Programs And Operation Redblock And Operation Stop

The FRA rule requires railroads to implement "a policy designed to encourage and facilitate the identification of those covered employees who abuse alcohol or drugs as part of a treatable condition and to ensure that such employees are provided the opportunity to obtain counseling or treatment before those problems manifest themselves in detectable violations" (referred to as the "voluntary referral policy").

This "voluntary referral policy" allows employees to maintain employment with the railroad if they seek assistance for an alcohol or drug problem before being charged with an offense which warrants dismissal. Provision is also made for "coworker reports," whereby employees report a fellow employee who they believe is in apparent violation of the railroad's alcohol and drug rules. Whether the worker is self-reported or coworker-reported, a railroad is obligated by the rule to grant the identified employee a leave of absence "for the period necessary to complete primary treatment and establish control over the employee's alcohol or drug problem" (not less than 45 days). 38/

Railroad Employee Assistance Programs

The focal point of rail company responsibility and management of this aspect of the rule is the Employee Assistance Program (EAP). Known by a variety of names, EAP programs are not only centers for the referral, assessment, and/or counseling of alcohol/drug abusing employees; they also often serve, along with railroad safety offices, as the company office responsible for general alcohol/drug abuse prevention and education efforts.

All of the railroads examined by the Safety Board had EAP programs. In fact, EAPs with provisions like those in Subpart E of the FRA's rule have been an accepted component of American industry (including some rail companies) for many years. For example, the BN's program was started in the 1950s, and the Union Pacific's EAP was started in 1972.

EAP programs originally were created to address employee alcohol dependency. Later, they began to include assistance with other personal problems, such as family and mental discord, all types of dependencies and addictions, and financial matters. However, alcohol problems still account for the majority of cases seen by those railroad EAP programs examined by the Safety Board. The Union Pacific reports that 54 percent of the cases dealt with by their EAP program from 1981-85 were the result of alcohol problems; alcohol and drugs together accounted for 63 percent of employee cases during that period. The BN reported that in 1987, 41 percent of its approximately 2,600 new cases were alcohol and/or drug problems.

Although every railroad reviewed by the Safety Board had taken steps to inform its employees about the company's EAP program, the degree to which the employees were actually informed about or familiar with the services available, as well as where and how to obtain these services, varied considerably among the railroads. These differences seemed to relate to two frequently mentioned factors: a "reminder" or periodic information on EAP programs and the extent to which EAP counselors and first line supervisors talk to employees about alcohol/drug abuse and the EAP. Given the mobility of rail employees and the turnover in certain job categories, periodic

38/ FRA Rule Subpart E—Identification of troubled employee," 49 CFR Part 219.401.

communications to employees concerning EAP programs, as well as alcohol and drug abuse issues and the need for compliance with safety rules, are essential. The railroad companies with the best-informed employees issued periodic communications on alcohol/drug abuse and EAP programs. Additionally, these railroad companies covered these topics in semiannual safety meetings, and their EAP counselors visited job sites to explain the EAP programs. For example, the BN issued numerous alcohol and drug informational pamphlets and distributed to every employee the company's EAP newsletter, "The Messenger."

One measure of the quality of EAP services is the access to and availability of services, indicated by the ratio of counselors to employees. Some experts suggest that one full-time EAP professional for every 2,500 to 3,000 employees is a realistic ratio for industry. 39/ On the UP, an EAP counselor is assigned to a territory with 2,800 to 3,000 employees. The maximum caseload per counselor is 80 to 85 cases per year. On the BN, 3,300 employees are assigned to one counselor who handles between 20 and 26 new cases every month, or about 250 to 300 cases per year. With systems spanning thousands of miles over many States, some EAP counselors are responsible for several thousand employees spread over three or more States. Although there was no evidence of a problem with the current EAP programs examined during this study, the Safety Board is concerned that continuing high caseloads, particularly when counselors are so geographically dispersed, may in the long term make it very difficult to continue to provide accessible, high quality EAP counseling.

A related quality issue is the cost to employees of EAP-referred treatment services. Most company treatment programs are paid for by employees through their health insurance (BN is an exception; the company pays for the treatment program). Insurance benefits for mental health and drug/alcohol treatment, arranged by railroad companies, should complement and support EAP programs. Without this support, competent treatment services would not be accessible to railroad employees who need them.

Despite the extensive costs in establishing and maintaining EAP programs (for example, estimated by BN as $1.5 million per year), most railroad companies told the Safety Board they believe such programs are highly beneficial. Using conservative statistics from the Association of Labor, Management, Alcoholism Counselors and Administrators (ALMACA) and the National Council on Alcoholism (NCA), the UP claims a minimum of a 7 to 1 return benefit for its EAP effort. Likewise, the BN believes that its 93 percent success rate in the first year (93 percent of the employees in the program did not return to the EAP program) is an indication of the benefits of its program.

Operation Redblock/Stop Programs

The Federal rule specifically encourages railroads to foster programs that involve co-workers in their drug/alcohol abuse prevention efforts. Section 219.401(b)(2) requires railroads to adopt, publish, and implement "a policy designed to foster employee participation in preventing violations . . . and encourage co-worker participation in the direct enforcement of (Subpart E)." Several railroads have undertaken voluntary "employee participation" programs to comply with this subpart

The first and most widely known "employee participation" prevention program in the rail industry was Operation Redblock, pioneered by UP railroad employees and union representatives in 1983. Operation Redblock thus predated the FRA rule and, in fact, was offered by rail unions as an alternative to federal alcohol and drug regulations.

Although the form may vary across companies, Operation Redblock has come to connote a national prevention effort enlisting employees in the prevention of job-related drug/alcohol use.

39/ James Ohers, "Assessment, Referral, Counseling Elements of Inhouse Programs," *Occupational Health & Safety Magazine*, December 1987

Redblock programs are highly structured and include formal collective bargaining agreements ("Rule G Bypass" and "companion" agreements, active involvement of local union organizations (Redblock Committees) in the identification of employees needing drug/alcohol treatment, and education efforts to increase understanding of drug/alcohol abuse and increase co-worker/peer pressure against job-related drug/alcohol use.

The five components of a Redblock program are:

(1) *Policy Statement*--A policy statement by local union organizations, endorsing their international union positions that condemn the use of alcohol or drugs while on duty.

(2) *Prevention Committees*--Participating local union organizations form Redblock Prevention Committees to field complaints from co-workers about employee use of alcohol or drugs while on duty. Committee members counsel identified employees to cease on-duty use and urge them to contact the company EAP for assistance. Members then provide help to these employees (or other employees who self-refer) in receiving EAP assistance.

(3) *Rule G Bypass*--Local union organizations ratify an agreement with the company which allows a one-time "bypass" of the traditional Rule G mandatory dismissal penalty for on-job drug/alcohol use. This is designed to break the traditional "conspiracy of silence" by making it possible for co-workers to confront those who use drugs or alcohol on the job, without automatically costing the abusers their jobs.

(4) *Companion Agreement*--With the above components in place, some railroads (such as the Union Pacific) reach a "companion agreement" with participating unions which allows an employee (without a previous Rule G violation) to return to service during a 12-month probationary period, provided that he or she participates in the appropriate EAP rehabilitation or education program.

(5) *Operation Redblock*--Complementing the above components is an extensive prevention/education program (sponsored by labor and supported by company funding), involving distribution of drug/alcohol education materials, special awareness events, and regular employee meetings to discuss alcohol/drug abuse issues.

Three of the 10 railroads examined during the course of this study had Redblock programs: UP, CSX, and BN. Amtrak is developing a program. Without exception, the employees interviewed were very supportive of their railroad's Redblock program. They emphasized that this program finally allows them to deal with this problem without threatening their friends' and colleagues' livelihood. Management representatives at these companies also voiced strong support for Redblock programs but indicated that the success of this program is clearly in the hands of the employees and their unions.

On the UP, 8 of 16 unions are currently participating in the Operation Redblock program, covering an estimated 20,000 of 28,000 eligible employees. Approximately 119 Redblock Committees are in operation across the system. As of May 1, 1988, these committees had confronted about 216 employees suspected of having drug or alcohol problems.

The CSX program has been in effect only since the beginning of 1988, but management and employees interviewed were strongly supportive. Approximately 25,000 employees system-wide are covered by the program. A local union official stated that although some unions had not yet agreed to participate in their program, Redblock was well regarded among unions and that membership would expand in the future.

BN's Redblock program is referred to as "Operation Stop." Participation has grown steadily since 1986, from 33 local committees to 68. In 1987, a reported 452 employees were confronted regarding suspected alcohol or drug abuse problems, 48.7 percent more than in the previous year. Operation Stop committees reported that about 78 percent of the referrals were from co-workers, 7 percent from supervisors, and the balance from friends or other sources. The majority of employees (53 percent) who came to the committee's attention were handled solely by counseling with committee members. An additional 34 percent were referred to company EAP programs, with the remainder receiving either no action or "other" action.

The clear consensus among both management officials and employees interviewed is that Operation Redblock/Stop is a valuable component of railroad drug/alcohol programs. The Safety Board shares this view and believes that Operation Redblock/Stop programs would be helpful to all railroads.

It also is apparent, however, that the incomplete participation among railroad unions significantly limits program effectiveness. By their nature, programs such as Operation Redblock cannot be mandated but must be born from and nurtured by the employees that they serve. The Safety Board is aware that international unions representing rail employees, such as the International Association of Machinists & Aerospace Engineers, have not yet endorsed or agreed to Redblock programs. Without the active encouragement and support from their parent union organizations, local union committees, which are the very heart of the Redblock program, may not expand.

The Safety Board believes that Operation Redblock and Operation Stop represent an important segment of the total program dealing with alcohol and drug use. Therefore, the Safety Board believes that all railroad unions should endorse Operation Redblock programs and actively support and encourage their locals' and memberships' participation.

However, the Board does not believe that Operation Redblock/Stop alone can address the continuing safety concerns. Increased levels of management supervision, expansion of mandatory and reasonable cause testing, and other parts of the program must be aggressively followed.

Chapter 4

Other Issues

Random Testing

On May 5, 1988, the Secretary of the Department of Transportation (DOT) announced that the FRA would amend the rule to include a requirement for random testing programs. 40/ The proposed Subpart G--Random Testing--would be limited to covered (hours of service) employees. The FRA cited reasons for proposing to mandate random testing: (1) the insufficiency of current rule provisions as evidenced by the percentage of employees tested under postaccident testing found to be positive for illicit drugs, (2) its belief that reasonable cause testing cannot detect drug use in some employees (who can cloak symptoms of impairment) "short of a major compromise in safety that could have catastrophic consequences." During the course of this study, the Safety Board endeavored to determine the positions of both railroad management and employees on this issue.

The views of railroad managers and employees were quite divergent on the issue of random testing. Railroad management generally supported inclusion of random testing in their anti-drug programs; employees did not. The Board was struck, however, by the general lack of understanding of random testing and its implications by both employees and management.

Employees interviewed often confused random testing with reasonable cause testing. Most did not understand the procedures for selection of employees to test. Their concerns over random testing centered on suspicions of drug testing inaccuracies, the potential for harassment or discrimination by supervisors, the assumption of "guilty until proven innocent," and infringement of constitutional rights. Several employees also stated that random testing would "destroy" Redblock programs.

With the exception of CSX, representatives of railroad management at the 10 railroads interviewed stated that their companies supported random testing. The most common reason cited for supporting random testing was the perceived deterrent value of such a program. "It will detect those employees that our current programs miss" was a frequently voiced comment. When queried about the structure or anticipated cost of the random testing program supported by their companies, few managers were able to respond with specific information.

Officials at CSX appeared to have examined potential implementation and cost issues attendant to random testing. Their principal reasons for opposing random testing were the potential costs and anticipated disruptions of rail operations. At a high rate of testing (on the order of 100-125 percent), CSX estimated the potential yearly cost of random testing to be approximately $3 million, principally due to disruption of rail operations. (BN officials recently communicated to the Safety Board their anticipated yearly cost of random testing of $2 million.)

The Safety Board believes that the critical elements of an effective drug/alcohol abuse program are:

- aggressive reasonable cause testing (triggered by a wide range of safety-related errors);

40/ 49 CFR Parts 217 and 219, Railroad Operating Rules; Random Drug Testing Program; Notice of Proposed Rulemaking issued in 53 CFR 16640 on May 10, 1988

- effective management supervision of employees, including proper education of supervisors in the detection of drug/alcohol abuse;
- post-accident testing;
- pre-employment testing;
- periodic medical testing; and
- competent drug/alcohol education and treatment programs for employees.

The evidence gathered as a result of this study reinforces the Safety Board's conclusion that these critical elements have not been uniformly or fully utilized by the majority of American railroads.

Concomitantly, information gathered during this investigation supports the Board's views on the importance of these critical program elements. The impressive accident reduction experience at SP attributed to its aggressive reasonable cause testing and firm anti-drug/alcohol abuse policy has been cited earlier. It also was the consensus of both management and employees interviewed during the course of this study that the firm anti-drug/alcohol policies and practices which railroads implemented in the early to mid-1980's have dramatically reduced overt alcohol and drug use on the job. Those interviewed frequently reported that more active management attention to enforcing company alcohol and drug policies/rules coupled with firm disciplinary actions against violators began in this period.

The incomplete success of the current rule is not, we suggest, based on a true test of the potential effectiveness of reasonable cause testing and the other measures proposed by the Board; it is a reflection of the failure of many railroads to fully and aggressively utilize these measures. The Safety Board believes that the FRA should, first, encourage railroads to fully implement and utilize these critical program measures through regulatory and other appropriate means discussed in this study before embarking on additional measures, such as random testing.

Federal Medical Certification for Railroad Employees

One measure that the FRA should consider implementing to increase control of employees' performance in safety-sensitive positions is requiring a Federal medical certificate. The Federal Aviation Administration requires all airmen to have such a certificate before they can operate aircraft, and interstate commercial motor vehicle drivers must have a valid medical certificate to drive a truck or bus. Certainly, train engineers should be medically fit. Since many railroads have medical offices, it would not be unreasonable for the FRA to require employees in safety-sensitive positions to provide medical information, to FRA's criteria. that they are medically fit for duty; then each would receive a medical certificate, through the railroad medical offficer. One of the major areas to be addressed in the fitness certificate would be alcohol and drug abuse. Abuse of alcohol and/or drugs would be a violation of the medical fitness certificate requirements, resulting in withdrawal of the certificate. Without the medical certificate, an employee in a safety-sensitive position could not operate a train or perform any other safety-sensitive service for the railroad until that employee again met medical certificate requirements.

Rail Rapid Transit Alcohol and Drug Rules

Rail rapid transit accidents are investigated by the Safety Board as railroad accidents. In 1987, two accidents not under the FRA rules reported to the Board involved the use of drugs by transit operating employees. The first, a rear-end collision involved two SEPTA transit cars on January 26, 1987, at Ardmore, Pennsylvania. Eighteen passengers received minor injuries and

property damage was estimated at $148,000. 41/ The Safety Board determined that the probable cause of this accident was the failure of the engineer/operator of the SEPTA train to comply with the approach and stop signal, due to impairment caused by drug use.

In the second transit accident, a four-car Metropolitan Atlanta Rapid Transit Authority (MARTA) train collided with a standing two-car test train on May 4, 1987, near the East Point, Georgia station. 42/ Three people were injured and property damage was estimated at $410,000. The Safety Board found that the operator of the MARTA train had a serious medical condition, was on prescription drugs, and should not have been operating equipment.

As a result of its investigation of a rear-end collision of two Metro-Dade Transportation Administration trains in Miami, Florida, on June 26, 1985, 43/ the Safety Board recommended that the Department of Transportation's Urban Mass Transportation Administration (UMTA):

R-86-34

Require that all employees involved in a rail rapid transit accident with fatality, injury, or property damage be tested in a timely manner for alcohol and drugs.

R-86-35

Require rail rapid transit systems to screen for drug and alcohol abuse all prospective and transferred employees prior to employment in safety-sensitive positions.

R-86-36

Require rail rapid transit systems to institute procedures and information systems to inform employees of the deleterious effects on work performance of some over-the-counter and prescription drugs.

R-86-37

Require the removal of employees from safety-sensitive positions if the rail rapid transit medical department determines that the employees' use of a prescription drug will affect their work performance.

R-86-38

Encourage the creation of effective employee assistance programs to detect and treat substance abuse among rail rapid transit employees in safety-sensitive positions.

After extensive correspondence with the Safety Board, the UMTA responded on February 1, 1988, that it had forwarded to the DOT General Counsel's Office a draft Notice of Proposed Rulemaking (NPRM) on "Control of Drug Use in Mass Transit Operations." As a result, the Safety Board has classified R-86-34 through -38 as "Open--Acceptable Action."

41/ Railroad Accident/Incident Summary Reports--NTSB/RAR 88/01/SUM

42/ Brief of Accident, File No 87-53A and -53B

43/ Railroad Accident Report--*Rear-end Collision of Metro Dade Transportation Administration Train Nos 172-171 and 141-142, Miami, Florida, June 26, 1985* (NTSB/RAR-86/03).

Additionally, as the result of two previous MARTA accidents investigated by the Safety Board, one in 1984 44/ and one in 1986, 45/ and the accidents reported in this study, the Safety Board believes that the UMTA should act immediately to issue the alcohol and drug rules. Also, the UMTA should ensure that the new rule covers procedures to review regularly the medical fitness of transit operators, the need for periodic medical examination of operators, procedures for timely followup of employees whose condition requires medication.

(Subsequent to the Board's approval of this study, the UMTA published in the Federal Register on July 8, 1988, a notice of proposed rulemaking (NPRM) entitled "Control of Drug Use in Mass Transportation Operations," UMTA Docket No. 88-F. Although a complete analysis of the NPRM has not been completed by the Safety Board's staff, it appears that the NPRM addresses the intent of Safety Recommendations R-86-34 through -38, issued June 26, 1985.)

Judicial Actions and Decisions

Several court actions have addressed the FRA rules. Originally, the FRA issued its "final" rule on July 19, 1985, and the implementation was to be effective on November 1, 1985. However, on that date, the U.S. District Court for the Northern District of California issued a temporary restraining order (TRO) that prohibited the FRA from implementing any portion of the rule. 46/ However, on December 9, 1985, the court entered a final order dissolving the TRO, and the FRA again attempted to place the rule in effect; the new implementation dates were in early 1986. On December 16, 1985, plaintiffs appealed to the Ninth Circuit Court, 47/ and asked the court to enjoin implementation of the rule while the appeal was being decided. The government defendants filed their opposition on December 19; however, the court suspended the rule.

On January 15, 1986, the U.S. Solicitor General asked the U.S. Supreme Court to vacate the Ninth Circuit stay order (thus permitting the rule to go into effect during the period of appellate review), and on January 27, 1986, the Supreme Court did so 48/, thus permitting the FRA to proceed once again with the final rule. On January 31, 1986, the FRA published (51 F.R. 3973) the following implementation schedule:

- Subparts A and B (General, Prohibition): February 10, 1986
- Subpart C (Post-accident Toxicological Testing): authorized February 10, 1986; mandatory March 10, 1986.
- Subpart D (Authorization to Test for Cause): February 10, 1986.
- Subpart E (Identification of Troubled Employees): February 10, 1986.
- Subpart F (Pre-employment Drug Screens): authorized February 10, 1986; mandatory May 1, 1986.

44/ Brief of Accident, File No. ATL-85-MR-04, Atlanta, Georgia.
45/ Brief of Accident, File No. A[illegible] 86-MR-19, Atlanta, Georgia.
46/ *RLEA* v. *Dole*, Civil Action No. 85-7958 (1985).
47/ *RLEA* v. *Dole*, Civil Action No. 85-28981 (1985).
48/ *Dole*, v. *RLEA*, 474 U.S. 1039 (1986).

On February 11, 1988, the Ninth Circuit Court reversed the district court's grant of summary judgment for the government. 49/ On February 25, 1988, the government defendants filed with the Ninth Circuit a stay of mandate (approved March 4), pending the filing of a writ of certiorari (review) to the Supreme Court. 50/ As a result, the FRA rule continues in force; rail labor has until May 16 to file its opposition. Rail labor filed its opposition and the Supreme Court agreed on June 6, 1988, to review the Ninth Circuit ruling. A decision by the Supreme Court is expected sometime in 1989.

A number of other court actions that also address the efforts by railroads to control alcohol and drug use by railroad employees have been and continue under judicial review. Some of the more notable decisions are summarized below.

The BN has appealed (April 1, 1988) to the U.S. Supreme Court a Ninth Circuit Court of Appeals decision (February 11, 1988) to enjoin the BN from carrying out its post-accident testing program. After two major accidents (Wiggins, Colorado, and Newcastle, Wyoming--previously addressed in this study), the BN initiated a major compulsory program of post-accident testing in which operating employees responsible for "human factor" accidents/incidents would be tested for alcohol and drug use. In a suit filed by the Brotherhood of Locomotive Engineers, the Ninth Circuit held that such testing violated the Railway Labor Act [45 U.S.C. 151-88 (1982)], on the grounds that postaccident testing is prohibited by collective bargaining agreements. This decision, however, conflicts with the decision of the Eighth Circuit in Brotherhood of Maintenance of Way Employees v. Burlington Northern Railroad, 802 F. 2nd 1016 (8th Cir. 1986), which upheld BN's ability to implement the same post-accident testing program at issue.

A number of cases have been filed by the Railway Labor Executives' Association (RLEA) and others challenging the railroad's attempts to require employees to undergo alcohol and drug testing during return-to-work and periodic physicals. In cases before the District Court for the Eastern District of Pennsylvania, 51/ the District Court for the Northern District of Georgia, Atlanta Division, 52/ the United States Court of Appeals for the Seventh Circuit, 53/ and the Eighth Circuit, 54/ the courts have affirmed the legality of railroads' policies of requiring a drug screen as part of physical examinations.

Congressional Initiatives

The House and the Senate both recently passed bills to reauthorize the FRA's rail safety programs (H.R. 3743 and S.1539). Both bills would allow the FRA to penalize individual rail employees directly for violations of safety rules and would raise the level of fines applicable to the railroads for employees' violations of safety regulations The bills also would authorize the FRA to establish minimum license requirements for train operators and engineers. H.R. 3743 included specific requirements for training, comprehensive knowledge of railroad operating practices and rules, prohibition if an individual has been denied a motor vehicle operator's license by a State or if an individual has been reported to the National Driver Register (NDR). On this point, S.1539 required the FRA to "consider" an employee's or applicant's motor vehicle driving record during the 5 years previous, and required applicants to provide to the railroad and/or the FRA information concerning his or her motor vehicle driving record, including authorizing access to any information in the NDR. (See further discussion of the NDR provisions, below.)

49/ *RLEA v Burnley*, 839 F. 2nd 575 (1988)

50/ Petition for Writ of Certiorari filed March 17, 1988, No 87-1555

51/ *RLEA v Consolidated Rail Corporation*, Civil Action No 86-2698 (1987)

52/ *RLEA v Southern Railway Company*, C86-1570 (1987)

53/ *RLEA v Norfolk and Western Railway Company*, 833 F. 2nd 700, 706 (7th cir. 1987)

54/ *BLE v. BN*, 802 F. 2nd 1016 (8th cir. 1986)

On May 23, 1988, a House-Senate conference committee approved the Rail Safety Improvement Act of 1988 (an amalgam of H.R. 3743 and S. 1539). The House approved the Conference report by a voice vote, and on June 8, 1988, the Senate approved the Conference report and the Rail Safety Act of 1988. The legislation was then forwarded to the White House for the President's signature. Some of the provisions of the the new legislation include:

- An increase in the maximum civil penalty allowed for safety violations from a current level of $2,500 to $10,000, with a penalty of $20,000 for a "grossly negligent violation" or a pattern of violations.

- A grant of authority to the Secretary of Transportation to levy fines and/or sanction railroad employees or managers for safety violations.

- A mandate to the Secretary of Transportation to establish within 12 months strict Federal rules to license or certify any operator of a locomotive. Further, the bill requires consideration of each prospective engineer's auto driving records.

In addition to work on the Rail Safety Improvement Act of 1988, three bills (S. 362, S. 356, and H.R. 693) calling for random alcohol and drug testing in the aviation and railroad industries have been introduced in the Congress. The bills direct the Secretary of Transportation to review existing rules, regulations, standards, and orders governing alcohol and drug use in railroad operations within 1 year and require all railroad employees responsible for safety-sensitive functions to be subject to testing on a random basis. S. 362 and H.R. 693 direct DOT to consider, and S.356 directs DOT to require, application of existing rules, regulations, orders, and standards to other categories of employees, including employees responsible for the safety of passengers, railroad rolling stock, and track and structures. All three direct DOT to consider disqualification for an established period of time of any employee determined to have used or to have been impaired by alcohol while on duty, or of any employee determined to have used a controlled substance, whether or not on duty, except as permitted for medical purposes (S.362 would permit dismissal of the latter).

The concepts introduced in Senate bills S. 356 and S. 362 were also included in S. 1041, the "Transportation Employee Safety and Rehabilitation Act of 1987," addressing testing for use of alcohol or controlled substance by the operators of aircraft, railroads, and commercial motor vehicles. H.R. 3051, the "Airline Passenger Protection Act of 1987," also would require random testing of rail employees.

On June 3, 1988, H.R. 4748, the "Railroad Drug Abuse Prevention Act of 1988" was introduced. This bill would amend the Federal Railroad Safety Act of 1970 to provide for drug and alcohol testing for railroad employees. The bill would require each rail carrier at the carrier's expense to conduct testing of hours of service and other safety-sensitive positions (including supervisory and management positions) whose performance could cause serious physical injury. Additionally, testing would be conducted for applicants of the above positions and applicants for reinstatement or return from furlough. Employees would be tested:

- on a random, nondiscriminatory basis;

- as part of all employer-required physical examinations for individuals out of service more than 90 days;

- as part of routine, periodic employer-required physical examinations;

- immediately following a railroad accident or incident involving loss of human life, bodily injury, or property damage in excess of $5,200.

Further, the bill provides that employees whose job performance the employer reasonably and in good faith suspects is being or is about to be impaired by the influence of alcohol or a controlled substance shall be tested immediately.

Use of the National Driver Register

The Rail Safety Improvement Act of 1988, awaiting full Congressional approval, includes the Senate's bill version of the NDR and other motor vehicle driving record provisions. The NDR, operated by the DOT's National Highway Traffic Safety Administration (NHTSA), is a clearinghouse of data on drivers whose licenses have been suspended, revoked, or denied, or who have a record of having committed certain serious traffic offenses. It was established in 1960 to assist State driver licensing officials in exchanging driving records and to enable a State to screen license applicants to determine whether another State has taken an adverse action, such as suspension or revocation, against the applicant. States participate in the NDR voluntarily by providing information to the register and by making inquiries regarding license applicants.

Legislative history makes it clear that the NDR is narrow in scope and purpose. Before 1982, the NDR was authorized to contain only information regarding license denials or withdrawals. The National Driver Register Act of 1982 expanded the categories of adverse actions to include convictions for certain serious offenses. At no time has the NDR been authorized to include a driver's complete history.

Similarly, the purposes for which the NDR may be used are limited, although they have been expanded in recent years. Before the 1982 Act, information contained in the NDR was to be used by State officials only, and only for driver licensing purposes. The 1982 Act expanded access to the NDR to include employers of commercial drivers and allowed driver licensing officials to obtain information for driver improvement and highway safety programs. However, there is no authorization, for example, for police agencies to use the NDR for "on the street" traffic law enforcement.

The U.S. Congress has recognized the weaknesses in the current NDR system and has mandated an implementation schedule for a "new" NDR. Under the Congressional mandate, the NHTSA is conducting a pilot test in four States (Washington, North Dakota, Ohio, and Virginia) to improve the NDR. After the pilot test is completed, the new, improved NDR should be implemented.

Public Law No. 100-223, signed on December 30, 1987, amended the Act to authorize inquiries on behalf of pilots. Airmen may authorize that information from the NDR be transmitted to the FAA for use in verifying the FAA medical certificate application. S.1539 and H.R. 3742 previously addressed in this study, would extend authorization to the railroad industry to use the NDR.

Further, a number of private sector search systems that are beginning to be utilized by industries to check motor vehicle driving records. 55/ A number of companies (trucking and insurance) already rely on private sector search services to provide driver histories on their employees or clients. Generally, these search services are able to provide a State's motor vehicle record to a client within 48 hours. Most of these services are keyed to an individual driver license, and only search in the State that issued the license.

Recently, the Safety Board recommended that the FAA, a sister agency of the FRA:

55/ Safety Study--*Training, Licensing and Qualification Standards for Drivers of Heavy Trucks* (NTSB SS-86-02), pp. 31-36

A-88-32

Require commercial operators to screen pilot applicants to identify convicted abusers of alcohol and other drugs, using history records of the State in which the pilot is licensed to drive. 56/

Certainly, this approach could be used by the railroad industry during initial pre-employment screens to augment the NDR motor vehicle records check.

The Safety Board believes that the NDR and/or other private systems can be useful in identifying individuals with alcohol and/or drug problems and others who may be potentially unsafe employees. Therefore, the railroads and FRA should take full advantage of the opportunity to screen present and future operating employees, through the NDR if given that authority by Congress, or through private sector search systems.

56/ Field Accident Brief File No. 700 and Aircraft Summary Report--Copperhill, Tennessee, February 22, 1986 and Safety Recommendation Letter from the National Transportation Safety Board to the Federal Aviation Administration dated March 24, 1988

Summary

The Safety Board believes that the FRA alcohol and drug testing rule, with some modifications, contains the basic elements needed for Federal regulations to prevent alcohol and drug use in the transportation industry. Indeed pre-employment screening, mandatory postaccident testing, reasonable cause/suspicion testing, and employee assistance programs are all vital and necessary components for an alcohol and drug use program. The FRA, however, needs to expand the scope of its rule, for railroad companies to improve certain elements of their alcohol and drug programs, and, in the case of rail rapid transit, for the UMTA to issue its long-awaited rules on control of alcohol and drug use in mass transportation. Action by railroad companies to expand their own management prerogatives in concurrence with the rule will increase the likelihood of further reductions in alcohol and/or drug use by railroad employees.

Railroad Programs

Even though the Federal rules apply to all major railroads, the development of more complete company programs should be the goal of all railroad managements. The Safety Board believes that railroads that expand the reasonable cause testing, that require certification by "supervisors" that employees are not under the influence or impaired, that increase supervisory training levels beyond minimal Federal requirements, that expand management oversight of supervision, that involve employees in alcohol and drug training, that use medical examinations for drug screening, that undertake breath tests with breathalyzers, and that attempt to help their employees through employee assistance and referral programs, such as Operation Redblock and Operation Stop, can reduce the use of alcohol and/or drugs by their employees. Several railroads have incorporated many of these elements in their programs, but none has implemented the full range of available components that can minimize alcohol and drug use by railroad employees.

There are other tools that management (and supervisors at management's direction) should use in evaluating and culling out employees who should not be performing safety-sensitive work for the industry. The railroads and the FRA should review motor vehicle driving records of employees and applicants, at least of those who operate and are responsible for the safe operation of trains. Additionally, patterns of absenteeism, work habits, and job performance should be carefully reviewed by railroad management. Most importantly railroads must stress a daily, steady regimen of face-to-face supervisory oversight at train crew reporting and crew change locations.

The FRA Rule

The Safety Board believes that limiting the applicability of the FRA rule to only "hours-of-service" employees restricts the potential effectiveness of the rule. All rail personnel who may have been involved in an accident/incident should be tested for alcohol and drugs, and all employees in safety-sensitive positions should be subject to reasonable cause testing. "Safety-sensitive" positions under the rule should include supervisors and managers, maintenance-of-way and maintenance-of-equipment employees, clerks who record hazardous materials trains, and employees who maintain locomotives and railroad equipment (electricians, machinists, and pipefitters). Because the Safety Board considers aggressive reasonable cause testing to be the cornerstone of an effective program, we believe that the FRA should make this subpart of the rule mandatory, not merely allowable at a company's option.

The Safety Board also believes that the types of events that can trigger reasonable cause testing should be expanded to include violation of any safety or operating rule which can compromise the safety of operations or the welfare of other employees.

As for the criteria for which accidents will result in mandatory tests, the Safety Board believes that "impact accidents" should include collisions in which there is an injury. The testing trigger for accidents other than "impact accidents" should be reduced from $500,000 to $150,000 to (1) be in consonance with the criteria for reporting an accident to the Safety Board, a reporting system already in place and understood by the railroads and (2) increase the number of accidents in which employees would be tested. Additionally, the Board believes that actual replacement costs (not depreciated value) and estimated damage to other than railroad property should be used in determining the $150,000 damage.

Rail Rapid Transit

There is a definite need for rules to help combat the alcohol and drug problem in the rail rapid transit industry. The UMTA seems to have recognized that need after a long series of discussions and correspondence with the Safety Board. The two accidents investigated by the Safety Board in 1987 (Ardmore, Pennsylvania, and East Point, Georgia) illustrate the Board's position that Federal rules are needed in this area. The Safety Board looks forward to expedited handling of the rulemaking process by the UMTA/DOT to release this rule for public comment without further delays.

CONCLUSIONS

1. The FRA alcohol and drug testing rule, with some modifications, contains the basic elements needed for Federal regulations to prevent alcohol and drug use in the transportation industry.

2. Of the 156 railroad/rail rapid transit accidents investigated by the Safety Board in 1987, 29 (18.6 percent) involved one or more employees who tested positive for the presence of alcohol and/or drugs (including prescription drugs), or the employee informed the Board's investigative staff of prescription drug use.

3. In four of the 29 accidents involving alcohol and/or drug use, the employees involved had prescription drugs in their systems; one employee may have taken the drug after the accident as the result of postaccident medical treatment.

4. Six of the 29 accidents involving alcohol and/or drug use resulted in railroad employee fatalities; 2 involved rail rapid transit operations.

5. In the 23 alcohol and/or drug-involved collisions and/or derailments, there were 19 fatalities, 381 injuries, evacuation of an estimated 23,000 people because of hazardous materials release, and more than $37.5 million in railroad-reported property damage.

6. The FRA has a rule to help control alcohol and drug use in railroad operations; in terms of toxicological testing, it requires mandatory testing in certain situations and authorizes railroads to test for cause or on reasonable suspicion. Yet, the FRA's counterpart for rail rapid transit operations, the UMTA, does not have a rule for the control of alcohol and drug use in mass transportation operations.

7. The FRA rule applies to only certain covered (hours-of-service) employees , such as engineers, conductors, dispatchers, signalmen, and others on trains (firemen, brakemen, and service employees). The rule does not apply to maintenance-of-way employees, maintenance-of-equipment employees, supervisors and managers, clerks, or others in safety-sensitive positions on the railroad.

8. Some railroads have established requirements for reasonable cause testing and postaccident/incident testing broader than those specified in the FRA rule.

9. Data from the SP indicates dramatic reductions in "human factor" accidents/incidents as a direct result of its alcohol and drug programs.

10. The FRA's rule requires testing after any accident with $500,000 or more in damage to railroad property. This high threshold has permitted railroads to avoid postaccident toxicological testing after many accidents, thereby reducing some of the potential benefits of the mandatory testing requirements. Actual costs of railroad accidents are not considered in the threshold value for mandatory testing.

11. Railroads are required to notify the Safety Board of any accident resulting in property damage of $150,000; this threshold reporting level would also be appropriate as the threshold triggering level for mandatory postaccident testing (rather than the current $500,000 level), and would expand FRA's postaccident testing to include most serious train accidents.

12. A few railroads require written certification by a supervisor that train crews have been observed for fitness for duty before going on duty; such observations and certifications, if more widely used by railroad management will improve railroads' supervisory controls and reduce alcohol and drug abuse.

13. A number of railroads use medical examinations to ensure the fitness for duty of railroad employees. Drug and alcohol screens are a part of some railroads' medical examinations; however, the FRA does not have any rules concerning the medical fitness of railroad employees.

14 Few railroads use breath testing equipment for reasonable cause testing, even though the Federal rules authorize such use.

15. The Safety Board's accident investigation experience and interviews with railroads did not indicate a wide spread problem of refusal by hospitals or medical facilities to test railroad employees under the provisions of the FRA rule; however, the Board is aware of several recent accidents in which certain facilities have refused to test railroad employees.

16. The HHS has issued scientific and technical guidelines for toxicological testing laboratories engaged in Federal employee testing to ensure reliable testing services; laboratories used by railroads are not required to meet the HHS scientific and technical guidelines.

17. Poor work/rest scheduling continues to affect the performance of railroad employees; interviews with railroad employees indicate that alcohol and/or drugs are used by some railroad employees to fight fatigue and stress resulting from poor work/rest scheduling. Currently, no Federal research or demonstration projects addressing railroad employee work/rest scheduling and its possible effect on safety are being completed for or by the FRA.

18. There are no Federal medical fitness requirements for employees who operate railroad trains. Other Federal transportation agencies require medical certificates for operating employees.

19. The FRA rule requires that postaccident tests be taken "as soon as possible" and that reasonable cause tests be taken within 8 hours; a number of States' law enforcement agencies require that toxicological tests of driving-while-intoxicated offenders to be taken within 3 hours.

20. A number of controlled substances break down very rapidly and are metabolized quickly by the body; if meaningful test results are to be obtained to determine the effect of controlled substances in railroad accidents/incidents, toxicological samples of railroad employees involved in accidents must be taken within 4 hours.

21. In the accidents investigated by the Safety Board in 1987, employees tested under the rule were tested within an average of 5 1/2 hours from the time of the accident. However, in some cases, samples were not taken until 13 to 26 hours after an accident.

22. Most railroads do not check any motor vehicle driver records of railroad employees who operate or are responsible for the safe movement of trains. Congress is deliberating possible access to the National Driver Register by the railroads and FRA for this purpose.

23. The use of computerized crew dispatching has provided some railroads with a convenient system for monitoring employee absenteeism and work habits, to identify employees who may have alcohol or drug problems. However, these methods of identifying and removing employees from service are not often used by supervisors.

24. Many employees who act as supervisors (yardmasters, conductors, and foremen) are not trained in detection of alcohol and drug use, yet are required to certify that drugs and/or alcohol are not being used or to detect that use.

25. The FRA rule requires that supervisory employees receive at least 3 hours of training in alcohol and drug use detection if the railroad uses "reasonable cause" testing; it does not require annual refresher or followup training.

26. The railroads interviewed by the Safety Board generally have an employee assistance counselor for every 2,500 to 3,000 employees; however, some of the EAP counselors have to cover very large geographic areas.

27. Several railroads have augmented their alcohol and drug programs with Operation Redblock and Operation Stop programs, aimed at fully involving rail labor unions in detection of employees with alcohol and drug problems to deter and assist these employees. Although these programs are valuable in addressing the alcohol and drug issue, they only address a small portion of railroad workers nationwide.

28. Many local rail labor union committees have not joined the Operation Redblock and Operation Stop programs on the railroads that have these programs; national union leadership often has not been very forceful in encouraging full participation by all rail labor unions. A few national union organizations have not endorsed Operation Redblock and Operation Stop programs.

RECOMMENDATIONS

As a result of this safety study, the National Transportation Safety Board made the following recommendations:

--to the Federal Railroad Administration:

Amend 49 CFR Part 219 to require postaccident toxicological testing of all employees in safety-sensitive positions. (Class II, Priority Action) (R-88-23)

Amend 49 CFR Part 219 to require that railroads adopt mandatory reasonable cause testing programs for all employees in safety-sensitive positions. (Class II, Priority Action) (R-88-24)

Amend 49 CFR Part 219 to expand the circumstances which will trigger reasonable cause testing to include any violation of any safety or operating rule which can compromise the safety of operations or the welfare of other employees. Reasons for reasonable cause testing could also include work attendance, work habits, and poor motor vehicle driving records. (Class II, Priority Action) (R-88-25)

Amend 49 CFR Part 219 to require toxicological testing in all train accidents in which estimated railroad damage based on replacement costs and other estimated losses, including nonrailroad property losses, are $150,000 or more. (Class II, Priority Action) (R-88-26)

Amend 49 CFR Part 219 to require toxicological testing of all employees involved in any impact accident resulting in an injury as defined in 49 CFR 225.5(3)(iii). (Class II, Priority Action) (R-88-27)

Amend 49 CFR Part 219 to require periodic medical examinations (return-to-work, return-from-furlough, and others as appropriate) for all railroad employees in safety-sensitive positions, and to require that alcohol and drug screening be made a part of those examinations. (Class II, Priority Action) (R-88-28)

Amend 49 CFR Part 219 to require alcohol breath testing in addition to urine testing when any condition under Subpart D (reasonable cause testing) is met. (Class II, Priority Action) (R-88-29)

Require a Federal medical certificate for all railroad employees in safety-sensitive positions. In developing a medical certificate program, establish medical standards similar to programs already used by the Federal Aviation Administration and the Federal Highway Administration. (Class II, Priority Action) (R-88-30)

Amend 49 CFR Part 219 to require railroads to collect all appropriate toxicological samples as soon as practicable and not more than 4 hours after the triggering event. Written explanation of the reason(s) for failure to collect samples within 4 hours or not at all must be submitted to the Federal Railroad Administration. (Class II, Priority Action) (R-88-31)

Amend 49 CFR Part 219 to require railroads to monitor relevant behavior and performance, such as work attendance, work habits, and motor vehicle driving records, of all employees in safety-sensitive positions and to recommend to counseling those employees whose work attendance, work habits, or motor vehicle driving records are consistent with possible substance abuse. (Class II, Priority Action) (R-88-32)

Amend 49 CFR Part 219, Subpart D, to require annual drug and alcohol detection training for all employees who are required to monitor fitness for duty of other railroad employees including covered (hours-of-service) employees, such as conductors, yardmasters, foremen, and others. (Class II, Priority Action) (R-88-33)

--*to members of the Association of American Railroads:*

Require supervisors to review computerized crew dispatching and related work records and motor vehicle driving records to evaluate employee work habits and absenteeism as part of a documented program to identify employees in safety-sensitive positions who may use alcohol and/or drugs . (Class II, Priority Action) (R-88-34)

Provide annual training in drug and alcohol detection for all employees, such as conductors, yardmasters, formen and others, who are required to monitor the fitness for duty of other railroad employee. (Class II, Priority Action) (R-88-35)

Provide periodic training to all railroad employees on the effects of alcohol and drug use as they relate to their on-the-job work performance. (Class II, Priority Action) (R-88-36)

--*to members of the Railway Labor Executives' Association:*

Encourage local union committees to support the establishment of and participate in railroad programs, such as Operation Redblock and Operation Stop, to identify employees who may be alcohol or drug abusers. (Class II, Priority Action) (R-88-37)

--*to the Urban Mass Transportation Administration:*

Require periodic medical examinations, including alcohol and drug screening, for rail rapid transit employees in safety-sensitive positions. (Class II, Priority Action) (R-88-38)

--*to the Association of American Railroads:*

Encourage your members to ensure that railroad employees are informed of the nature and availability of employee assistance program (EAP) services, particularly the EAP's ability to assist in addressing substance abuse. (Class II, Priority Action) (R-88-39)

Also, the Safety Board reiterated the following recommendations to the Urban Mass Transportation Administration:

R-86-34

Require that all employees involved in a rail rapid transit accident with fatality, injury, or property damage be tested in a timely manner for alcohol and drugs.

R-86-35

Require rail rapid transit systems to screen for drug and alcohol abuse all prospective and transferred employees prior to employment in safety-sensitive positions.

R-86-36

Require rail rapid transit systems to institute procedures and information systems to inform employees of the deleterious effects on work performance of some over-the-counter and prescription drugs.

R-86-37

Require the removal of employees from safety-sensitive positions if the rail rapid transit medical department determines that the employees' use of a prescription drug will affect their work performance.

BY THE NATIONAL TRANSPORTATION SAFETY BOARD

/s/ ***Jim Burnett***
Chairman

/s/ ***James L. Kolstad***
Vice Chairman

/s/ ***John K. Lauber***
Member

/s/ ***Joseph T. Nall***
Member

/s/ ***Lemoine Dickinson, Jr.***
Member

June 21, 1988

Appendixes
Appendix A

Selected Safety Recommendations On Alcohol/Drug Use And Railroad Safety

Safety Recommendation: R-74-9
Issue Date. April 17, 1974
Addressee: Federal Railroad Administration
Status: Closed--Superseded

Include in their proposed standards for rules governing the operation of trains, regulations that will in effect prohibit the use of narcotics and intoxicants by employees for a specified period prior to their reporting on duty and while they are on duty.

Safety Recommendation: R-83-29
Issue Date: March 7, 1983
Addressee: Association of American Railroads
Status: Closed--Acceptable Action

In conjunction with the Railway Labor Executive's Association, assist the Federal Railroad Administration (FRA) in developing regulations and procedures to require that alcohol/drug involvement related accidents/incidents be fully reported to the FRA so that a data base can be developed for devising and implementing effective safety countermeasures to eliminate or minimize accidents involving alcohol/drug abuse.

Safety Recommendation: R-83-30
Issue Date: March 7, 1983
Addressee: Federal Railroad Administration
Status: Closed--Acceptable Action

Immediately promulgate a specific regulation with appropriate penalties prohibiting the use of alcohol and drugs by employees for a specified period before reporting for duty and while on duty.

Safety Recommendation: R-83-32
Issue Date: March 7, 1983
Addressee: Federal Railroad Administration
Status: Closed--Acceptable Action

With the assistance of the Association of American Railroads and the Railway Labor Executives' Association, develop and promulgate a requirement that alcohol/drug abuse involvement accidents/incidents be fully reported to the FRA.

Safety Recommendation: R-83-34
Issue Date: March 7, 1983
Addressee: Railway Labor Executives' Association
Status: Closed--Unacceptable Action

In conjunction with the Association of American Railroads, assist the Federal Railroad Administration in developing regulations and procedures to require that alcohol/drug involvement related accidents/incidents be fully reported to the FRA so that a data base can be developed for devising and implementing effective safety countermeasures to eliminate or minimize accidents involving alcohol/drug abuse.

Safety Recommendation: R-83-36
Issue Date: April 29, 1983
Addressee: Baltimore and Ohio Railroad Company
Status: Closed--Acceptable Action

Expand its educational program for operating traincrews to instruct them about the effects of alcohol on job performance

Safety Recommendation: R-83-38
Issue Date: April 29, 1983
Addressee: United Transportation Union
Status: Closed--Acceptable Action

Actively support the development and implementation of more meaningful alcohol abuse rules and procedures to curb use of alcohol by railroad operating employees during a specific period before they report for duty and while they are on duty.

Safety Recommendation: R-83-54
Issue Date: July 11, 1984
Addressee: Brotherhood of Locomotives Engineers
Status: Closed--Acceptable Action

Establish a union policy condemning the use of alcohol and drugs by union members before reporting and while on duty. Develop and implement an active campaign to this end directed to all members.

Safety Recommendation: R-84-34
Issue Date: June 18, 1984
Addressee: Seaboard System Railroad
Status: Closed--Acceptable Action

Establish procedures at initial terminal crew reporting points that will verify that crewmembers are not under the influence of alcohol or drugs and that crewmembers are or have been fully capable of performing the duties of their assignments safely.

Safety Recommendation: R-85-21
Issue Date: April 24, 1985
Addressee: Association of American Railroads
Status: Closed--Unacceptable Action

Encourage its member railroads to define the "subject to duty" provision of their Rule G to stipulate a defined period of required abstinencefrom the use of alcohol and other substances by train crewmembers prior to their accepting calls to duty.

Safety Recommendation: R-87-37
Issue Date: December 9, 1987
Addressee: Federal Railroad Administration
Status: Open--Await Reply

Amend 49 CFR Part 219 to require toxicological testing of all applicable employees in the event of a passenger train accident involving reportable injuries.

Safety Recommendation: R-88-03
Issue Date: February 8, 1988
Addressee: National Railroad Passenger Corporation (Amtrak)
Status: Open--Await Reply

Expand and intensify supervision and management of train operations in the Northeast Corridor to include mandatory speed and signal compliance checks and regular supervisory crew fitness checks at reporting points and improve enforcement of compliance with the requirements of postaccident testing of employees for alcohol and drugs.

Safety Recommendation: R-88-13
Issue Date: February 8, 1988
Addressee: Consolidated Rail Corporation
Status: Open--Await Reply

Improve the method of identifying employees who abuse alcohol/and or drugs

NOTE: See appendix G for railroad-by-railroad status of Safety Recommendations R-83-60 and -61.

Appendix B
Railroad Organizations Interviewed For This Study

Southern Pacific Transportation Company

Union Pacific System

CSX Transportation, Inc.

Florida East Coast Railway Company

Consolidated Rail Corporation

Denver and Rio Grande Western Railroad

Central Vermont Railway, Inc.

Illinois Central Railroad

Burlington Northern Railroad Company

National Railroad Passenger Corporation (Amtrak)

Appendix C

Railroad And Rail Rapid Transit Accidents Involving Alcohol And/Or Drugs

The following briefs of accidents involved employees who used alcohol and/or drugs, including prescription drugs, during January 1, 1987, through December 31, 1987.

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
DCA-87-M-R-002A
BRIEF OF ACCIDENT

File No. - 87-2A 1/4/87 CHASE, MD Time (Lcl) - 1330 EST

---Basic Information---

Reporting Railroad - AMTRAK
Type of Accident - COLLISION, REAR END
Operating Phase - EN ROUTE
Method of Operation - AUTO. BLOCK, CAB SIGNALS

Property Losses
Railroad - $15,236,000
Non-Railroad - $ 0

Fire YES

	Injuries			
	Fatal	Serious	Minor	None
Employees	1	3	8	0
Passengers	15	21	140	484
Motorist	0	0	0	0
Other	0	1	1	0

---Railroad/Personnel Information---

Train Data
Railroad - AMTRAK
Type of Train - PASSENGER
Train ID - NO. 94
Direction - NORTH
Speed (Est.) - 107
Speed (Auth.) - 105

Train Consist/Damage
No. Loco. Units - 2
No. Cars/Caboose - 12/0
End of Train Monitor - NO
Length (Feet) - 1,122
Trailing Tons - 634
Loco. Damaged/Derailed - 2/2
Cars Damaged/Derailed - 12/12

Crew Information
Front End - 1
Rear End - 4
Toxicology Performed -YES
Results -NEG.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLOUDY
Condition of Light - DAY

Line of Sight - 5181 FT

Itinerary
Last Departure Point
BALTIMORE, MD

Destination
BOSTON, MA

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner -AMTRAK
Type/No. of Tracks - 4
Gradient/Alignment -LEVEL/TANGENT

---Narrative---

ABOUT 1330 EST ON JANUARY 4, 1987, AMTRAK PASSENGER TRAIN 94, CONSISTING OF 2 ELECTRIC LOCOMOTIVE UNITS AND 12 PASSENGER CARS, STRUCK THE REAR OF CONRAIL TRAIN ENS-121, CONSISTING OF 3 FREIGHT LIGHT LOCOMOTIVE UNITS. ENS-121 HAD JUST SLID THROUGH A SWITCH FROM AN ADJACENT TRACK ONTO THE TRACK IN FRONT OF TRAIN 94. ENS-121 HAD PASSED AN APPROACH SIGNAL AND A STOP SIGNAL. TRAIN 94 WAS MOVING 120-125 MPH BEFORE BRAKE APPLICATION. TOXICOLOGICAL SAMPLES FROM THE ENGINEER AND BRAKEMAN OF ENS-121 WERE POSITIVE FOR METABOLITE OF MARIJUANA. THE ENGINEER HAD 212 NG/ML IN URINE AND 52 NG/ML IN BLOOD. THE BRAKEMAN TESTED 15 NG/ML IN BLOOD AND 109 NG/ML IN URINE; AND 64 NG/ML OF PCP IN URINE. SEE REPORT NTSB/RAR-88/01 FOR ADDITIONAL INFORMATION.

BRIEF OF ACCIDENT, continued

File No. - 87-2A 1/4/87 CHASE, MD Time (Lcl) - 1330 EST

Occurrence #1 - COLLISION, REAR END
Phase - SLOWING

Finding(s)
1. HOME SIGNAL - STOP
2. SIGNAL INDICATION - NOT COMPLIED - ENGINEER OF OTHER TRAIN
3. EQUIPMENT INADEQUATE - EXECUTIVE/GENERAL OFFICER
4. IMPAIRMENT (DRUGS) - ENGINEER OF OTHER TRAIN
5. USE OF DRUGS - OTHER CREWMEMBER
6. SIGNAL INDICATION - NOT OBSERVED - OTHER CREWMEMBER
7. CAB SIGNAL - NOT PERFORMED - OTHER CREWMEMBER
8. WARNING DEVICE - OBSTRUCTED
9. INADEQUATE SURVEILLANCE OF OPERATION - FRA

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 2,3,4

Factor(s) relating to this accident is/are finding(s) 5,6,7,8,9

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
DCA-87-M-R-002A
BRIEF OF ACCIDENT

File No. - 87-28 1/4/87 CHASE, MD Time (Lcl) - 1330 EST

---Basic Information---

Reporting Railroad - AMTRAK
Type of Accident - COLLISION, REAR END
Operating Phase - EN ROUTE
Method of Operation - AUTO. BLOCK, CAB SIGNALS

Property Losses
Railroad - $1,325,000
Non-Railroad - $ 0

Fire YES

Injuries	Fatal	Serious	Minor	None
Employees	0	1	1	0
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	16	24	148	484

---Railroad/Personnel Information---

Train Data
Railroad - CONRAIL
Type of Train - LIGHT LOCOMOTIVE
Train ID - ENS-121
Direction - NORTH
Speed (Est.) - 0
Speed (Auth.) - 0

Train Consist/Damage
No. Loco. Units - 3
No. Cars/Caboose - 0/0
End of Train Monitor - NO
Length (Feet) - 186
Trailing Tons - 0
Loco. Damaged/Derailed - 2/2
Cars Damaged/Derailed - 0/0

Crew Information
Front End - 2
Rear End - 0
Toxicology Performed - YES
Results - 2 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLOUDY
Condition of Light - DAY

Line of Sight - N/A

Itinerary
Last Departure Point
BALTIMORE (BAY VIEW), MD

Destination
HARRISBURG, PA

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - AMTRAK
Type/No. of Tracks - 4
Gradient/Alignment - LEVEL/TANGENT

---Narrative---

ABOUT 1330 EST ON JANUARY 4, 1987, AMTRAK PASSENGER TRAIN 94, CONSISTING OF 2 ELECTRIC LOCOMOTIVE UNITS AND 12 PASSENGER CARS, STRUCK THE REAR OF CONRAIL TRAIN ENS-121, CONSISTING OF 3 FREIGHT LIGHT LOCOMOTIVE UNITS. ENS-121 HAD JUST SLID THROUGH A SWITCH FROM AN ADJACENT TRACK ONTO THE TRACK IN FRONT OF TRAIN 94. ENS-121 HAD PASSED AN APPROACH SIGNAL AND A STOP SIGNAL. TRAIN 94 WAS MOVING 120-125 MPH BEFORE BRAKE APPLICATION. TOXICOLOGICAL SAMPLES FROM THE ENGINEER AND BRAKEMAN OF ENS-121 WERE POSITIVE FOR METABOLITE OF MARIJUANA. THE ENGINEER HAD 212 NG/ML IN URINE AND 52 NG/ML IN BLOOD. THE BRAKEMAN TESTED 15 NG/ML IN BLOOD AND 109 NG/ML IN URINE; AND 64 NG/ML OF PCP IN URINE. SEE REPORT NTSB/RAR-88/01 FOR ADDITIONAL INFORMATION.

BRIEF OF ACCIDENT, continued

File No. - 87-28 1/4/87 CHASE, MD Time (Lcl) - 1330 EST

Occurrence #1 - COLLISION, REAR END
Phase - STOPPING

Finding(s)
1. HOME SIGNAL - STOP
2. SIGNAL INDICATION - NOT COMPLIED - ROAD FREIGHT ENGINEER (THROUGH FREIGHT)
3. EQUIPMENT INADEQUATE - EXECUTIVE/GENERAL OFFICER
4. IMPAIRMENT (DRUGS) - ROAD FREIGHT ENGINEER (THROUGH FREIGHT)
5. USE OF DRUGS - ROAD FREIGHT BRAKEMAN (THROUGH FREIGHT)
6. SIGNAL INDICATION - NOT OBSERVED - ROAD FREIGHT BRAKEMAN (THROUGH FREIGHT)
7. CAB SIGNAL - NOT PERFORMED - ROAD FREIGHT ENGINEER (THROUGH FREIGHT)
8. WARNING DEVICE - OBSTRUCTED
9. INADEQUATE SURVEILLANCE OF OPERATION - FRA

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident was: 2,3,4

Factor(s) relating to this accident is/are finding(s) 5,6,7,8,9

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
NYC-87-F-R009A
BRIEF OF ACCIDENT

File No. - 87-10A 01/26/87 ARDMORE, PA Time (Lcl) - 2029 EST

---Basic Information---

Reporting Railroad - SEPTA
Type of Accident - COLLISION, REAR
Operating Phase - EN ROUTE
Method of Operation - AUTO. BLOCK

Property Losses
Railroad - $48,000
Non-Railroad - $ 0

Fire NO

Injuries	Fatal	Serious	Minor	None
Employees	0	0	0	1
Passengers	0	0	9	1
Motorist	0	0	0	0
Other	0	0	9	5

---Railroad/Personnel Information---

Train Data
Railroad - SEPTA
Type of Train - COMMUTER
Train ID - 202
Direction - NORTH
Speed (Est.) - 22
Speed (Auth.) - 25

Train Consist/Damage
No. Loco. Units - N/A
No. Cars/Caboose - 1/0
End of Train Monitor - N/A
Length (Feet) - N/A
Trailing Tons - N/A
Loco. Damaged/Derailed - N/A
Cars Damaged/Derailed - 1/0

Crew Information
Front End - 1
Rear End - 0
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLEAR
Condition of Light - DARK. ARTIFICIAL ILL.

Line of Sight - 500 FT

Itinerary
Last Departure Point
UPPER DARBY, PA

Destination
NORRISTOWN, PA

Hazardous Materials
Involved - NO
Evacuation - YES
Cars Involved - 0
Track Information
Owner - SEPTA
Type/No. of Tracks - MAIN/2
Gradient/Alignment - DESC./TANGENT

---Narrative---

TRANSIT CAR 202 STRUCK THE REAR OF STANDING TRANSIT CAR 207, WHICH IN TURN STRUCK STANDING WORK CAR 401 THAT WAS BROKEN DOWN. CAR 207 HAD MOVED UP BEHIND WORK CAR 401 TO HELP MAINTAIN RADIO CONTACT. CAR 202 HAD PASSED AN AMBER SIGNAL ADVISING THE OPERATOR TO PREPARE TO STOP AT THE NEXT SIGNAL. THE OPERATOR SAW THE NEXT SIGNAL WHICH WAS RED, AND APPLIED THE BRAKES. HE SAW THE RED MARKER LIGHTS ON THE REAR OF CAR 207 AND RAN TO THE REAR OF HIS CAR (202) BEFORE IT STRUCK THE REAR OF CAR 207. TOXICOLOGICAL TESTING (1 1/2 HRS. AFTER ACCIDENT) OF THE OPERATOR OF CAR 202 WAS POSITIVE FOR COCAINE (1 MCG/ML IN URINE), COCAINE METABOLITE (82 MCG/ML IN URINE AND 0.3 MCG/G IN BLOOD CLOT) AND MARIJUANA METABOLITE (26 NG/ML IN URINE). TESTING OF THE OPERATOR OF CAR 207 (3 1/2 HRS. AFTER ACCIDENT) WAS POSITIVE FOR MARIJUANA METABOLITE (26 NG/ML IN URINE). SEE REPORT NTSB/RAR-88/01/SUM FOR ADDITIONAL INFORMATION.

BRIEF OF ACCIDENT, continued

File No. - 87-10A 01/26/87 ARDMORE, PA Time (Lcl) - 2029 EST

Occurrence #1 - COLLISION, REAR
Phase - SLOWING

Finding(s)
1. SIGNAL INDICATION - NOT COMPLIED - ROAD PASSENGER ENGINEER/MOTORMAN
2. PHYSICAL IMPAIRMENT (DRUGS) - ROAD PASSENGER ENGINEER/MOTORMAN

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 2

Factor(s) relating to this accident is/are finding(s) 1

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
NYC-87-F-R009B
BRIEF OF ACCIDENT

File No. - 87-108 | 01/26/87 | ARDMORE, PA | Time (Lcl) - 2029 EST

---Basic Information---

Reporting Railroad - SEPTA
Type of Accident - COLLISION, REAR END
Operating Phase - STANDING
Method of Operation - AUTO. BLOCK

Property Losses
Railroad - $100,000
Non-Railroad - $ 0

Fire NO

Injuries	Fatal	Serious	Minor	None
Employees	0	0	0	1
Passengers	0	0	9	4
Motorist	0	0	0	0
Other	0	0	9	2

---Railroad/Personnel Information---

Train Data
Railroad - SEPTA
Type of Train - COMMUTER
Train ID - 207
Direction - NORTH
Speed (Est.) - 0
Speed (Actual) - 0

Train Consist/Damage
No. Loco. Units - N/A
No. Cars/Caboose - 1/0
End of Train Monitor - N/A
Length (Feet) - N/A
Trailing Tons - N/A
Loco. Damaged/Derailed - N/A
Cars Damaged/Derailed - 1/0

Crew Information
Front End - 1
Rear End - 0
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLEAR
Condition of Light - DARK, ARTIFICIAL ILL.

Line of Sight - 500 FT

Itinerary
Last Departure Point
UPPER DARBY, PA

Destination
NORRISTOWN, PA

Hazardous Materials
Involved - NO
Evacuation - YES
Cars Involved - 0
Track Information
Owner - SEPTA
Type/No. of Tracks - MAIN/2
Gradient/Alignment - DESC./TANGENT

---Narrative---

TRANSIT CAR 202 STRUCK THE REAR OF STANDING TRANSIT CAR 207, WHICH IN TURN STRUCK STANDING WORK CAR 401 THAT WAS BROKEN DOWN. CAR 207 HAD MOVED UP BEHIND WORK CAR 401 TO HELP MAINTAIN RADIO CONTACT. CAR 202 HAD PASSED AN AMBER SIGNAL ADVISING THE OPERATOR TO PREPARE TO STOP AT THE NEXT SIGNAL. THE OPERATOR SAW THE NEXT SIGNAL WHICH WAS RED, AND APPLIED THE BRAKES. HE SAW THE RED MARKER LIGHTS ON THE REAR OF CAR 207 AND RAN TO THE REAR OF HIS CAR (202) BEFORE IT STRUCK THE REAR OF CAR 207. TOXICOLOGICAL TESTING (1 1/2 HRS. AFTER THE ACCIDENT) OF THE OPERATOR OF CAR 202 WAS POSITIVE FOR COCAINE (1 MCG/ML IN URINE), COCAINE METABOLITE (82 MCG/ML IN URINE AND 0.3 MCG/G IN BLOOD CLOT) AND MARIJUANA METABOLITE (26 NG/ML IN URINE). TESTING OF THE OPERATOR OF CAR 207 (3 1/2 HRS. AFTER ACCIDENT) WAS POSITIVE FOR MARIJUANA METABOLITE (26 NG/ML IN URINE). SEE REPORT NTSB/RAR-88/01/SUM FOR ADDITIONAL INFORMATION.

BRIEF OF ACCIDENT, continued

File No. - 87-108 01/26/87 ARDMORE, PA Time (Lcl) - 2029 EST

Occurrence #1 - COLLISION, REAR
Phase - SLOWING

Finding(s)
1. SIGNAL INDICATION - NOT COMPLIED - ENGINEER OF OTHER TRAIN
2. PHYSICAL IMPAIRMENT (DRUGS) - ENGINEER OF OTHER TRAIN

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 2

Factor(s) relating to this accident is/are finding(s) 1

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
NYC-87-F-R-012A
BRIEF OF ACCIDENT

File No. - 87-19A 2/17/87 BRONX, NY Time (Lcl) - 1910 EST

---Basic Information---

Reporting Railroad - METRO NORTH COMM.
Type of Accident - COLLISION, HEAD ON
Operating Phase - EN ROUTE
Method of Operation - AUTO. BLOCK, INTERLOCKING

Property Losses
Railroad - $9,310
Non-Railroad - $ 0

Fire NO

Injuries	Fatal	Serious	Minor	None
Employees	0	0	0	2
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	20	323

---Railroad/Personnel Information---

Train Data
Railroad - MNCR
Type of Train - COMMUTER
Train ID - 2388
Direction - SOUTH
Speed (Est.) - 20
Speed (Auth.) - 20

Train Consist/Damage
No. Loco. Units - 5
No. Cars/Caboose - 0/0
End of Train Monitor - NO
Length (Feet) - 425
Trailing Tons - 290
Loco. Damaged/Derailed - 2/2
Cars Damaged/Derailed - 0/0

Crew Information
Front End - 1
Rear End - 1
Toxicology Performed - YES
Results - NEG.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLEAR
Condition of Light - DARK

Line of Sight - 1000 FT

Itinerary
Last Departure Point
MT VERNON WEST, NY

Destination
GRAND CENTRAL TML., NY

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - MNCR
Type/No. of Tracks - MAIN/4
Gradient/Alignment - LEVEL/TANGENT

---Narrative---

ON FEBRUARY 17, 1987 AT 1910 EST, PASSENGER TRAIN NO. 777, WHILE CROSSING FROM TRACK 1 TO 3, WAS STRUCK HEAD-ON BY SOUTHBOUND DEADHEADING TRAIN NO 2388 AT MO INTERLOCKING, THE BRONX, NEW YORK CITY. 30 PASSENGERS WERE TRANSPORTED BY EMERGENCY MEDICAL SERVICE TO LOCAL HOSPITALS WHERE 10 REFUSED MEDICAL AID AND 20 WERE TREATED AND RELEASED. POST ACCIDENT INVESTIGATION REVEALED THE ENGINEER OF TRAIN NUMBER 2388 HAD DISREGARDED SEVERAL SIGNAL INDICATIONS. TOXICOLOGY TESTS WERE PERFORMED ON 5 EMPLOYEES. TOX SAMPLES TAKEN FROM THE ENGINEER OF TRAIN 777 ABOUT 5 HOURS AFTER THE ACCIDENT SHOWED THE PRESENCE OF METABOLITE OF MARIJUANA IN THE FOLLOWING CONCENTRATIONS: BLOOD, 18 NG/ML; URINE, 289 NG/ML.

BRIEF OF ACCIDENT, continued

File No. - 87-19A 2/17/87 BRONX, NY Time (Lcl) - 1910 EST

Occurrence #1 - COLLISION, HEAD ON
Phase DECELERATING

Finding(s)
1. SIGNAL INDICATION -NOT COMPLIED - ROAD PASSENGER ENGINEER/MOTORMAN
2. USE OF DRUGS - ENGINEER OF OTHER TRAIN

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
NYC-87-F-R-012B
BRIEF OF ACCIDENT

File No. - 87-19B 2/17/87 BRONX, NY Time (Lcl) - 1910 EST

---Basic Information---

Reporting Railroad - METRO NORTH COMM.
Type of Accident - COLLISION, HEAD ON
Operating Phase - STOPPED
Method of Operation - AUTO. BLOCK, INTERLOCKING

Property Losses
Railroad - $10,000
Non-Railroad - $ 0

Fire NO

	Injuries Fatal	Serious	Minor	None
Employees	0	0	0	3
Passengers	0	0	20	320
Motorist	0	0	0	0
Other	0	0	0	2

---Railroad/Personnel Information---

Train Data
Railroad - MNCR
Type of Train - COMMUTER
Train ID - 777
Direction - NORTH
Speed (Est.) - 0
Speed (Auth.) - 0

Train Consist/Damage
No. Loco. Units - 4
No. Cars/Caboose - 0/0
End of Train Monitor - NO
Length (Feet) - 340
Trailing Tons - 130
Loco. Damaged/Derailed - 3/3
Cars Damaged/Derailed - 0/0

Crew Information
Front End - 1
Rear End - 1
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLEAR
Condition of Light - DARK

Line of Sight - 1000 FT

Itinerary
Last Departure Point
GRAND CENTRAL TML, NY

Destination
CROTON HARMON, NY

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - MNCR
Type/No. of Tracks - 4
Gradient/Alignment - LEVEL/TANGENT

---Narrative---

ON FEBRUARY 17, 1987 AT 1910 EST, PASSENGER TRAIN NO. 777, WHILE CROSSING FROM TRACK 1 TO 3, WAS STRUCK HEAD-ON BY SOUTHBOUND DEADHEADING TRAIN NO 2388 AT MO INTERLOCKING, THE BRONX, NEW YORK CITY. 30 PASSENGERS WERE TRANSPORTED BY EMERGENCY MEDICAL SERVICE TO LOCAL HOSPITALS WHERE 10 REFUSED MEDICAL AID AND 20 WERE TREATED AND RELEASED. POST ACCIDENT INVESTIGATION REVEALED THE ENGINEER OF TRAIN NUMBER 2388 HAD DISREGARDED SEVERAL SIGNAL INDICATIONS. TOXICOLOGY TESTS WERE PERFORMED ON 5 EMPLOYEES. TOX SAMPLES TAKEN FROM THE ENGINEER OF TRAIN 777 ABOUT 5 HOURS AFTER THE ACCIDENT SHOWED THE PRESENCE OF METABOLITE OF MARIJUANA IN THE FOLLOWING CONCENTRATIONS: BLOOD, 18 NG/ML; URINE, 289 NG/ML.

BRIEF OF ACCIDENT, continued

File No. - 87-198 2/17/87 BRONX, NY Time (Lcl) - 1910 EST

Occurrence #1 - COLLISION, HEAD ON
Phase STANDING

Finding(s)
1. SIGNAL INDICATION -NOT COMPLIED - ENGINEER OF OTHER TRAIN
2. USE OF DRUGS - ROAD PASSENGER ENGINEER/MOTORMAN

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
FTW-87-F-R-014
BRIEF OF ACCIDENT

File No. - 87-22 2/27/87 CLEVELAND, TX Time (Lcl) - 1445 CST

---Basic Information---

Reporting Railroad - SOUTHERN PACIFIC
Type of Accident - DERAILMENT
Operating Phase - EN ROUTE
Method of Operation - TIMETABLE, TRAIN ORDERS

Property Losses
Railroad - $6,065,723
Non-Railroad - $ 100,000

Fire YES

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	0	1	3
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	7	40

---Railroad/Personnel Information---

Train Data
Railroad - SP
Type of Train - FREIGHT
Train ID - 1-SPASM-K27
Direction - EAST
Speed (Est.) - 48
Speed (Auth.) - 49

Train Consist/Damage
No. Loco. Units - 4
No. Cars/Caboose - 62/1
End of Train Monitor - NO
Length (Feet) - 3844
Trailing Tons - 4117
Loco. Damaged/Derailed - 0/0
Cars Damaged/Derailed - 51/24

Crew Information
Front End - 2
Rear End - 2
Toxicology Performed -YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLOUDY
Condition of Light - DAYLIGHT

Line of Sight - 4000 FT

Itinerary
Last Departure Point
HOUSTON, TX

Destination
LUFKIN, TX

Hazardous Materials
Involved - YES
Evacuation - YES
Cars Involved - 11
Track Information
Owner -SP
Type/No. of Tracks -MAIN/1
Gradient/Alignment -ASC. 0.1/TANGENT

---Narrative---

ABOUT 1445 CST ON FEBRUARY 27, 1987, FREIGHT TRAIN 1-SPASM-K27, CONSISTING OF 4 LOCOMOTIVE UNITS AND 62 CARS, HAD 24 CARS DERAIL. 11 CARS CONTAINED HAZARDOUS MATERIALS AND 3 WERE BREACHED. THE NEXT DAY, A TORCH IGNITED THE WRECKAGE. 7 PEOPLE WERE TREATED FOR SMOKE INHALATION. INVESTIGATION REVEALED A BROKEN RAIL AT THE POINT OF DERAILMENT. TOXICOLOGY SAMPLES TAKEN FROM THE CONDUCTOR ABOUT 6 HOURS AFTER THE ACCIDENT SHOWED THE PRESENCE OF MARIJUANA IN THE FOLLOWING CONCENTRATIONS: BLOOD, 2 NG/ML THC (MARIJUANA), AND 58 NG/ML METABOLITE OF MARIJUANA; AND URINE, 201 NG/ML METABOLITE OF MARIJUANA.

BRIEF OF ACCIDENT, continued

File No. - 87-22 2/27/87 CLEVELAND, TX Time (Lcl) - 1445 CST

Occurrence #1 - DERAILMENT
Phase MAINTAINING SPEED

Finding(s)
1. RAIL - DEFECT INTERNAL
2. RAIL - BROKEN
3. IMPAIRMENT (DRUGS) - ROAD FREIGHT CONDUCTOR (THROUGH FREIGHT)

Occurrence #2 - TANK CAR PUNCTURED
Phase STOPPING

Occurrence #3 - HAZ MAT LEAK
Phase STOPPING

Occurrence #4 - FIRE
Phase STANDING

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1,2

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
LAX-87-F-R-008
BRIEF OF ACCIDENT

File No. - 87-26 3/08/87 MEADOW CREEK, ID Time (Lcl) - 0215 MST

---Basic Information---

Reporting Railroad - UNION PACIFIC
Type of Accident - DERAILMENT
Operating Phase - EN ROUTE
Method of Operation - TIMETABLE, TRAIN ORDERS, TRACK WARRANT

Property Losses
Railroad - $823,608
Non-Railroad - $ 0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	0	0	4
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	0

---Railroad/Personnel Information---

Train Data
Railroad - UP
Type of Train - FREIGHT
Train ID - HKCP-07
Direction - NORTH
Speed (Est.) - 31
Speed (Auth.) - 30

Train Consist/Damage
No. Loco. Units - 8
No. Cars/Caboose - 112/0
End of Train Monitor - YES
Length (Feet) - 9460
Trailing Tons - 7022
Loco. Damaged/Derailed - 3/3
Cars Damaged/Derailed - 19/21

Crew Information
Front End - 4
Rear End - 0
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLOUDY, SNOW
Condition of Light - DARK

Line of Sight - 400 FT

Itinerary
Last Departure Point
BONNER'S FERRY, ID

Destination
EASTPORT, ID

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - UP
Type/No. of Tracks - MAIN/1
Gradient/Alignment - DESC. .3/CURVE 6 DEG

---Narrative---

AT 0215 MST ON MARCH 8, 1987, FREIGHT TRAIN HKCP-70 DERAILED THE REAR 3 LOCOMOTIVES AND 21 HEAD CARS. THE TRAIN CONSISTED OF 8 LOCOMOTIVE UNITS, 112 FREIGHT CARS, AND WAS TRAVELING 31 MPH. THE TRAIN ENGINEER AND A CONDUCTOR WERE RIDING IN THE CAB OF THE LEAD LOCOMOTIVE UNIT. THE TWO BRAKEMAN WERE RIDING IN THE CABS OF THE SECOND AND FOURTH UNITS. THE BRAKEMAN IN THE CAB OF THE FOURTH UNIT FELT THE LOCOMOTIVE WHEELS STRIKE THE RAIL. A RAIL WITH A HEAD AND WEB SEPARATION WAS FOUND AT THE POINT OF DERAILMENT. TOXOLOGICAL TESTS ON THE 4 CREW MEMBERS INDICATED THE REAR BRAKEMAN, RIDING THE FOURTH LOCOMOTIVE, TESTED POSITIVE FOR METABOLITE OF COCAINE AT 254 NG/ML IN BLOOD AND 502 NG/ML IN URINE, APPROXIMATELY 7 HOURS AFTER THE ACCIDENT.

BRIEF OF ACCIDENT, continued

File No. - 87-26 3/08/87 MEADOW CREEK, ID Time (Lcl) - 0215 MST

Occurrence #1 - DERAILMENT
Phase ACCELERATING

Finding(s;
1. RAIL - DEFECTIVE
2. INADEQUATE SURVEILLANCE OF OPERATION - COMPANY/OPERATOR MANAGEMENT
3. RAIL HEAD - SEPARATION
4. RAIL WEB - SEPARATION
5. RAIL - BROKEN
6. IMPAIRMENT (DRUGS) - ROAD FREIGHT BRAKEMAN (THROUGH FREIGHT)

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1,3,4,5

Factor(s) relating to this accident is/are finding(s) 2

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
FTW-87-F-R-016
BRIEF OF ACCIDENT

File No. - 87-30 3/19/87 ALVORD, TX Time (Lcl) - 2230 CST

---Basic Information---

Reporting Railroad - BURLINGTON NORTHERN
Type of Accident - DERAILMENT
Operating Phase - EN ROUTE
Method of Operation - AUTO. BLOCK, TRAIN ORDERS, TIMETABLE

Property Losses
Railroad - $1,255,500
Non-Railroad - $ 0

Fire NO

Injuries	Fatal	Serious	Minor	None
Employees	0	0	0	4
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	0

---Railroad/Personnel Information---

Train Data
Railroad - BN
Type of Train - FREIGHT
Train ID - EXTRA 7232
Direction - EAST
Speed (Est.) - 35
Speed (Auth.) - 35

Train Consist/Damage
No. Loco. Units - 6
No. Cars/Caboose - 112/1
End of Train Monitor - NO
Length (Feet) - 6683
Trailing Tons - 14654
Loco. Damaged/Derailed - 0/0
Cars Damaged/Derailed - 39/39

Crew Information
Front End - 2
Rear End - 2
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLEAR
Condition of Light - DARK

Line of Sight - 1200 FT

Itinerary
Last Departure Point
WICHITA FALLS, TX

Destination
FT. WORTH, TX

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - BN
Type/No. of Tracks - 1
Gradient/Alignment - ASC. 1.24/TANGENT

---Narrative---

ON MARCH 19, 1987, AT ABOUT 2230 CST, A BURLINGTON NORTHERN COMPANY UNIT COAL TRAIN DERAILED 39 CARS OF A 113 CAR TRAIN AT ALVORD, TEXAS. THE TRAIN WAS MOVING AT 35 MPH. INVESTIGATION REVEALED A BROKEN COUPLER SHANK AT THE POINT OF DERAILMENT. THERE WERE NO INJURIES OR FIRES. THE DAMAGE COST WAS ESTIMATED TO BE $1,255,500. TOXICOLOGICAL TESTING WAS PERFORMED ON THE 4 MAN CREW. TOXICOLOGY SAMPLES OF THE REAR BRAKEMAN REVEALED THE BLOOD CONTAINED 2.8 NG/ML OF THC (MARIJUANA), AND 59 NG/ML OF THE CARBOXYLIC ACID METABOLITE OF THC. THE URINE WAS FOUND TO CONTAIN 92 NG/ML OF METABOLITE OF MARIJUANA.

BRIEF OF ACCIDENT, continued

File No. - 87-30 3/19/87 ALVORD, TX Time (Lcl) - 2230 CST

Occurrence #1 - TRAIN COMPONENT/SYSTEM FAILURE
Phase MAINTAINING POWER

Finding(s)
1. COUPLER SHANK - BROKEN
2. IMPAIRMENT (DRUGS) - ROAD FREIGHT BRAKEMAN (THROUGH FREIGHT)

Occurrence #2 TRAIN SEPARATION
Phase MAINTAINING POWER

Occurrence #3 COLLISION IN TRAIN
Phase STOPPING

Occurrence #4 DERAILMENT
Phase STOPPING

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
CHI-87-F-R-008
BRIEF OF ACCIDENT

File No. - 87-34 3/08/87 FORT WAYNE, IN Time (Lcl) - 1045 CST

---Basic Information---

Reporting Railroad - NORFOLK SOUTHERN
Type of Accident - FATALITY, EMPLOYEE
Operating Phase - SWITCHING
Method of Operation - YARD RULES, TIMETABLE, RADIO

Property Losses
Railroad - $0
Non-Railroad - $0

Fire NO

Injuries	Fatal	Serious	Minor	None
Employees	1	0	0	3
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	0

---Railroad/Personnel Information---

Train Data
Railroad - NS
Type of Train - CUT OF CARS
Train ID - NONE
Direction - EAST
Speed (Est.) - 4
Speed (Auth.) - 20

Train Consist/Damage
No. Loco. Units - 0
No. Cars/Caboose - 4/0
End of Train Monitor - NO
Length (Feet) - N/A
Trailing Tons - N/A
Loco. Damaged/Derailed - 0/0
Cars Damaged/Derailed - 0/0

Crew Information
Front End - 4
Rear End - 0
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLEAR
Condition of Light - DAYLIGHT

Line of Sight - 500 FT

Itinerary
Last Departure Point
EAST WAYNE YARD, IN

Destination
EAST WAYNE YARD, IN

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - NS
Type/No. of Tracks - YARD/3
Gradient/Alignment - DESCENDING/TANGENT

---Narrative---

AT ABOUT 1045 CST, MARCH 28, 1987, A BRAKEMAN, EMPLOYED BY THE NORFOLK SOUTHERN RAILROAD AT THE EAST WAYNE YARD, FT. WAYNE INDIANA, WAS FATALLY INJURED WHEN HE ATTEMPTED TO ASCEND THE LADDER OF A MOVING CAR, LOST HIS FOOTING, AND FELL UNDER THE WHEELS OF THE CAR. TOXICOLOGY SAMPLES WERE TAKEN ON THE FOUR-MAN CREW ABOUT EIGHT HOURS AFTER THE ACCIDENT. THE TOXICOLOGY RESULTS OF THE SECOND BRAKEMAN ON THE CREW REVEALED THE PRESENCE OF MARIJUANA IN THE FOLLOWING CONCENTRATIONS: BLOOD, 2.5 NG/ML THC (MARIJUANA); BLOOD, 33 NG/ML METABOLITE OF MARIJUANA; AND URINE, 217 NG/ML METABOLITE OF MARIJUANA. AN OBSTRUCTION (DETACHED BOX DOOR) WAS IN THE WALKWAY WHERE THE CREW WAS WORKING.

BRIEF OF ACCIDENT, continued

File No. - 87-34 3/28/87 FORT WAYNE, IN Time (Lcl) - 1045 CST

Occurrence #1 - EMPLOYEE FATALITY
Phase SETTING OUT CARS

Finding(s)
1. INATTENTIVE - YARD HELPER
2. INADEQUATE SURVEILLANCE OF OPERATION - COMPANY OPERATOR MGMT
3. OBJECT ON RIGHT OF WAY - OTHER
4. IMPAIRMENT (DRUGS) - YARD BRAKEMAN

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1

Factor(s) relating to this accident is/are finding(s) 2,3.

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
NYC-87-F-R-016
BRIEF OF ACCIDENT

File No. - 87-41 4/10/87 MANHATTAN, NY Time (Lcl) - 2052 EDT

---Basic Information---

Reporting Railroad - AMTRAK
Type of Accident - EMPLOYEE FATALITY
Operating Phase - SWITCHING
Method of Operation - AUTO. BLOCK

Property Losses
Railroad - $0
Non-Railroad - $0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	1	0	0	2
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	0

---Railroad/Personnel Information---

Train Data
Railroad - AMTRAK
Type of Train - SWITCH
Train ID - LOCOMOTIVE 917
Direction - EAST
Speed (Est.) - UNK
Speed (Auth.) - UNK

Train Consist/Damage
No. Loco. Units - 1/0
No. Cars/Caboose - 1/0
End of Train Monitor - N/A
Length (Feet) - N/A
Trailing Tons - N/A
Loco. Damaged/Derailed - 0/0
Cars Damaged/Derailed - 0/0

Crew Information
Front End - 1
Rear End - 2
Toxicology Performed - YES
Results - 2 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - TUNNEL
Condition of Light - ARTIFICIAL

Line of Sight - N/A

Itinerary
Last Departure Point
NEW YORK CITY, NY

Destination
NEW YORK CITY, NY

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - AMTRAK
Type/No. of Tracks - TUNNEL/24
Gradient/Alignment - LEVEL/TANGENT

---Narrative---
AT 2052 EDT APRIL 10, 1987, AMTRAK ASSISTANT CONDUCTOR WAS FATALLY INJURED WHEN CAUGHT BETWEEN THE COUPLERS OF A STANDING AMTRAK MAIL CAR (AMT 1171) AND MOVING LOCOMOTIVE NUMBER 917 WHILE ATTEMPTING TO MAKE THE COUPLING. TOXICOLOGY SAMPLES WERE TAKEN FROM THE 3 CREWMEMBERS. THE CONDUCTOR HAD METABOLITE OF COCAINE PRESENT IN THESE CONCENTRATIONS: BLOOD, 0.054 MCG/ML, AND URINE, 4.13 MCG/ML. THE ASSISTANT CONDUCTOR HAD METABOLITE OF MARIJUANA PRESENT IN THESE CONCENTRATIONS: BLOOD, 4.1 NG/ML, AND URINE, 66 NG/ML.

BRIEF OF ACCIDENT, continued

File No. - 87-41 4/10/87 MANHATTAN (NEW YORK CITY), NY Time (Lcl) - 2052 EDT

Occurrence #1 - EMPLOYEE FATALITY
Phase PICKUP IN YARD

Finding(s)
1. IMPAIRMENT (DRUGS) - YARD CONDUCTOR
2. IMPAIRMENT (DRUGS) - YARD BRAKEMAN
3. SAFETY RULES - NOT COMPLIED - YARD ENGINEER

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1,3

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
CHI-87-M-R-010A
BRIEF OF ACCIDENT

File No. - 87-43A 4/11/87 PITTSBURGH, PA Time (Lcl) - 1235 EDT

---Basic Information---

Reporting Railroad - CONRAIL
Type of Accident - DERAILMENT
Operating Phase - EN ROUTE
Method of Operation - TRAFFIC CONT., AUTO. BLOCK, CAB SIGNALS

Property Losses
Railroad - $1,707,100
Non-Railroad - $ 0

Fire YES

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	0	0	3
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	122	3

---Railroad/Personnel Information---

Train Data
Railroad - CR
Type of Train - FREIGHT
Train ID - EXTRA 3188 WEST
Direction - WEST
Speed (Est.) - 60
Speed (Auth.) - 30

Train Consist/Damage
No. Loco. Units - 3
No. Cars/Caboose - 89/1
End of Train Monitor - NO
Length (Feet) - 7600
Trailing Tons - 4580
Loco. Damaged/Derailed - 0/0
Cars Damaged/Derailed - 34/34

Crew Information
Front End - 3
Rear End - 0
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLOUDY
Condition of Light - DAYLIGHT

Line of Sight - 2000 FT

Itinerary
Last Departure Point
HARRISBURG, PA

Destination
CHICAGO, IL

Hazardous Materials
Involved - YES
Evacuation - YES
Cars Involved - 6
Track Information
Owner - CR
Type/No. of Tracks - MAIN/2
Gradient/Alignment - DESC. .98/CURVE 6-45

---Narrative---

ABOUT 1235 EDT ON APRIL 11, 1987, FREIGHT TRAIN EXTRA 3188 WEST HAD CARS TURN OVER IN A CURVE AND STRIKE FREIGHT TRAIN EXTRA 6278 EAST, DERAILING A TOTAL OF 44 CARS IN BOTH TRAINS. A DERAILED TANK CAR RELEASED PHOSPHOROUS OXYCHLORIDE, RESULTING IN AN EVACUATION OF 22,000 PEOPLE. TRAIN EXTRA 3188 WEST WAS MOVING 55-60 MPH IN A 30 MPH RESTRICTED AREA. TOXICOLOGY SAMPLES TAKEN FROM CREWMEMBERS RESULTED IN THE ENGINEER OF EXTRA 3188 WEST TESTING POSITIVE FOR THESE SUBSTANCES: BUTALBITAL (BLOOD, 3.4 MCG/ML, AND URINE, 3.8 MCG/ML) AND CODEINE (URINE, 1.0 MCG/ML), DRUGS FROM A PRESCRIPTION FOR WHICH HE HAD NO VALID MEDICAL PRESCRIPTION.

BRIEF OF ACCIDENT, continued

File No. - 87-43A 4/11/87 PITTSBURGH, PA Time (Lcl) - 1235 EDT

Occurrence #1 - LOSS OF CONTROL
Phase ACCELERATING

Finding(s)
1. EX. TRAIN - OVERSPEED
2. BLOCK SIGNAL - NOT COMPLIED - ENGINEER
3. IMPAIRED (DRUGS) - ENGINEER
4. TIMETABLE SPECIAL INSTRUCTIONS - NOT COMPLIED - ENGINEER
5. RULES - NOT COMPLIED - CONDUCTOR
6. RULES - NOT COMPLIED - BRAKEMAN

Occurrence #2. DERAILMENT
Phase STOPPING

Finding (s)
7. EX. TRAIN - APPLIED EMERGENCY
8. TRAIN HANDLING - INADEQUATE - ENGINEER

Occurrence #3 HAZ MAT SPILL
Phase STANDING

Finding (s)
9. TANK CAR DOME - CRACK

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1,3,8

Factor(s) relating to this accident is/are finding(s)4,5,6

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
CHI-87-M-R-010B
BRIEF OF ACCIDENT

File No. - 87-43B 4/11/87 PITTSBURGH, PA Time (Lcl) - 1235 EDT

---Basic Information---

Reporting Railroad - CONRAIL
Type of Accident - DERAILMENT
Operating Phase - EN ROUTE
Method of Operation - TRAFFIC CONT., AUTO. BLOCK, CAB SIGNALS

Property Losses
Railroad - $246,128
Non-Railroad - $ 0

Fire YES

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	0	0	3
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	122	3

---Railroad/Personnel Information---

Train Data
Railroad - CR
Type of Train - FREIGHT
Train ID - EXTRA 6278 (PICA 1)
Direction - EAST
Speed (Est.) - 15
Speed (Auth.) - 30

Train Consist/Damage
No. Loco. Units - 3
No. Cars/Caboose - 101/0
End of Train Monitor - NO
Length (Feet) - 6500
Trailing Tons - 8720
Loco. Damaged/Derailed - 0/0
Cars Damaged/Derailed - 10/10

Crew Information
Front End - 3
Rear End - 0
Toxicology Performed - YES
Results - NEG.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLOUDY
Condition of Light - DAYLIGHT

Line of Sight - 2000 FT

Itinerary
Last Departure Point
PITTSBURGH, PA

Destination
CAMDEN, NJ

Hazardous Materials
Involved - NO
Evacuation - YES
Cars Involved - 0
Track Information
Owner - CR
Type/No. of Tracks - MAIN/2
Gradient/Alignment - ASC. .98/ CURVE 6-45

---Narrative---

ABOUT 1235 EDT ON APRIL 11, 1987, FREIGHT TRAIN EXTRA 3188 WEST HAD CARS TURN OVER IN A CURVE AND STRIKE FREIGHT TRAIN EXTRA 6273 EAST, DERAILING TOTAL OF 44 CARS IN BOTH TRAINS. A DERAILED TANK CAR RELEASED PHOSPHOROUS OXYCHLORIDE, RESULTING IN AN EVACUATION OF 22,000 PEOPLE. TRAIN EXTRA 3188 WEST WAS MOVING 55-60 MPH IN A 30 MPH RESTRICTED AREA. TOXICOLOGY SAMPLES TAKEN FROM CREWMEMBERS RESULTED IN THE ENGINEER OF EXTRA 3188 WEST TESTING POSITIVE FOR THESE SUBSTANCES: BUTALBITAL (BLOOD, 3.4 MCG/ML, AND URINE, 3.8 MCG/ML) AND CODEINE (URINE, 1.0 MCG/ML), DRUGS FROM A PRESCRIPTION FOR WHICH HE HAD NO VALID MEDICAL PRESCRIPTION.

BRIEF OF ACCIDENT, continued

File No. - 87-43B 4/11/87 PITTSBURGH, PA Time (Lcl) - 1235 EDT

Occurrence #1 - LOSS OF CONTROL
Phase ACCELERATING

Finding(s)
1. EX. TRAIN - OVERSPEED
2. BLOCK SIGNAL - NOT COMPLIED - ENGINEER
3. IMPAIRED (DRUGS) - ENGINEER OF OTHER TRAIN
4. TIMETABLE SPECIAL INSTRUCTIONS - NOT COMPLIED - ENGINEER OF OTHER TRAIN
5. RULES - NOT COMPLIED - OTHER CREWMEMBER(S)

Occurrence #2. DERAILMENT
Phase STOPPING

Finding (s)
7. EX. TRAIN - APPLIED EMERGENCY
8. TRAIN HANDLING - INADEQUATE - ENGINEER OF OTHER TRAIN

Occurrence #3 HAZ MAT SPILL
Phase STANDING

Finding (s)
9. TANK CAR DOME - CRACK

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1,3,8

Factor(s) relating to this accident is/are finding(s)4,5,6

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
FTW-87-F-R-020A
BRIEF OF ACCIDENT

File No. - 87-48A 4/25/87 TEXARKANA, TX Time (Lcl) - 2120 CDT

---Basic Information---

Reporting Railroad - KANSAS CITY SOUTHERN
Type of Accident - COLLISION, SIDE
Operating Phase - EN ROUTE
Method of Operation - INTERLOCK., TRAFFIC CONT.

Property Losses
Railroad - $37,601
Non-Railroad - $ 0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	0	0	4
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	4

---Railroad/Personnel Information---

Train Data
Railroad - KCS
Type of Train - FREIGHT
Train ID - #92
Direction - NORTH
Speed (Est.) - 22
Speed (Auth.) - 22

Train Consist/Damage
No. Loco. Units - 5
No. Cars/Caboose - 110/0
End of Train Monitor - YES
Length (Feet) - 7475
Trailing Tons - 3465
Loco. Damaged/Derailed - 2/2
Cars Damaged/Derailed - 0/0

Crew Information
Front End - 4
Rear End - 0
Toxicology Performed - YES
Results - NEG.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLEAR
Condition of Light - DARK

Line of Sight - 800 FT

Itinerary
Last Departure Point
SHREVEPORT, LA

Destination
DE QUEEN, AR

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - KCS
Type/No. of Tracks - MAIN/2
Gradient/Alignment - 0.3 ASC./TANGENT

---Narrative---

ABOUT 2120 CDT ON APRIL 25, 1987, A KCS FREIGHT TRAIN MOVING 22 MPH COLLIDED WITH A UP FREIGHT TRAIN MOVING 36 MPH, AT A RAILROAD CROSSING OF THE 2 SINGLE TRACK MAINLINES. BOTH ENGINEERS PUT THEIR TRAINS IN EMERGENCY BRAKING BEFORE THE COLLISION WHEN IMPACT WAS IMMINENT. INVESTIGATION INDICATED THAT THE UNION PACIFIC TRAIN DISREGARDED THE STOP INDICATION OF A BLOCK SIGNAL. THERE WERE 2 KCS LOCOMOTIVES DERAILED WITH SLIGHT DAMAGE. TOXICOLOGY TESTS WERE PERFORMED ON THE 4 MAN CREW OF EACH TRAIN. TOXICOLOGY SAMPLES TAKEN FROM THE REAR BRAKEMAN OF THE UNION PACIFIC TRAIN ABOUT 5 HOURS AFTER THE ACCIDENT SHOWED THE PRESENCE OF MARIJUANA IN THE FOLLOWING CONCENTRATIONS: BLOOD, 1.3 NG/ML THC (MARIJUANA), AND METABOLITE OF MARIJUANA 26 NG/ML IN BLOOD AND 85 NG/ML IN URINE.

BRIEF OF ACCIDENT, continued

File No. - 87-48A 4/25/87 TEXARKANA, TX Time (Lcl) - 2120 CDT

Occurrence #1 - COLLISION, SIDE
Phase SLOWING

Finding(s)
1. HOME SIGNAL - STOP
2. BLOCK SIGNAL - DISREGARDED - ENGINEER OF THE OTHER TRAIN
3. IMPAIRMENT (DRUGS) - OTHER CREWMEMBER

Occurrence #2 - DERAILMENT
Phase SLOWING

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 2

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
FTW-87-F-R-020B
BRIEF OF ACCIDENT

File No. - 87-488 4/25/87 TEXARKANA, TX Time (Lcl) - 2120 CDT

---Basic Information---

Reporting Railroad - UNION PACIFIC
Type of Accident - COLLISION, SIDE
Operating Phase - EN ROUTE
Method of Operation - INTERLOCK., TRAFFIC CONT.

Property Losses
Railroad - $21,000
Non-Railroad - $ 0

Fire NO

	Injuries Fatal	Serious	Minor	None
Employees	0	0	0	4
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	4

---Railroad/Personnel Information---

Train Data
Railroad - UP
Type of Train - FREIGHT
Train ID - N-152
Direction - NORTH
Speed (Est.) - 36
Speed (Auth.) - 35

Train Consist/Damage
No. Loco. Units - 5
No. Cars/Caboose - 110/0
End of Train Monitor - YES
Length (Feet) - 7395
Trailing Tons - 7633
Loco. Damaged/Derailed - 2/0
Cars Damaged/Derailed - 0/0

Crew Information
Front End - 4
Rear End - 0
Toxicology Performed -YES
Results -1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLEAR
Condition of Light - DARK

Line of Sight - 800 FT

Itinerary
Last Departure Point
SHREVEPORT, LA

Destination
DE QUEEN, AR

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - KCS
Type/No. of Tracks - MAIN/2
Gradient/Alignment - LEVEL/TANGENT

---Narrative---

ABOUT 2120 CDT ON APRIL 25, 1987, A KCS FREIGHT TRAIN MOVING 22 MPH COLLIDED WITH A UP FREIGHT TRAIN MOVING 36 MPH, AT A RAILROAD CROSSING OF THE 2 SINGLE TRACK MAINLINES. BOTH ENGINEERS PUT THEIR TRAINS IN EMERGENCY BRAKING BEFORE THE COLLISION WHEN IMPACT WAS IMMINENT. INVESTIGATION INDICATED THAT THE UNION PACIFIC TRAIN DISREGARDED THE STOP INDICATION OF A BLOCK SIGNAL. THERE WERE 2 KCS LOCOMOTIVES DERAILED WITH SLIGHT DAMAGE. TOXICOLOGY TESTS WERE PERFORMED ON THE 4 MAN CREW OF EACH TRAIN. TOXICOLOGY SAMPLES TAKEN FROM THE REAR BRAKEMAN OF THE UNION PACIFIC TRAIN ABOUT 5 HOURS AFTER THE ACCIDENT SHOWED THE PRESENCE OF MARIJUANA IN THE FOLLOWING CONCENTRATIONS: BLOOD, 1.3 NG/ML THC (MARIJUANA), AND METABOLITE OF MARIJUANA 26 NG/ML IN BLOOD AND 85 NG/ML IN URINE.

BRIEF OF ACCIDENT, continued

File No. - 87-488 4/25/87 TEXARKANA, TX Time (Lcl) - 2120 CDT

Occurrence #1 - COLLISION, SIDE
Phase SLOWING

Finding(s)
1. HOME SIGNAL - STOP
2. BLOCK SIGNAL - DISREGARDED - ENGINEER
3. IMPAIRMENT (DRUGS) - ROAD BRAKEMAN/FLAGMAN (THROUGH FREIGHT)

Occurrence #2 - DERAILMENT
Phase SLOWING

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 2

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
NYC-87-F-R-020A
BRIEF OF ACCIDENT

File No. - 87-49A 4/27/87 NEW YORK CITY, NY Time (Lcl) - 0818 EDT

---Basic Information---

Reporting Railroad - PORT AUTH. TRANS. HUD.
Type of Accident - COLLISION, REAR END
Operating Phase - EN ROUTE
Method of Operation - AUTO. BLOCK

Property Losses
Railroad - $2,300
Non-Railroad - $ 0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	0	0	2
Passengers	0	0	12	588
Motorist	0	0	0	0
Other	0	0	12	588

---Railroad/Personnel Information---

Train Data
Railroad - PATH
Type of Train - HEAVY RAIL TRANSIT
Train ID - 811 HOB
Direction - EAST
Speed (Est.) - 18
Speed (Auth.) - 12

Train Consist/Damage
No. Loco. Units - 7
No. Cars/Caboose - 0/0
End of Train Monitor - NO
Length (Feet) - 758
Trailing Tons - N/A
Loco. Damaged/Derailed - 3/0
Cars Damaged/Derailed - 0/0

Crew Information
Front End - 1
Rear End - 1
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - TUNNEL
Condition of Light - TUNNEL

Line of Sight - 125 FT

Itinerary
Last Departure Point
HOBOKEN, NJ

Destination
MANHATTAN, NY

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - PATH
Type/No. of Tracks - MAIN, TUNNEL/1
Gradient/Alignment - LEVEL/CURVE 33 DEG.

---Narrative---

ABOUT 0818 EDT ON APRIL 27, 1987, PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH) TRANSIT TRAIN 7:57 JOURNAL SQUARE TO 33RD ST. (757 JO SO), WHILE STANDING IN THE CHRISTOPHER STREET STATION, WAS STRUCK IN THE REAR BY PATH'S 811 HOB TRANSIT TRAIN. APPROXIMATELY 1200 PASSENGER WERE ON THE 2 TRAINS AND 24 PASSENGERS (APPROXIMATELY 12 FROM EACH TRAIN) RECEIVED MINOR INJURIES. TESTING REVEALED TRAIN 811 HOB WAS OPERATED AT A SPEED IN EXCESS OF THAT PERMITTED BY SIGNAL INDICATIONS. TOXICOLOGY SAMPLES TAKEN FROM THE OPERATOR OF TRAIN 811 HOB ABOUT THREE HOURS AFTER THE ACCIDENT REVEALED THE PRESENCE OF MARIJUANA IN THE THE FOLLOWING CONCENTRATIONS: BLOOD, 1.7 NG/ML THC (MARIJUANA): AND OF THE METABOLITE OF OF MARIJUANA, 80 NG/ML IN BLOOD AND 422 NG/ML IN URINE.

BRIEF OF ACCIDENT, continued

File No. - 87-49A 4/27/87 NEW YORK CITY, NY Time (Lcl) - 0818 EDT

Occurrence #1 - COLLISION, REAR END
Phase EN ROUTE

Finding(s)
1. SPEED - EXCESSIVE - ROAD PASSENGER ENGINEER/MOTORMAN
2. IMPAIRMENT (DRUGS) - ROAD PASSENGER ENGINEER/MOTORMAN
3. SIGNAL INDICATION - NOT COMPLIED - ROAD PASSENGER ENGINEER/MOTORMAN

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1,2,3

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
NYC-87-F-R-020B
BRIEF OF ACCIDENT

File No. - 87-49B 4/27/87 NEW YORK CITY, NY Time (Lcl) - 0818 EDT

---Basic Information---

Reporting Railroad - PORT AUTH. TRANS. HUD.
Type of Accident - COLLISION, REAR END
Operating Phase - STANDING
Method of Operation - AUTO. BLOCK

Property Losses
Railroad - $5,000
Non-Railroad - $ 0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	0	0	2
Passengers	0	0	12	588
Motorist	0	0	0	0
Other	0	0	12	588

---Railroad/Personnel Information---

Train Data
Railroad - PATH
Type of Train - HEAVY RAIL TRANSIT
Train ID - 757 JO SQ
Direction - EAST
Speed (Est.) - 0
Speed (Auth.) - 12

Train Consist/Damage
No. Loco. Units - 7
No. Cars/Caboose - 0/0
End of Train Monitor - NO
Length (Feet) - 680
Trailing Tons - N/A
Loco. Damaged/Derailed - 2/0
Cars Damaged/Derailed - 0/0

Crew Information
Front End - 1
Rear End - 1
Toxicology Performed - YES
Results - NEG.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - TUNNEL
Condition of Light - TUNNEL

Line of Sight - 125 FT

Itinerary
Last Departure Point
JERSEY CITY, NJ

Destination
MANHATTAN, NY

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - PATH
Type/No. of Tracks - MAIN, TUNNEL/1
Gradient/Alignment - LEVEL/TANG. 33 DEG.

---Narrative---

ABOUT 0818 EDT ON APRIL 27, 1987, PORT AUTHORITY TRANS-HUDSON CORPORATION (PATH) TRANSIT TRAIN 7:57 JOURNAL SQUARE TO 33RD ST. (757 JO SQ), WHILE STANDING IN THE CHRISTOPHER STREET STATION, WAS STRUCK IN THE REAR BY PATH'S 811 HOB TRANSIT TRAIN. APPROXIMATELY 1200 PASSENGER WERE ON THE 2 TRAINS AND 24 PASSENGERS (APPROXIMATELY 12 FROM EACH TRAIN) RECEIVED MINOR INJURIES. TESTING REVEALED TRAIN 811 HOB WAS OPERATED AT A SPEED IN EXCESS OF THAT PERMITTED BY SIGNAL INDICATIONS. TOXICOLOGY SAMPLES TAKEN FROM THE OPERATOR OF TRAIN 811 HOB ABOUT THREE HOURS AFTER THE ACCIDENT REVEALED THE PRESENCE OF MARIJUANA IN THE THE FOLLOWING CONCENTRATIONS: BLOOD, 1.7 NG/ML THC (MARIJUANA); AND OF THE METABOLITE OF OF MARIJUANA, 80 NG/ML IN BLOOD AND 422 NG/ML IN URINE.

BRIEF OF ACCIDENT, continued

File No. - 87-49B 4/27/87 NEW YORK CITY, NY Time (Lcl) - 0818 EDT

Occurrence #1 - COLLISION, REAR END
Phase STANDING

Finding(s)
1. SPEED - EXCESSIVE -ENGINEER OF OTHER TRAIN
2. IMPAIRMENT (DRUGS) - ENGINEER OF OTHER TRAIN
3. SIGNAL INDICATION - NOT COMPLIED - ENGINEER OF OTHER TRAIN

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1,2,3

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
CHI-87-F-R-012A
BRIEF OF ACCIDENT

File No. - 87-52A 5/2/87 GILMAN, IL Time (Lcl) - 1152 CST

---Basic Information---

Reporting Railroad - ILLINOIS CENTRAL
Type of Accident - COLLISION, SIDE
Operating Phase - STANDING
Method of Operation - YARD RULES, TRAIN ORDERS, TIMETABLE

Property Losses
Railroad - $35,000
Non-Railroad - $ 0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	0	0	5
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	4

---Railroad/Personnel Information---

Train Data
Railroad - IC
Type of Train - FREIGHT
Train ID - EXTRA 2006 NORTH
Direction - NORTH
Speed (Est.) - 0
Speed (Auth.) - 0

Train Consist/Damage
No. Loco. Units - 2
No. Cars/Caboose - 6/4
End of Train Monitor - NO
Length (Feet) - 400
Trailing Tons - 470
Loco. Damaged/Derailed - NONE
Cars Damaged/Derailed - 2/2

Crew Information
Front End - 3
Rear End - 1
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLEAR
Condition of Light - DAYLIGHT

Line of Sight - N/A

Itinerary
Last Departure Point
CLINTON, IL

Destination
MARICHAM, IL

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - IC
Type/No. of Tracks - MAIN/2
Gradient/Alignment - DESCENDING/TANGENT

---Narrative---

AT 1152 CST, MAY 2, 1987, ATSF TRAIN EXTRA 6414 EAST WITH 30 CARS AND TWO LOCOMOTIVE UNITS STRUCK IC TRAIN EXTRA 2006 NORTH (IAN-1) AT THE RAILROAD CROSSING AT GILMAN, IL. THE ATSF TRAIN WAS MOVING AT A SPEED OF 30 MPH GOVERNED BY A CLEAR SIGNAL ASPECT DISPLAYED. THE IC TRAIN WAS PERFORMING SWITCHING MOVES AND SHOVING 6 CARS ACROSS THE RAILROAD CROSSING WITH THE SIGNAL INDICATING A STOP (RED) ASPECT. TOXICOLOGICAL ANALYSIS WERE PERFORMED ON 5 IC EMPLOYEES, 4 CREWMEN AND TOWER OPERATOR, AND PRODUCED ONE POSITIVE RESULT. TOXICOLOGY SAMPLES TAKEN FROM THE BRAKEMAN CONTROLLING THE SHOVING MOVEMENT FROM THE LEADING CAR ABOUT 5 HOURS AFTER THE ACCIDENT SHOWED THE PRESENCE OF THE METABOLITE OF COCAINE, BENZOYLECGONINE IN THE FOLLOWING CONCENTRATIONS: URINE, 0.43 MCG/ML; AND BLOOD WAS NEGATIVE.

BRIEF OF ACCIDENT, continued

File No. - 87-52A 5/2/87 GILMAN, IL Time (Lcl) - 1152 CST

Occurrence #1 - SIDE COLLISION
Phase SHOVING CARS

Finding(s)
1. INTERLOCKING SIGNAL - NOT COMPLIED - ROAD FREIGHT BRAKEMAN (THROUGH FREIGHT)
2. IMPAIRMENT/DRUGS - ROAD FREIGHT BRAKEMAN (THROUGH FREIGHT)
3. RADIO RULES - NOT COMPLIED - BRAKEMAN
4. RADIO RULES - NOT COMPLIED - ROAD ENGINEER
5. INTERLOCKING RULES - NOT COMPLIED - BRAKEMAN
6. INTERLOCKING RULES - NOT COMPLIED - CONDUCTOR
7. INTERLOCKING SIGNAL - IMPROPERLY PLACED

Occurrence #2 DERAILMENT
Phase STOPPING

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1,2

Factor(s) relating to this accident is/are finding(s) 3,4,5,6,7

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
CHI-87-F-R-01BA
BRIEF OF ACCIDENT

File No. - 87-32B 5/2/87 GILMAN, IL Time (Lcl) - 1152 CST

---Basic Information---

Reporting Railroad - ATSF
Type of Accident - COLLISION, SIDE
Operating Phase - EN ROUTE
Method of Operation - YARD RULES, TRAIN ORDERS, TIMETABLE

Property Losses
Railroad - $90,600
Non-Railroad - $ 0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	0	0	4
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	5

---Railroad/Personnel Information---

Train Data
Railroad - ATSF
Type of Train - FREIGHT
Train ID - EXTRA 6414 EAST
Direction - EAST
Speed (Est.) - 30
Speed (Auth.) - 30

Train Consist/Damage
No. Loco. Units - 2/1
No. Cars/Caboose - 30/0
End of Train Monitor - YES
Length (Feet) - 2670
Trailing Tons - 1910
Loco. Damaged/Derailed - 1/1
Cars Damaged/Derailed - 30/0

Crew Information
Front End - 3
Rear End - 1
Toxicology Performed - YES
Results - NEG.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLEAR
Condition of Light - DAYLIGHT

Line of Sight - 5000 FT

Itinerary
Last Departure Point
EAST PEORIA, IL

Destination
LOGANSPORT, IN

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - ATSF
Type/No. of Tracks - MAIN/1
Gradient/Alignment - LEVEL/TANGENT

---Narrative---

AT 1152 CST, MAY 2, 1987, ATSF TRAIN EXTRA 6414 EAST WITH 30 CARS AND TWO LOCOMOTIVE UNITS STRUCK IC TRAIN EXTRA 2006 NORTH (IAN-1) AT THE RAILROAD CROSSING AT GILMAN, IL. THE ATSF TRAIN WAS MOVING AT A SPEED OF 30 MPH GOVERNED BY A CLEAR SIGNAL ASPECT DISPLAYED. THE IC TRAIN WAS PERFORMING SWITCHING MOVES AND SHOVING 6 CARS ACROSS THE RAILROAD CROSSING WITH THE SIGNAL INDICATING A STOP (RED) ASPECT. TOXICOLOGICAL ANALYSIS WERE PERFORMED ON 5 IC EMPLOYEES, 4 CREWMEN AND TOWER OPERATOR, AND PRODUCED ONE POSITIVE RESULT. TOXICOLOGY SAMPLES TAKEN FROM THE BRAKEMAN CONTROLLING THE SHOVING MOVEMENT FROM THE LEADING CAR ABOUT 5 HOURS AFTER THE ACCIDENT SHOWED THE PRESENCE OF THE METABOLITE OF COCAINE, BENZOYLECGONINE IN THE FOLLOWING CONCENTRATIONS: URINE, 0.43 MCG/ML; AND BLOOD WAS NEGATIVE.

BRIEF OF ACCIDENT, continued

File No. - 87-52B 5/2/87 GILMAN, IL Time (Lcl) - 1152 CST

Occurrence #1 - COLLISION
Phase MAINTAINING SPEED

Finding(s)
1. INTERLOCKING SIGNAL - NOT COMPLIED - OTHER CREWMEMBER
2. IMPAIRMENT/DRUGS - OTHER CREWMEMBERS
3. RADIO RULES - NOT COMPLIED - OTHER CREWMEMBER
4. RADIO RULES - NOT COMPLIED - ENGINEER OF OTHER TRAIN
5. INTERLOCKING RULES - NOT COMPLIED - OTHER CREWMEMBER(S)
6. INTERLOCKING SIGNAL - IMPROPERLY PLACED

Occurrence #2 DERAILMENT
Phase STOPPING

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1,2

Factor(s) relating to this accident is/are finding(s)3,4,5,6

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
ATL-87-F-R-013A
BRIEF OF ACCIDENT

File No. - 87-53A 5/4/87 EAST POINT, GA Time (Lcl) - 1000 EDT

---Basic Information---

Reporting Railroad - METRO/ATL. RAPID TRAN.
Type of Accident - COLLISION, REAR END
Operating Phase - SWITCHING
Method of Operation - YARD RULES

Property Losses
Railroad - $155,000
Non-Railroad - $ 0

Fire NO

	Injuries Fatal	Serious	Minor	None
Employees	0	0	1	0
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	1	2	0

---Railroad/Personnel Information---

Train Data
Railroad - MARTA
Type of Train - HEAVY RAIL TRANSIT
Train ID - 279
Direction - SOUTH
Speed (Est.) - 10
Speed (Auth.) - 3

Train Consist/Damage
No. Loco. Units - 4
No. Cars/Caboose - 0/0
End of Train Monitor - 0
Length (Feet) - 300
Trailing Tons - N/A
Loco. Damaged/Derailed - 4/0
Cars Damaged/Derailed - 0/0

Crew Information
Front End -1
Rear End -0
Toxicology Performed - 1
Results - NEG.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLEAR
Condition of Light - DAY

Line of Sight - 25 FT

Itinerary
Last Departure Point
EASTPOINT, GA

Destination
TURNBACK AREA

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - MARTA
Type/No. of Tracks - YARD/2
Gradient/Alignment - DESC. 0.56/TANGENT

---Narrative---

AT 1000 EDT. MAY 4, 1987 A 4 CAR METROPOLITAN ATLANTA RAPID TRANSIT (MARTA) TRAIN MOVING SOUTH OF THE STATION AT EAST POINT, GEORGIA INTO A TURNBACK AREA TO REVERSE THE TRAIN'S DIRECTION COLLIDED WITH A STANDING TWO CAR TEST TRAIN. THE TWO CAR TEST TRAIN WAS IN TURN PROPELLED INTO TWO STORED CARS STANDING NEAR A BUMPING POST WHICH WAS STRUCK AS A RESULT OF THE COLLISION. THERE WAS NO DERAILMENT OR FIRE. THREE MARTA EMPLOYEES AND A CAR MANUFACTURER'S REPRESENTATIVE WERE INJURED. DAMAGES WERE ESTIMATED TO BE $410,000. TOXICOLOGICAL ANALYSIS OF THE PASSENGER MOTORMAN OF THE STRIKING TRAIN WAS NEGATIVE FOR CONTROLLED SUBSTANCES; HOWEVER, HE WAS TAKING PRESCRIBED MEDICATION FOR A HEART CONDITION.

BRIEF OF ACCIDENT, continued

File No. - 87-53A 5/4/87 EAST POINT, GA Time (Lcl) - 1000 EST

Occurrence #1 - COLLISION, REAR END
Phase SLOWING

Finding(s)
1. SAFETY RULES - NOT COMPLIED - ROAD PASSENGER ENGINEER
2. USE OF DRUGS - ROAD PASSENGER ENGINEER
3. INADEQUATE SURVEILLANCE OF OPERATION - COMPANY OPERATOR/MANAGEMENT
4. PHYSICAL IMPAIRMENT (OTHER CARDIOVASCULAR) - ROAD PASSENGER ENGINEER

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1,4

Factor(s) relating to this accident is/are finding(s) 2,3

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
ATL-87-F-R-013B
BRIEF OF ACCIDENT

File No. - 87-53B 5/4/87 EAST POINT, GA Time (Lcl) - 1000 EDT

---Basic Information---

Reporting Railroad - METRO/ATL. RAPID TRAN.
Type of Accident - COLLISION, REAR END
Operating Phase - STANDING
Method of Operation - YARD RULES

Property Losses
Railroad - $255,000
Non-Railroad - $ 0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	1	2	0
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	1	0

---Railroad/Personnel Information---

Train Data
Railroad - MARTA
Type of Train - TEST
Train ID - 293
Direction - STANDING
Speed (Est.) - 0
Speed (Auth.) - 0

Train Consist/Damage
No. Loco. Units - 2
No. Cars/Caboose - 0/0
End of Train Monitor - NO
Length (Feet) - 150
Trailing Tons - N/A
Loco. Damaged/Derailed - 2/0
Cars Damaged/Derailed - 0/0

Crew Information
Front End -1
Rear End -0
Toxicology Performed - NO
Results - N/A
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLEAR
Condition of Light - DAYLIGHT

Line of Sight - N/A

Itinerary
Last Departure Point
EASTPOINT, GA

Destination
TURNBACK AREA

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - MARTA
Type/No. of Tracks - YARD/2
Gradient/Alignment - DESC. 0.56/TANGENT

---Narrative---

AT 1000 EDT. MAY 4, 1987 A 4 CAR METROPOLITAN ATLANTA RAPID TRANSIT (MARTA) TRAIN MOVING SOUTH OF THE STATION AT EAST POINT, GEORGIA INTO A TURNBACK AREA TO REVERSE THE TRAIN'S DIRECTION COLLIDED WITH A STANDING TWO CAR TEST TRAIN. THE TWO CAR TEST TRAIN WAS IN TURN PROPELLED INTO TWO STORED CARS STANDING NEAR A BUMPING POST WHICH WAS STRUCK AS A RESULT OF THE COLLISION. THERE WAS NO DERAILMENT OR FIRE. THREE MARTA EMPLOYEES AND A CAR MANUFACTURER'S REPRESENTATIVE WERE INJURED. DAMAGES WERE ESTIMATED TO BE $410,000. TOXICOLOGICAL ANALYSIS OF THE PASSENGER MOTORMAN OF THE STRIKING TRAIN WAS NEGATIVE FOR CONTROLLED SUBSTANCES; HOWEVER, HE WAS TAKING PRESCRIBED MEDICATION FOR A HEART CONDITION.

BRIEF OF ACCIDENT, continued

File No. - 87-53B 5/4/87 EAST POINT, GA Time (Lcl) - 1000 EST

Occurrence #1 - COLLISION, REAR END
Phase STANDING

Finding(s)
1. SAFETY RULES - NOT COMPLIED - ENGINEER OF OTHER TRAIN
2. USE OF DRUGS - ENGINEER OTHER TRAIN
3. INADEQUATE SURVEILLANCE OF OPERATION - COMPANY OPERATOR/MANAGEMENT
4. PHYSICAL IMPAIRMENT (OTHER CARDIOVASCULAR) - ENGINEER OF OTHER TRAIN

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1,4

Factor(s) relating to this accident is/are finding(s) 2,3

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
FTW-87-F-R-021
BRIEF OF ACCIDENT

File No. - 87-60 5/17/87 KENNARD, NE Time (Lcl) - 1830 CDT

---Basic Information---

Reporting Railroad - CHICAGO & NORTHWEST.
Type of Accident - DERAILMENT
Operating Phase - EN ROUTE
Method of Operation - AUTO. BLOCK TIMETABLE, TRAIN ORDERS

Property Losses
Railroad - $2,272,366
Non-Railroad - $ 0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	0	0	4
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	0

---Railroad/Personnel Information---

Train Data
Railroad - CNW
Type of Train - FREIGHT
Train ID - NPBIA-71
Direction - EAST
Speed (Est.) - 45
Speed (Auth.) - 50

Train Consist/Damage
No. Loco. Units - 4
No. Cars/Caboose - 121/1
End of Train Monitor - YES
Length (Feet) - 8401
Trailing Tons - 12186
Loco. Damaged/Derailed - 0/0
Cars Damaged/Derailed - 16/16

Crew Information
Front End - 4
Rear End - 0
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLOUDY
Condition of Light - DAYLIGHT

Line of Sight - 2000 FT

Itinerary
Last Departure Point
FREMONT, NE

Destination
CHICAGO, IL

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - CNW
Type/No. of Tracks - MAIN/2
Gradient/Alignment - DESC. 5/TANGENT

---Narrative---

AT 1830 CDT ON MAY 17, 1987, FREIGHT TRAIN NPBIA-71, CONSISTING OF 4 LOCOMOTIVE UNITS AND 122 CARS, HAD 16 CARS DERAIL WHILE MOVING 45 MPH AT THE WEST SIDING SWITCH. THE DERAILED CARS STRUCK AND DESTROYED A DOUBLE TRACK PILE TRESTLE BRIDGE. THE FOUR MAN CREW WAS LOCATED ON THE LOCOMOTIVES, EVEN THOUGH THERE WAS A CABOOSE ON THE REAR OF THE TRAIN. INVESTIGATION REVEALED A DRAWBAR PULLED OUT AND FELL TO THE TRACK. TOXICOLOGY SAMPLES WERE TAKEN FROM THE 4 CREW MEMBERS. TOXICOLOGY SAMPLES TAKEN FROM A BRAKEMAN ABOUT SIX HOURS AFTER THE ACCIDENT SHOWED THE PRESENCE OF METABOLITE OF MARIJUANA IN THE FOLLOWING CONCENTRATIONS: BLOOD, 39 NG/ML, AND URINE, 96 NG/ML.

BRIEF OF ACCIDENT, continued

File No. - 87-60 5/17/87 KENNARD, NE Time (Lcl) - 1830 CDT

Occurrence #1 - TRAIN COMPONENT FAILURE
Phase MAINTAIN SPEED

Finding(s)
1. DRAFT GEAR - REPLACED
2. DRAFT GEAR - INCORRECT ASSEMBLY
3. USE OF DRUGS - ROAD FREIGHT BRAKEMAN/THROUGH FREIGHT
4. WHOLE COUPLER - FAILURE
5. TURNOUT - DAMAGED

Occurence #2 - TRAIN SEPARATION
Phase MAINTAIN SPEED

Occurence #3 DERAILMENT
Phase STOPPING

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 2,4

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
DEN-87-F-R-014
BRIEF OF ACCIDENT

File No. - 87-62 5/22/87 OSHKOSH, NE Time (Lcl) - 2105 MDT

---Basic Information---

Reporting Railroad - UNION PACIFIC
Type of Accident - DERAILMENT
Operating Phase - EN ROUTE
Method of Operation - AUTO. BLOCK

Property Losses
Railroad - $493,950
Non-Railroad - $ 0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	0	0	4
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	0

---Railroad/Personnel Information---

Train Data
Railroad - UP
Type of Train - FREIGHT
Train ID - EXTRA 5030 EAST
Direction - EAST
Speed (Est.) - 40
Speed (Auth.) - 40

Train Consist/Damage
No. Loco. Units - 2
No. Cars/Caboose - 113/1
End of Train Monitor - NO
Length (Feet) - 14,641
Trailing Tons - 6089
Loco. Damaged/Derailed - 0/0
Cars Damaged/Derailed - 32/32

Crew Information
Front End - 2
Rear End - 2
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLOUDY
Condition of Light - DARK

Line of Sight - 1200 FT

Itinerary
Last Departure Point
SOUTH MORRILL, NE

Destination
NORTH PLATTE, NE

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - UP
Type/No. of Tracks - MAIN/1
Gradient/Alignment - DESC. 0.14/TANGENT

---Narrative---
ABOUT 2105 MDT ON MAY 22, 1987, UNIT COAL TRAIN EXTRA 5030 EAST HAD 32 CARS DERAIL WHILE MOVING ABOUT 40 MPH. ALL DERAILED CARS WERE DESTROYED. THE FIRST CAR TO DERAIL (THE 11TH CAR) WAS FOUND TO HAVE A BROKEN AXLE. THERE WERE NO INJURIES OR FATALITIES. TOXICOLOGY SAMPLES WERE TAKEN FROM ALL 4 CREWMEMBERS. TOXICOLOGY SAMPLES TAKEN FROM THE BRAKEMAN ABOUT SEVEN HOURS AFTER THE ACCIDENT SHOWED THE PRESENCE OF MARIJUANA IN THE FOLLOWING CONCENTRATIONS: BLOOD, 11 NG/ML, METABOLITE OF MARIJUANA; AND URINE, 27 NG/ML FOR METABOLITE OF MARIJUANA.

BRIEF OF ACCIDENT, continued

File No. - 87-62 5/22/87 OSHKOSH, NE Time (Lcl) - 2105 MDT

Occurrence #1 - DERAILMENT
Phase MAINTAINING SPEED

Finding(s)
1. AXLE - BROKEN
2. MATERIAL DEFECT (INADEQUATE QUALITY CONTROL) - MANUFACTURER
3. USE OF DRUGS - ROAD FREIGHT BRAKEMAN (THOUGH FREIGHT)

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1

Factor(s) relating to this accident is/are finding(s) 2

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
FTW-87-F-R-024A
BRIEF OF ACCIDENT

File No. - 87-69A 6/9/87 PROSPER, TX Time (Lcl) - 0545 CDT

---Basic Information---

Reporting Railroad - BURLINGTON NORTHERN
Type of Accident - COLLISION, HEAD ON
Operating Phase - EN ROUTE
Method of Operation - TIMETABLE, RADIO, TRACK WARRANT

Property Losses
Railroad - $57,500
Non-Railroad - $ 0

Fire NO

Injuries	Fatal	Serious	Minor	None
Employees	1	1	0	0
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	1	2

---Railroad/Personnel Information---

Train Data
Railroad - BN
Type of Train - LIGHT LOCOMOTIVE
Train ID - EXTRA 8118 WEST
Direction - WEST
Speed (Est.) - 49
Speed (Auth.) - 45

Train Consist/Damage
No. Loco. Units - 1
No. Cars/Caboose - 0/0
End of Train Monitor - 0
Length (Feet) - N/A
Trailing Tons - N/A
Loco. Damaged/Derailed - 1/1
Cars Damaged/Derailed - 0/0

Crew Information
Front End - 2
Rear End - 0
Toxicology Performed - YES
Results - NEG.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLOUDY
Condition of Light - DARK

Line of Sight - 1200 FT

Itinerary
Last Departure Point
TULSA, OK

Destination
IRVING, TX

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - BN
Type/No. of Tracks - MAIN;SIDING/2
Gradient/Alignment - LEVEL/TANGENT

---Narrative---

ABOUT 0545 CDT, JUNE 9, 1987 A WEST BOUND BURLINGTON NORTHERN RAILROAD COMPANY (BN) LIGHT ENGINE CONSIST (ONE LOCOMOTIVE) UNINTENTIONALLY ENTERED A SIDE TRACK TURNOUT AND COLLIDED HEAD-ON, WHILE MOVING AT A SPEED OF ABOUT 49 MPH, WITH AN EASTBOUND BN FREIGHT TRAIN THAT WAS STANDING ON THE SIDE TRACK. THE CONDUCTOR WAS KILLED AND THE ENGINEER WAS INJURED WHEN THEY JUMPED FROM WESTBOUND LOCOMOTIVE. THE HEAD BRAKEMAN ON THE EASTBOUND LOCOMOTIVE RECEIVED MINOR INJURIES. TOXICOLOGY SAMPLES TAKEN FROM THE 5 CREWMEMBERS OF THE TRAINS REVEALED THE PRESENCE OF CODEINE IN THE HEAD BRAKEMAN OF THE EASTBOUND TRAIN AT 6.09 MCG/ML IN URINE AND 0.10 MCG/ML IN BLOOD; MORPHINE DETECTED AT 0.35 MCG/ML IN URINE.

BRIEF OF ACCIDENT, continued

File No. - 87-69A 6/9/87 PROSPER, TX Time (Lcl) - 0545 CDT

Occurrence #1 - COLLISION HEAD-ON
Phase DECELERATING

Finding(s)
1. SWITCH POINTS - MISALIGNED
2. SWITCH POINT TARGET - IMPERFECTLY DISPLAYED
3. SWITCH POSITION INDICATOR - INADEQUATE - DIVISION OFFICER
4. SWITCH POSITION INDICATOR - NOT OBSERVED - ROAD FREIGHT ENGINEER/MOTORMAN (THROUGH FREIGHT)
5. SWITCH POSITION INDICATOR - NOT OBSERVED - ENGINEER OF OTHER TRAIN
6. USE OF DRUGS - OTHER CREWMEMBER

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1

Factor(s) relating to this accident is/are finding(s) 2,3,4,5

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
FTW-87-F-R-024B
BRIEF OF ACCIDENT

File No. - 87-69B 6/9/87 PROSPER, TX Time (Lcl) - 0545 CDT

---Basic Information---

Reporting Railroad - BURLINGTON NORTHERN
Type of Accident - COLLISION, HEAD-ON
Operating Phase - EN ROUTE
Method of Operation - TIMETABLE, RADIO, TRACK WARRANT

Property Losses
Railroad - $35,000
Non-Railroad - $ 0

Fire NO

Injuries	Fatal	Serious	Minor	None
Employees	0	0	1	2
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	1	1	0	0

---Railroad/Personnel Information---

Train Data
Railroad - BN
Type of Train - FREIGHT
Train ID - EXTRA 6726 EAST
Direction - EAST
Speed (Est.) - 0
Speed (Auth.) - 0

Train Consist/Damage
No. Loco. Units - 6
No. Cars/Caboose - 52/1
End of Train Monitor - NO
Length (Feet) - 2996
Trailing Tons - 2263
Loco. Damaged/Derailed - 4/0
Cars Damaged/Derailed - 0/0

Crew Information
Front End - 2
Rear End - 1
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLOUDY
Condition of Light - DARK

Line of Sight - 800 FT

Itinerary
Last Departure Point
IRVING, TX

Destination
MADRILL, OK

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - BN
Type/No. of Tracks - MAIN;SIDING/2
Gradient/Alignment - LEVEL/TANGENT

---Narrative---

ABOUT 0545 CDT, JUNE 9, 1987 A WESTBOUND BURLINGTON NORTHERN RAILROAD COMPANY (BN) LIGHT ENGINE CONSIST (ONE LOCOMOTIVE) UNINTENTIONALLY ENTERED A SIDE TRACK TURNOUT AND COLLIDED HEAD-ON, WHILE MOVING AT A SPEED OF ABOUT 49 MPH, WITH AN EASTBOUND BN FREIGHT TRAIN THAT WAS STANDING ON THE SIDE TRACK. THE CONDUCTOR WAS KILLED AND THE ENGINEER WAS INJURED WHEN THEY JUMPED FROM WESTBOUND LOCOMOTIVE. THE HEAD BRAKEMAN ON THE EASTBOUND LOCOMOTIVE RECEIVED MINOR INJURIES. TOXICOLOGY SAMPLES TAKEN FROM THE 5 CREWMEMBERS OF THE TRAINS REVEALED THE PRESENCE OF CODEINE IN THE HEAD BRAKEMAN OF THE EASTBOUND TRAIN AT 6.09 MCG/ML IN URINE AND 0.10 MCG/ML IN BLOOD; MORPHINE DETECTED AT 0.35 MCG/ML IN URINE.

BRIEF OF ACCIDENT, continued

File No. - 87-69B 6/9/87 PROSPER, TX Time (Lcl) - 0545 CDT

Occurrence #1 - COLLISION HEAD-ON
Phase STANDING

Finding(s)
1. SWITCH POINTS - MISALIGNED
2. SWITCH POINT TARGET - IMPERFECTLY DISPLAYED
3. SWITCH POSITION INDICATOR - INADEQUATE - DIVISION OFFICER
4. SWITCH POSITION INDICATOR - NOT OBSERVED - ROAD FREIGHT ENGINEER/MOTORMAN (THROUGH FREIGHT)
5. SWITCH POSITION INDICATOR - NOT OBSERVED - ENGINEER OF OTHER TRAIN
6. USE OF DRUGS - ROAD FREIGHT BRAKEMAN (THROUGH FREIGHT)

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1

Factor(s) relating to this accident is/are finding(s) 2,3,4,5.

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
DCA-87-M-R-003A
BRIEF OF ACCIDENT

File No. - 87-71A 6/15/87 YUMA, AZ Time (Lcl) - 0115 MST

---Basic Information---

Reporting Railroad - SOUTHERN PACIFIC
Type of Accident - COLLISION, HEAD-ON
Operating Phase - EN ROUTE
Method of Operation - YARD LIMITS, AUTO. BLOCK

Property Losses
Railroad - $1,413,150
Non-Railroad - $ 0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	1	0	0	3
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	4

---Railroad/Personnel Information---

Train Data
Railroad - SP
Type of Train - FREIGHT
Train ID - EXTRA 7267 EAST
Direction - EAST
Speed (Est.) - 16
Speed (Auth.) - 10

Train Consist/Damage
No. Loco. Units - 4
No. Cars/Caboose - 130/0
End of Train Monitor - YES
Length (Feet) - 8,463
Trailing Tons - 6,834
Loco. Damaged/Derailed - 2/2
Cars Damaged/Derailed - 4/4

Crew Information
Front End -4
Rear End -0
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLEAR
Condition of Light - DARK

Line of Sight - 1275 FT

Itinerary
Last Departure Point
YUMA, AZ

Destination
TUCSON, AZ

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - SP
Type/No. of Tracks - MAIN TRACK/2
Gradient/Alignment - ASC. .57%/CURVE 4-17

---Narrative---
ABOUT 0115 MST ON JUNE 15, 1987, FREIGHT TRAIN EXTRA 7267 EAST COLLIDED HEAD-ON WITH FREIGHT TRAIN EXTRA 7791 WEST. EASTBOUND TRAIN WAS LEAVING YARD AT YUMA, AZ, AND WESTBOUND TRAIN WAS ENTERING YARD. BOTH TRAINS WERE MOVING UNDER RESTRICTED SPEED REQUIREMENTS (STOP IN 1/2 SIGHT DISTANCE) BUT THE EASTBOUND WAS MOVING 16 MPH. THE ENGINEER OF THE EASTBOUND TRAIN WAS KILLED. TOXICOLOGICAL TESTING REVEALED HE HAD ALCOHOL IN HIS BLOOD AT A LEVEL OF 0.13% OR HIGHER. THE CONDUCTOR WAS CITED FOR NOT ASSURING THE SAFE OPERATION OF THE TRAIN. LACK OF COMPATIBLE SILL HEIGHTS OF THE LOCOMOTIVES ADDED TO THE SEVERITY OF THE ACCIDENT. SEE REPORT NTSB/RAR-88/02 FOR ADDITIONAL INFORMATION.

BRIEF OF ACCIDENT, continued

File No. - 87-71A 6/15/87 YUMA, AZ Time (Lcl) - 0115 MST

Occurrence #1 - COLLISION, HEAD-ON
Phase EN ROUTE

Finding(s)
1. OPERATING RULE - NOT COMPLIED - ROAD FREIGHT ENGINEER/MOTORMAN (THROUGH FREIGHT)
2. PHYSICAL IMPAIRMENT (ALCOHOL) - ROAD FREIGHT ENGINEER/MOTORMAN (THROUGH FREIGHT)
3. COMPLACENCY - ROAD FREIGHT CONDUCTOR (THROUGH FREIGHT)
4. INADEQUATE SURVEILLANCE OF OPERATION - COMPANY OPERATOR/MANAGEMENT
5. CENTER SILL - MISALIGN
6. INSUFFICIENT STANDARDS/REQUIREMENTS - FRA

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1,2,3

Factor(s) relating to this accident is/are finding(s) 4,5,6

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
DCA-87-M-R-008A
BRIEF OF ACCIDENT

File No. - 87-71B 6/15/87 YUMA, AZ Time (Lcl) - 0115 MST

---Basic Information---

Reporting Railroad - SOUTHERN PACIFIC
Type of Accident - COLLISION, HEAD-ON
Operating Phase - EN ROUTE
Method of Operation - YARD LIMITS, AUTO. BLOCK

Property Losses
Railroad - $300,000
Non-Railroad - $ 0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	0	0	4
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	1	0	0	3

---Railroad/Personnel Information---

Train Data
Railroad - SP
Type of Train - FREIGHT
Train ID - EXTRA 7791 WEST
Direction - WEST
Speed (Est.) - 0
Speed (Auth.) - 10

Train Consist/Damage
No. Loco. Units - 5
No. Cars/Caboose - 60/0
End of Train Monitor - YES
Length (Feet) - 5,868
Trailing Tons - 4,388
Loco. Damaged/Derailed - 1/1
Cars Damaged/Derailed - 0/0

Crew Information
Front End -4
Rear End -0
Toxicology Performed - YES
Results - NEG.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLEAR
Condition of Light - DARK

Line of Sight - 1275 FT

Itinerary
Last Departure Point
TUCSON, AZ

Destination
YUMA, AZ

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - SP
Type/No. of Tracks - MAIN TRACK/2
Gradient/Alignment - DESC. .57%/CURVE 4-17

---Narrative---
ABOUT 0115 MST ON JUNE 15, 1987, FREIGHT TRAIN EXTRA 7267 EAST COLLIDED HEAD-ON WITH FREIGHT TRAIN EXTRA 7791 WEST. EASTBOUND TRAIN WAS LEAVING YARD AT YUMA, AZ, AND WESTBOUND TRAIN WAS ENTERING YARD. BOTH TRAINS WERE MOVING UNDER RESTRICTED SPEED REQUIREMENTS (STOP IN 1/2 SIGHT DISTANCE) BUT THE EASTBOUND WAS MOVING 16 MPH. THE ENGINEER OF THE EASTBOUND TRAIN WAS KILLED. TOXICOLOGICAL TESTING REVEALED HE HAD ALCOHOL IN HIS BLOOD AT A LEVEL OF 0.13% OR HIGHER. THE CONDUCTOR WAS CITED FOR NOT ASSURING THE SAFE OPERATION OF THE TRAIN. LACK OF COMPATIBLE SILL HEIGHTS OF THE LOCOMOTIVES ADDED TO THE SEVERITY OF THE ACCIDENT. SEE REPORT NTSB/RAR-88/02 FOR ADDITIONAL INFORMATION.

BRIEF OF ACCIDENT, continued

File No. - 87-71B 6/15/87 YUMA, AZ Time (Lcl) - 0115 MST

Occurrence #1 - COLLISION, HEAD-ON
Phase SLOWING

Finding(s)
1. OPERATING RULE - NOT COMPLIED - ENGINEER OF OTHER TRAIN
2. PHYSICAL IMPAIRMENT (ALCOHOL) - ENGINEER OF OTHER TRAIN
3. COMPLACENCY - OTHER CREWMEMBER
4. INADEQUATE SURVEILLANCE OF OPERATION - COMPANY OPERATOR/MANAGEMENT
5. CENTER SILL - MISALIGN
6. INSUFFICIENT STANDARDS/REQUIREMENTS - FRA

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1,2,3

Factor(s) relating to this accident is/are finding(s) 4,5,6

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
CHI-87-F-R-018
BRIEF OF ACCIDENT

File No. - 87-95 9/01/87 CINCINNATI, OH Time (Lcl) - 1650 EDT

---Basic Information---

Reporting Railroad - CHESSIE SYSTEM
Type of Accident - EMPLOYEE FATALITY
Operating Phase - STARTING
Method of Operation - YARD RULES, RADIO, TIMETABLE

Property Losses
Railroad - $0
Non-Railroad - $0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	1	0	0	4
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	0

---Railroad/Personnel Information---

Train Data
Railroad - CSX
Type of Train - FREIGHT
Train ID - EXTRA 7535 SOUTH
Direction - SOUTH
Speed (Est.) - 20
Speed (Auth.) - 25

Train Consist/Damage
No. Loco. Units - 4
No. Cars/Caboose - 70
End of Train Monitor - YES
Length (Feet) - 3985
Trailing Tons - 4539
Loco. Damaged/Derailed - 0/0
Cars Damaged/Derailed - 0/0

Crew Information
Front End - 4
Rear End - 0
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLEAR
Condition of Light - DAYLIGHT

Line of Sight - 2000 FT

Itinerary
Last Departure Point
CINCINNATI, OH
(QUEENSGATE YARD)
Destination
QUEENSGATE YARD

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - CHESSIE SYSTEM
Type/No. of Tracks - YARD/UNK
Gradient/Alignment - LEVEL/TANGENT

---Narrative---

AT ABOUT 1650 EDT ON SEPTEMBER 1, 1987, A CARMAN WAS FATALLY INJURED WHILE PERFORMING AN AIR-TEST TO A SOUTHBOUND TRAIN WHEN HE STEPPED BETWEEN THE CARS OF A TRAIN ON AN ADJACENT TRACK. THE CARMAN WAS LAST SEEN STANDING NEXT TO HIS REPAIR CART BETWEEN TWO YARD TRACKS. THE WEATHER WAS CLEAR WITH GOOD VISIBILITY AND A TEMPERATURE OF 7 DEGREES (F). THE CARMAN AND THE 4 TRAIN CREWMEMBERS WERE TESTED FOR DRUGS AND ALCOHOL USE. TOXICOLOGY SAMPLES TAKEN FROM THE CONDUCTOR ABOUT FOUR HOURS AFTER THE ACCIDENT SHOWED THE PRESENCE OF MARIJUANA IN THE FOLLOWING CONCENTRATIONS: BLOOD, 1 NG/ML THC (MARIJUANA) AND 168 NG/ML METABOLITE OF MARIJUANA IN THE BLOOD; 72 NG/ML METABOLITE OF MARIJUANA IN URINE.

BRIEF OF ACCIDENT, continued

File No. - 87-95 9/1/87 CINCINNATI, OH Time (Lcl) - 1650 EDT

Occurrence #1 - EMPLOYEE FATALITY
Phase STARTING

Finding(s)
1. SAFETY RULE - NOT COMPLIED - CARMAN
2. IMPAIRMENT (DRUGS) - ROAD FREIGHT CONDUCTOR (THROUGH FREIGHT)

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
CHI-87-F-R-019
BRIEF OF ACCIDENT

File No. - 87-100 9/13/87 LARIAT, WY Time (Lcl) - 1615 MDT

---Basic Information---

Reporting Railroad - BURLINGTON NORTHERN
Type of Accident - DERAILMENT
Operating Phase - EN ROUTE
Method of Operation - TRAFFIC CONT.

Property Losses
Railroad - $609,499
Non-Railroad - $ 0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	0	0	4
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	0

---Railroad/Personnel Information---

Train Data
Railroad - BN
Type of Train - FREIGHT
Train ID - EXTRA 3111 WEST
Direction - WEST
Speed (Est.) - 45
Speed (Auth.) - 45

Train Consist/Damage
No. Loco. Units - 5
No. Cars/Caboose - 100/1
End of Train Monitor - NO
Length (Feet) - 6177
Trailing Tons - 12,863
Loco. Damaged/Derailed - 0/0
Cars Damaged/Derailed - 28/28

Crew Information
Front End - 2
Rear End - 2
Toxicology Performed - 4
Results - 2 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLEAR
Condition of Light - DAY

Line of Sight - 2000 FT

Itinerary
Last Departure Point
GILETTE, WY

Destination
SHERIDAN, WY

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - BN
Type/No. of Tracks - MAIN/1
Gradient/Alignment - ASC. 0.08/TANGENT

---Narrative---

ABOUT 1615 MDT ON SEPTEMBER 13, 1987, FREIGHT TRAIN EXTRA 3111 WEST, CONSISTING OF FIVE LOCOMOTIVE UNITS AND 101 CARS, HAD 28 CARS DERAIL WHILE MOVING 45 MPH. THE TRAIN WAS MOVING OVER A FACING POINT SWITCH WHEN THE SWITCH OPENED. TOXICOLOGY TESTS TAKEN ON THE FOUR CREWMEMBERS ABOUT 6 HOURS AFTER THE ACCIDENT REVEALED POSITIVE RESULTS ON THE TWO BRAKEMEN. TOXICOLOGY SAMPLES TAKEN FROM ONE BRAKEMAN SHOWED THE PRESENCE OF THE FOLLOWING: BLOOD, 4 NG/ML THC (MARIJUANA) AND 16 NG/ML METABOLITE OF MARIJUANA; URINE, 72 NG/ML METABOLITE OF MARIJUANA. SAMPLES FROM THE SECOND BRAKEMAN REVEALED THE FOLLOWING: 8 NG/ML OF METABOLITE OF MARIJUANA (BLOOD) AND 25 NG/ML OF METABOLITE MARIJUANA (URINE).

BRIEF OF ACCIDENT, continued

File No. - 87-100 9/13/87 LARIAT,WY Time (Lcl) - 1615 MDT

Occurrence #1 - TRACK COMPONENT FAILURE
Phase DECELERATING

Finding(s)
1. SWITCH POINTS - CHIPPED
2. TRAIN HANDLING - COMPLIED - ENGINEER
3. IMPAIRMENT (DRUGS) - ROAD FREIGHT BRAKEMAN/THROUGH FREIGHT
4. USE OF DRUGS - ROAD FREIGHT BRAKEMAN/THROUGH FREIGHT

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
CHI-87-F-R-021A
BRIEF OF ACCIDENT

File No. - 87-103A 9/17/87 NORTH PLATTE, NE Time (Lcl) - 2130 CDT

---Basic Information---

Reporting Railroad - UNION PACIFIC
Type of Accident - COLLISION, REAR-END
Operating Phase - UNATTENDED
Method of Operation - YARD RULES, TIMETABLE, RADIO

Property Losses
Railroad - $196,402
Non-Railroad - $ 0

Fire YES

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	0	0	1
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	4

---Railroad/Personnel Information---

Train Data
Railroad - UP
Type of Train - LIGHT LOCOMOTIVE
Train ID - N/A
Direction - EAST
Speed (Est.) - 42
Speed (Auth.) - 25

Train Consist/Damage
No. Loco. Units - 3
No. Cars/Caboose - 0/0
End of Train Monitor - N/A
Length (Feet) - 150
Trailing Tons - N/A
Loco. Damaged/Derailed - 3/2
Cars Damaged/Derailed - N/A

Crew Information
Front End - 1
Rear End - 0
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - RAIN
Condition of Light - DARK

Line of Sight - 800 FT

Itinerary
Last Departure Point
YARD OPERATIONS

Destination
YARD

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - UP
Type/No. of Tracks - YARD/UNK
Gradient/Alignment - LEVEL/TANGENT

---Narrative---

AT ABOUT 2130 CDT ON SEPTEMBER 17, 1987, A THREE UNIT LOCOMOTIVE CONSIST, MOVED UNATTENDED FROM THE DIESEL SERVICE AREA IN NORTH PLATTE, NEBRASKA, AND COLLIDED WITH THE REAR OF A STANDING TRAIN. A HOSTLER HAD DISMOUNTED THE LEAD LOCOMOTIVE OF THE THREE UNIT CONSIST TO ALIGN SWITCHES AND FAILED TO SECURE LOCOMOTIVE CONTROLS TO PREVENT MOVEMENT. A TOXICOLOGICAL TEST OF THE HOSTLER INDICATED THAT BLOOD AND URINE TAKEN FROM HIM ABOUT 3 HOURS AFTER THE ACCIDENT SHOWED THE PRESENCE OF THE FOLLOWING: BLOOD, 1 NG/ML, THC (MARIJUANA) AND THE METABOLITE OF MARIJUANA WAS BLOOD, 45 NG/ML, AND URINE, 178 NG/ML.

BRIEF OF ACCIDENT, continued

File No. - 87-103A 9/17/87 NORTH PLATTE, NE Time (Lcl) - 2130 CDT

Occurrence #1 - COLLISION, REAR END
Phase UNATTENDED

Finding(s)
1. ENGINE CONTROLS - NOT SECURED
2. TRAIN HANDLING - NOT FOLLOWED - OUTSIDE HOSTLER
3. PHYSICAL IMPAIRMENT (DRUGS) - OUTSIDE HOSTLER
4. INADEQUATE SURVEILLANCE OF OPERATION - CO. OPERATOR MANAGEMENT
5. SPECIAL INSTRUCTIONS - INADEQUATE - GEN/FOREMAN

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1,2,3

Factor(s) relating to this accident is/are finding(s) 4

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
CHI-87-F-R-021A
BRIEF OF ACCIDENT

File No. - 87-103B 9/17/87 NORTH PLATTE, NE Time (Lcl) - 2130 CDT

---Basic Information---

Reporting Railroad - UNION PACIFIC
Type of Accident - COLLISION, REAR-END
Operating Phase - EN ROUTE
Method of Operation - YARD RULES, TIMETABLE, RADIO

Property Losses
Railroad - $86,616
Non-Railroad - $ 0

Fire NO

	Injuries Fatal	Serious	Minor	None
Employees	0	0	0	4
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	1

---Railroad/Personnel Information---

Train Data
Railroad - UP
Type of Train - FREIGHT
Train ID - CCDSA-17
Direction - EAST
Speed (Est.) - 0
Speed (Auth.) - 0

Train Consist/Damage
No. Loco. Units - UNK
No. Cars/Caboose - UNK/1
End of Train Monitor - NO
Length (Feet) - UNK
Trailing Tons - UNK
Loco. Damaged/Derailed - 0/0
Cars Damaged/Derailed - 3/3

Crew Information
Front End - 4
Rear End - 0
Toxicology Performed - NO
Results - N/A
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - RAIN
Condition of Light - DARK

Line of Sight - N/A

Itinerary
Last Departure Point
YARD

Destination
YARD

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - UP
Type/No. of Tracks - YARD/UNK
Gradient/Alignment - LEVEL/TANGENT

---Narrative---

AT ABOUT 2130 CDT ON SEPTEMBER 17, 1987, A THREE UNIT LOCOMOTIVE CONSIST, MOVED UNATTENDED FROM THE DIESEL SERVICE AREA IN NORTH PLATTE, NEBRASKA, AND COLLIDED WITH THE REAR OF A STANDING TRAIN. A HOSTLER HAD DISMOUNTED THE LEAD LOCOMOTIVE OF THE THREE UNIT CONSIST TO ALIGN SWITCHES AND FAILED TO SECURE LOCOMOTIVE CONTROLS TO PREVENT MOVEMENT. A TOXICOLOGICAL TEST OF THE HOSTLER INDICATED THAT BLOOD AND URINE TAKEN FROM HIM ABOUT 3 HOURS AFTER THE ACCIDENT SHOWED THE PRESENCE OF THE FOLLOWING: BLOOD, 1 NG/ML, THC (MARIJUANA) AND METABOLITE OF MARIJUANA WAS BLOOD, 45 NG/ML, AND URINE, 178 NG/ML.

BRIEF OF ACCIDENT, continued

File No. - 87-103B 9/17/87 NORTH PLATTE, NE Time (Lcl) - 2130 CDT

Occurrence #1 - COLLISION, REAR-END
Phase UNATTENDED

Finding(s)
1. ENGINE CONTROLS - NOT SECURED
2. TRAIN HANDLING - NOT FOLLOWED - OUTSIDE HOSTLER
3. PHYSICAL IMPAIRMENT (DRUGS) - OUTSIDE HOSTLER
4. INADEQUATE SURVEILLANCE OF OPERATION - CO. OPERATOR MANAGEMENT
5. SPECIAL INSTRUCTIONS - INADEQUATE - GEN/FOREMAN

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1,2,3

Factor(s) relating to this accident is/are finding(s) 4

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
FTW-88-F-R-001
BRIEF OF ACCIDENT

File No. - 87-111 10/1/87 BRENHAM, TX Time (Lcl) - 1735 CDT

---Basic Information---

Reporting Railroad - ATCHISON TOP. SANTA FE
Type of Accident - DERAILMENT
Operating Phase - EN ROUTE
Method of Operation - TRAFFIC CONT., AUTO. BLOCK

Property Losses
Railroad - $1,090,000
Non-Railroad - $ 0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	0	0	4
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	0

---Railroad/Personnel Information---

Train Data
Railroad - ATSF
Type of Train - FREIGHT
Train ID - C-FWSXI-01
Direction - WEST
Speed (Est.) - 40
Speed (Auth.) - 45

Train Consist/Damage
No. Loco. Units - 5
No. Cars/Caboose - 115/1
End of Train Monitor - NO
Length (Feet) - 7260
Trailing Tons - 15670
Loco. Damaged/Derailed - 0/0
Cars Damaged/Derailed - 29/29

Crew Information
Front End - 2
Rear End - 2
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLEAR
Condition of Light - DAY

Line of Sight - 2000 FT

Itinerary
Last Departure Point
TEMPLE, TX

Destination
BELLVILLE, TX

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - ATSF
Type/No. of Tracks - MAIN/1
Gradient/Alignment - ASC. .75/SPIRAL

---Narrative---

ABOUT 1735 CDT ON OCTOBER 1,1987, A WESTBOUND ATCHISON, TOPEKA, AND SANTA FE RAILROAD LOADED UNIT COAL TRAIN, MOVING AT 40 MPH, DERAILED 29 CARS. POST ACCIDENT INVESTIGATION REVEALED IRREGULARITIES IN CROSS ELEVATION AT THE POINT OF DERAILMENT, WHICH WAS ON A FILL THAT HAD BEEN RECENTLY RESTORED. TOXICOLOGICAL TESTS WERE ADMINISTERED TO THE TRAIN CREW WITH ONE POSITIVE RESULT. TOXICOLOGY SAMPLES TAKEN FROM THE HEAD BRAKEMAN ABOUT NINE HOURS AFTER THE ACCIDENT SHOWED THE PRESENCE OF MARIJUANA METABOLITE IN THE FOLLOWING CONCENTRATIONS: BLOOD, 30 NG/ML, AND URINE, 120 NG/ML.

BRIEF OF ACCIDENT, continued

File No. - 87-111 10/1/87 BRENHAM, TX Time (Lcl) - 1735 CDT

Occurrence #1 - DERAILMENT
Phase EN ROUTE

Finding(s)
1. FILL - RESTORED
2. CROSS ELEVATION - IRREGULAR
3. TRACK INSPECTION - POOR - M/W INSPECTOR
4. SLOW ORDER - DISCONTINUED - M/W INSPECTOR
5. USE OF DRUGS - ROAD FREIGHT BRAKEMAN (THROUGH FREIGHT)

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 2,3,4

Factor(s) relating to this accident is/are finding(s) 1

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
FTW-88-F-R-004A
BRIEF OF ACCIDENT

File No. - 87-122A 10/16/87 MORRISON, MO Time (Lcl) - 1715 CDT

---Basic Information---

Reporting Railroad - UNION PACIFIC
Type of Accident - COLLISION, SIDE
Operating Phase - EN ROUTE
Method of Operation - TRAFFIC CONT., AUTO. BLOCK

Property Losses
Railroad - $376,000
Non-Railroad - $ 0

Fire YES

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	0	0	3
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	3

---Railroad/Personnel Information---

Train Data
Railroad - UP
Type of Train - FREIGHT
Train ID - EXTRA 3108 EAST
Direction - EAST
Speed (Est.) - 50
Speed (Auth.) - 50

Train Consist/Damage
No. Loco. Units - 3
No. Cars/Caboose - 102/0
End of Train Monitor - YES
Length (Feet) - 6741
Trailing Tons - 6165
Loco. Damaged/Derailed - 0/0
Cars Damaged/Derailed - 20/20

Crew Information
Front End - 3
Rear End - 0
Toxicology Performed - YES
Results - NEG.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLOUDY
Condition of Light - DAYLIGHT

Line of Sight - 900 FT

Itinerary
Last Departure Point
KANSAS CITY, MO

Destination
ST. LOUIS, MO

Hazardous Materials
Involved - YES
Evacuation - YES
Cars Involved - 4
Track Information
Owner - UP
Type/No. of Tracks - MAIN/2
Gradient/Alignment - LEVEL/CURVE 1-45

---Narrative---
AT ABOUT 1715 CDT ON OCTOBER 16, 1987 AN EASTBOUND FREIGHT TRAIN DERAILED INTO THE SIDE OF A WESTBOUND FREIGHT TRAIN. A TOTAL OF 42 CARS WERE DERAILED INCLUDING 1 TANK CAR OF SULPHUR TRIOXIDE WHICH DID NOT RUPTURE OR SPILL. A PRECAUTIONARY EVACUATION OF ABOUT 200 PEOPLE WAS MADE. THERE WAS A SMALL FIRE WHICH BURNED OUT THE DAY AFTER THE ACCIDENT. ACCIDENT INVESTIGATION INDICATED PHYSICAL TRAIN MAKEUP WAS NOT CONDUCIVE TO PROPER TRAIN HANDLING PROCEDURES. METABOLITES OF LIBRIUM (A PRESCRIBED DRUG) WERE FOUND IN THE BLOOD OF THE ENGINEER OF EXTRA 2516 WEST. THE DRUG WAS PRESCRIBED FOR HIM. METABOLITES OF LIBRIUM, DEMOXEPAM AND N-DESMETHYLCHLORDIAZEPOXIDE, WERE IN BLOOD AT 200 AND 183 NG/ML RESPECTIVELY; URINE HAD 414 NG/ML DEMOXEPAM. THE TESTS WERE TAKEN ABOUT 8 HRS. AFTER THE ACCIDENT.

BRIEF OF ACCIDENT, continued

File No. - 87-122A 10/15/87 MORRISON, MO Time (Lcl) - 1715 CDT

Occurrence #1 - TRACK/TRAIN DYNAMICS
Phase DECELERATING

Occurrence #2 DERAILMENT
Phase DECELERATING

Finding(s)
1. TRAIN MASS MAKEUP - IMPROPER - YARD MASTER
2. IMPROPER TRAINING - GENERAL OFFICER
3. INSUFFICIENT STANDARDS - FRA
4. USE OF DRUGS - ENGINEER OF OTHER TRAIN

Occurrence #3 COLLISION, RAKING
Phase DECELERATING

Occurrence #4 FIRE
Phase STOPPING

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
FTW-88-F-R-004B
BRIEF OF ACCIDENT

File No. - 87-I22B 10/16/87 MORRISON, MO Time (Lcl) - 1715 CDT

---Basic Information---

Reporting Railroad - UNION PACIFIC
Type of Accident - COLLISION, SIDE
Operating Phase - EN ROUTE
Method of Operation - TRAFFIC CONT., AUTO. BLOCK

Property Losses
Railroad - $450,000
Non-Railroad - $ 0

Fire YES

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	0	0	3
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	3

---Railroad/Personnel Information---

Train Data
Railroad - UP
Type of Train - FREIGHT
Train ID - EXTRA 2516 WEST
Direction - WEST
Speed (Est.) - 40
Speed (Auth.) - 50

Train Consist/Damage
No. Loco. Units - 2
No. Cars/Caboose - 52/0
End of Train Monitor - YES
Length (Feet) - 3510
Trailing Tons - 4018
Loco. Damaged/Derailed - 0/0
Cars Damaged/Derailed - 22/22

Crew Information
Front End - 3
Rear End - 0
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLOUDY
Condition of Light - DAYLIGHT

Line of Sight - 900 FT

Itinerary
Last Departure Point
ST LOUIS, MO

Destination
KANSAS CITY, MO

Hazardous Materials
Involved - YES
Evacuation - YES
Cars Involved - 4
Track Information
Owner - UP
Type/No. of Tracks - MAIN/2
Gradient/Alignment - LEVEL/CURVE 1-45

---Narrative---
AT ABOUT 1715 CDT ON OCTOBER 16, 1987 AN EASTBOUND FREIGHT TRAIN DERAILED INTO THE SIDE OF A WESTBOUND FREIGHT TRAIN. A TOTAL OF 42 CARS WERE DERAILED INCLUDING 1 TANK CAR OF SULPHUR TRIOXIDE WHICH DID NOT RUPTURE OR SPILL. A PRECAUTIONARY EVACUATION OF ABOUT 200 PEOPLE WAS MADE. THERE WAS A SMALL FIRE WHICH BURNED OUT THE DAY AFTER THE ACCIDENT. ACCIDENT INVESTIGATION INDICATED PHYSICAL TRAIN MAKEUP WAS NOT CONDUCIVE TO PROPER TRAIN HANDLING PROCEDURES. METABOLITES OF LIBRIUM (A PRESCRIBED DRUG) WERE FOUND IN THE BLOOD OF THE ENGINEER OF EXTRA 2516 WEST. THE DRUG WAS PRESCRIBED FOR HIM. METABOLITES OF LIBRIUM, DEMOXEPAM AND N-DESMETHYLCHLORDIAZEPOXIDE, WERE IN BLOOD AT 200 AND 183 NG/ML RESPECTIVELY; URINE HAD 414 NG/ML OF DEMOXEPAM. THE TESTS WERE TAKEN ABOUT 8 HRS. AFTER THE ACCIDENT.

BRIEF OF ACCIDENT, continued

File No. - 87-122B 10/16/87 MORRISON, MO Time (Lcl) - 1715 CDT

Occurrence #1 - TRACK/TRAIN DYNAMICS
Phase DECELERATING

Occurrence #2 - DERAILMENT
Phase DECELERATING

Finding(s)
1. TRAIN MASS MAKEUP - IMPROPER - YARD MASTER
2. IMPROPER TRAINING - GENERAL OFFICER
3. INSUFFICIENT STANDARD - FRA
4. USE OF DRUGS - ROAD FREIGHT ENGINEER/MOTORMAN (THROUGH FREIGHT)

Occurrence #3 - COLLISION, RAKING
Phase DECELERATING

Occurrence #4 - FIRE
Phase STOPPING

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
DEN-88-M-R-003A
BRIEF OF ACCIDENT

File No. - 87-128A 11/8/87 KEMMERER, WY Time (Lcl) - 0609 MST

---Basic Information---

Reporting Railroad - UNION PACIFIC
Type of Accident - COLLISION, HEAD-ON
Operating Phase - EN ROUTE
Method of Operation - AUTO. BLOCK, TIMETABLE, TRAIN ORDERS

Property Losses
Railroad - $795,500
Non-Railroad - $ 0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	1	1	2
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	1	1	2	1

---Railroad/Personnel Information---

Train Data
Railroad - UP
Type of Train - FREIGHT
Train ID - EXTRA 6014 EAST
Direction - EAST
Speed (Est.) - 42
Speed (Auth.) - 0

Train Consist/Damage
No. Loco. Units - 2/2
No. Cars/Caboose - 37/2
End of Train Monitor - YES
Length (Feet) - 3304
Trailing Tons - 2650
Loco. Damaged/Derailed - 2/2
Cars Damaged/Derailed - 2/2

Crew Information
Front End - 4
Rear End - 0
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - FOG
Condition of Light - DARK

Line of Sight - 300 FT

Itinerary
Last Departure Point
POCATELLO, ID

Destination
GREEN RIVER, WY

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - UP
Type/No. of Tracks - MAIN/1
Gradient/Alignment - ASC. .43/TANGENT

---Narrative---

ABOUT 0609 MST, NOVEMBER 8, 1987, FREIGHT TRAIN EXTRA 6014 EAST (2 LOCOMOTIVE UNITS AND 37 CARS) COLLIDED WITH FREIGHT TRAIN EXTRA 9025 WEST (2 LOCOMOTIVE UNITS AND 47 CARS) IN HEAVY FOG. EXTRA 6014 EAST WAS MOVING 42 MPH. EXTRA 9025 WEST WAS MOVING 17 MPH. 3 LOCOMOTIVES AND 2 CARS FROM THE 2 TRAINS WERE DERAILED. THE CONDUCTOR OF EXTRA 9025 WEST WAS KILLED. THE ENGINEER AND A BRAKEMAN WERE INJURED. THE ENGINEER AND HEAD BRAKEMAN OF EXTRA 6014 EAST WERE INJURED. THE TOXICOLOGY SAMPLES TAKEN FROM THE HEAD BRAKEMAN OF EXTRA 6014 EAST ABOUT 6 HOURS AFTER THE ACCIDENT SHOWED THE PRESENCE OF COCAINE IN THE FOLLOWING CONCENTRATIONS: BLOOD, 0.14 MCG/ML, URINE, 21.2 MCG/ML METABOLITE OF COCAINE; AND URINE, 0.170 MCG/ML COCAINE.

BRIEF OF ACCIDENT, continued

File No. - 87-128A 11/8/87 KEMMERER, WY Time (Lcl) - 0609 MST

Occurrence #1 - COLLISION, HEAD-ON
Phase EN ROUTE

Finding(s)
1. SIGNAL INDICATION - APPROACH
2. SIGNAL INDICATION - NOT COMPLIED - ROAD FREIGHT ENGINEER (THROUGH FREIGHT)
3. SIGNAL INDICATION - NOT COMPLIED - ROAD BRAKEMAN (THROUGH FREIGHT)
4. IMPAIRED (DRUGS) - ROAD FREIGHT BRAKEMAN (THROUGH FREIGHT)
5. GENERAL RULES - NOT COMPLIED - ROAD FREIGHT CONDUCTOR
6. WEATHER - FOG

Occurrence #2 DERAILMENT
Phase STOPPING

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 2

Factor(s) relating to this accident is/are finding(s) 3,4,6

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
DEN-88-M-R-003B
BRIEF OF ACCIDENT

File No. - 87-128B 11/8/87 KEMMERER, WY Time (Lcl) - 0609 MST

---Basic Information---

Reporting Railroad - UNION PACIFIC
Type of Accident - COLLISION, HEAD-ON
Operating Phase - EN ROUTE
Method of Operation - AUTO. BLOCK, TIMETABLE, TRAIN ORDERS

Property Losses
Railroad - $77,500
Non-Railroad - $ 0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	1	1	2	1
Passengers	0	0	0	0
Motorist	0	1	0	3
Other	0	1	1	2

---Railroad/Personnel Information---

Train Data
Railroad - UP
Type of Train - FREIGHT
Train ID - EXTRA 9025 WEST
Direction - WEST
Speed (Est.) - 17
Speed (Auth.) - 30

Train Consist/Damage
No. Loco. Units - 2
No. Cars/Caboose - 47/0
End of Train Monitor - YES
Length (Feet) - 4251
Trailing Tons - 3321
Loco. Damaged/Derailed - 2/1
Cars Damaged/Derailed - 0/0

Crew Information
Front End - 5
Rear End - 0
Toxicology Performed - YES
Results - NEG.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - FOG
Condition of Light - DARK

Line of Sight - 300 FT

Itinerary
Last Departure Point
GREEN RIVER, WY

Destination
POCATELLO, ID

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - UP
Type/No. of Tracks - MAIN/1
Gradient/Alignment - ASC. .43/TANGENT

---Narrative---

ABOUT 0609 MST, NOVEMBER 8, 1987, FREIGHT TRAIN EXTRA 6014 EAST (2 LOCOMOTIVE UNITS AND 37 CARS) COLLIDED WITH FREIGHT TRAIN EXTRA 6014 EAST (2 LOCOMOTIVE UNITS AND 47 CARS) IN HEAVY FOG. EXTRA 6014 EAST WAS MOVING 42 MPH. EXTRA 9025 WEST WAS MOVING 17 MPH. 3 LOCOMOTIVES AND 2 CARS FROM THE 2 TRAINS WERE DERAILED. THE CONDUCTOR OF EXTRA 9025 WEST WAS KILLED, THE ENGINEER AND A BRAKEMAN WERE INJURED. THE ENGINEER AND HEAD BRAKEMAN OF EXTRA 6014 EAST WERE INJURED. THE TOXICOLOGY SAMPLES TAKEN FROM THE HEAD BRAKEMAN OF EXTRA 6014 EAST ABOUT SIX HOURS AFTER THE ACCIDENT SHOWED THE PRESENCE OF COCAINE IN THE FOLLOWING CONCENTRATIONS: BLOOD, 0.14 MCG/ML, URINE, 21.2 MCG/ML METABOLITE OF COCAINE; AND URINE, 0.170 MCG/ML COCAINE.

BRIEF OF ACCIDENT, continued

File No. - 87-128B 11/8/87 KEMMERER, WY Time (Lcl) - 0609 MST

Occurrence #1 - COLLISION, HEAD-ON
Phase ENROUTE

Finding(s)
1. SIGNAL INDICATION - APPROACH
2. SIGNAL INDICATION - NOT COMPLIED - ENGINEER OF OTHER TRAIN
3. SIGNAL INDICATION - NOT COMPLIED - OTHER CREWMEMBER
4. IMPAIRED (DRUGS) - OTHER CREWMEMBER
5. GENERAL RULES - NOT COMPLIED - OTHER CREWMEMBER
6. WEATHER - FOG

Occurrence #2 - DERAILMENT
Phase STOPPING

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 2

Factor(s) relating to this accident is/are finding(s) 3,4,6

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
NYC-88-F-R-003
BRIEF OF ACCIDENT

File No. - 87-129 11/9/87 LAWRENCE, MA Time (Lcl) - 1620 EST

---Basic Information---

Reporting Railroad - BOSTON & MAINE
Type of Accident - EMPLOYEE FATALITY
Operating Phase - SWITCHING
Method of Operation - TIMETABLE, VERBAL PERMISSION, RADIO

Property Losses
Railroad - $0
Non-Railroad - $0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	1	0	0	2
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	0

---Railroad/Personnel Information---

Train Data
Railroad - BM
Type of Train - YARD
Train ID - 1500
Direction - EAST
Speed (Est.) - 20
Speed (Auth.) - 15

Train Consist/Damage
No. Loco. Units - 1
No. Cars/Caboose - 2/0
End of Train Monitor - NO
Length (Feet) - UNK
Trailing Tons - UNK
Loco. Damaged/Derailed - 0/0
Cars Damaged/Derailed - 0/0

Crew Information
Front End - 1
Rear End - 2
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLEAR
Condition of Light - DAYLIGHT

Line of Sight - 150 FT

Itinerary
Last Departure Point
LAWRENCE, MA

Destination
LAWRENCE, MA

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - BM
Type/No. of Tracks - SIDING, MAIN/4
Gradient/Alignment - DESC. .13/TANGENT

---Narrative---

ABOUT 1620 EST ON NOVEMBER 9, 1987, LAWRENCE SWITCHER WAS SWITCHING THE JACKSON LUMBER COMPANY AT LAWRENCE, MASSACHUSETTS. DURING THE SWITCHING OPERATION, A FLATCAR BEGAN TO ROLL AWAY. THE CONDUCTOR BOARDED THE CAR AND ATTEMPTED TO STOP IT BY APPLYING THE HANDBRAKE, BUT WAS UNSUCCESSFUL. THE CONDUCTOR RADIOED FOR THE ENGINEER TO PURSUE RUNAWAY AND AS THE LOCOMOTIVE COUPLED THE LOADED BOXCAR TO THE RUNAWAY CAR, THE CONDUCTOR FELL IN BETWEEN THE CARS AND WAS FATALLY INJURED. TOXICOLOGY SAMPLES WERE TAKEN FROM THE 3 MAN CREW ABOUT FOUR HOURS AFTER THE ACCIDENT. SAMPLES TAKEN FROM THE BRAKEMAN SHOWED THE PRESENCE OF THE METABOLITE OF MARIJUANA IN THE FOLLOWING CONCENTRATIONS: BLOOD, 20 NG/ML; URINE, 45 NG/ML.

BRIEF OF ACCIDENT, continued

File No. - 87-129 LAWRENCE, MA Time (Lcl) - 1620 EST

Occurrence #1 - EMPLOYEE FATALITY
Phase SWITCHING

Finding(s)
1. SLACK ADJUSTER, AUTOMATIC - OUT OF ADJUSTMENT
2. EQUIPMENT INSPECTION - NOT OBSERVED - YARD BRAKEMAN
3. USE OF DRUGS - YARD BRAKEMAN
4. SWITCHING RULES - NOT COMPLIED - YARD CONDUCTOR
5. INADEQUATE TRAINING (EMERGENCY PROCEDURES) - YARD ENGINEER/MOTORMAN

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 4

Factor(s) relating to this accident is/are finding(s) 2,5

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
NYC-88-F-R-004
BRIEF OF ACCIDENT

File No. - 87-134 11/18/87 SOUTH FORK, PA Time (Lcl) - 2035 EST

---Basic Information---

Reporting Railroad - CONRAIL
Type of Accident - FATALITY, EMPLOYEE
Operating Phase - SWITCHING
Method of Operation - CAB SIGNALS, AUTO. BLOCK, TRAFFIC CONTROL

Property Losses
Railroad - $0
Non-Railroad - $0

Fire NO

Injuries	Fatal	Serious	Minor	None
Employees	1	0	0	3
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	0

---Railroad/Personnel Information---

Train Data
Railroad - CONRAIL
Type of Train - FREIGHT
Train ID - PIES-8
Direction - EAST
Speed (Est.) - 10
Speed (Auth.) - 10

Train Consist/Damage
No. Loco. Units - 5
No. Cars/Caboose - 99/0
End of Train Monitor - YES
Length (Feet) - UNK
Trailing Tons - 10,590
Loco. Damaged/Derailed - 0/0
Cars Damaged/Derailed - 0/0

Crew Information
Front End - 2
Rear End - 2
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLOUDY
Condition of Light - DARK

Line of Sight - N/A

Itinerary
Last Departure Point
CONWAY, PA

Destination
HARRISBURG, PA

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - CONRAIL
Type/No. of Tracks - MAIN, YARD/4
Gradient/Alignment - LEVEL/TANGENT

---Narrative---

ABOUT 2035 EST ON NOVEMBER 18, 1987, FREIGHT TRAIN PIES-8 CONSISTING OF 3 LOCOMOTIVE UNITS ON THE HEAD END, 99 CARS, AND 2 HELPER LOCOMOTIVE UNITS ON THE REAR END, WAS SETTING OUT A TANK CAR WITH A DEFECTIVE WHEEL BEARING IN THE YARD AT SOUTH FORK, PA. AS THE TRAIN WAS BACKING INTO THE YARD AT 10 MPH, THE BRAKEMAN'S LIGHT WAS SEEN LAYING ON THE TRACK. THE CONDUCTOR WALKED TO THE LIGHT TO INVESTIGATE AND FOUND THE BRAKEMAN LYING DEAD ON THE TRACK. AUTOPSY REVEALED THE BRAKEMAN HAD A FATAL HEART ATTACK AND FELL FROM THE TRAIN. TOXICOLOGY SAMPLES TAKEN FROM CREWMEMBERS ABOUT 5 HOURS AFTER THE ACCIDENT REVEALED THE ENGINEER OF THE HELPER LOCOMOTIVE TESTED POSITIVE FOR THE PRESENCE OF A METABOLITE OF COCAINE IN THE FOLLOWING CONCENTRATION: URINE, 199 NG/ML.

BRIEF OF ACCIDENT, continued

File No. - 87-134 11/18/87 SOUTH FORK, PA Time (Lcl) - 2035 EST

Occurrence #1 - FATALITY, EMPLOYEE
Phase BACKING

Finding(s)
1. HEART ATTACK - ROAD FREIGHT BRAKEMAN/FLAGMAN (THROUGH FREIGHT)
2. USE OF DRUGS - OTHER CREWMEMBER

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
ATL-88-F-R-009
BRIEF OF ACCIDENT

File No. - 87-142 12/2/87 CHARLESTON, TN Time (Lcl) - 2155 EST

---Basic Information---

Reporting Railroad - NORFOLK SOUTHERN
Type of Accident - DERAILMENT
Operating Phase - EN ROUTE
Method of Operation - AUTO. BLOCK, TIMETABLE, TRAIN ORDERS

Property Losses
Railroad - $403,800
Non-Railroad - $ 0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	0	0	4
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	0

---Railroad/Personnel Information---

Train Data
Railroad - NS
Type of Train - FREIGHT
Train ID - EXTRA 6500 WEST
Direction - WEST
Speed (Est.) - 45
Speed (Auth.) - 45

Train Consist/Damage
No. Loco. Units - 7
No. Cars/Caboose - 130/1
End of Train Monitor - NO
Length (Feet) - 7413
Trailing Tons - 5310
Loco. Damaged/Derailed - 0/0
Cars Damaged/Derailed - 31/31

Crew Information
Front End - 3
Rear End - 1
Toxicology Performed -YES
Results -2 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLOUDY
Condition of Light - DARK

Line of Sight - 800 FT

Itinerary
Last Departure Point
KNOXVILLE, TN

Destination
MEMPHIS, TN

Hazardous Materials
Involved - YES
Evacuation - YES
Cars Involved - 2
Track Information
Owner - NS
Type/No. of Tracks - MAIN/1
Gradient/Alignment - ASC. 0.2/TANGENT

---Narrative---

AT 2155 EST, DECEMBER 2, 1987, FREIGHT TRAIN EXTRA 6500 WEST WITH 7 LOCOMOTIVES AND 131 CARS HAD 31 CARS DERAIL. 4 WERE TANK CARS CONTAINING ACETIC ANHYDRIDE, A COMBUSTIBLE CORROSIVE, 2 OF WHICH LEAKED CAUSING A CLOUD OF FUMES TO FORM. AN EVACUATION OF APPROXIMATELY 900 PERSONS WAS INITIATED. POST ACCIDENT INVESTIGATION REVEALED TRACK IRREGULARITIES. THE CONDUCTOR AND HEAD BRAKEMAN WERE IN THE LEAD LOCOMOTIVE UNIT WITH THE ENGINEER AT THE TIME OF DERAILMENT. TOXICOLOGICAL SAMPLES WERE TAKEN ON THE 4 CREW MEMBERS AND 2 HAD POSITIVE RESULTS. THE CONDUCTOR TESTED POSITIVE FOR METHAQUALONE (970 NG/ML) IN THE BLOOD. THE HEAD BRAKEMAN HAD THE METABOLITE OF MARIJUANA IN HIS BLOOD (110 NG/ML) AND URINE (2,240 NG/ML). THE SAMPLES WERE TAKEN APPROXIMATELY 5 HOURS AFTER THE ACCIDENT.

BRIEF OF ACCIDENT, continued

File No. - 87-142 12/02/87 CHARLESTON, TN Time (Lcl) - 2155 EST

Occurrence #1 - DERAILMENT
Phase EN ROUTE

Finding(s)
1. BOLT HOLE - CRACKED
2. TRACK INSPECTION - NOT COMPLIED - TRACK FOREMAN
3. IMPAIRMENT (DRUGS) - BRAKEMAN
4. USE OF DRUGS - CONDUCTOR

Occurrence #2 - HAZ MAT SPILL
Phase STOPPING

Finding(s)
5. TANK CAR - LEAK

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1,2

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
FTW-88-F-R-008
BRIEF OF ACCIDENT

File No. - 87-144 12/6/87 URANIA, LA Time (Lcl) - 0330 CST

---Basic Information---

Reporting Railroad - UNION PACIFIC
Type of Accident - DERAILMENT
Operating Phase - EN ROUTE
Method of Operation - TRAFFIC CONT.

Property Losses
Railroad - $823,000
Non-Railroad - $ 0

Fire YES

	Injuries Fatal	Serious	Minor	None
Employees	0	0	0	4
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	0

---Railroad/Personnel Information---

Train Data
Railroad - UP
Type of Train - FREIGHT
Train ID - EXTRA 4242 NORTH
Direction - NORTH
Speed (Est.) - 39
Speed (Auth.) - 50

Train Consist/Damage
No. Loco. Units - 3
No. Cars/Caboose - 131/1
End of Train Monitor - NO
Length (Feet) - 7904
Trailing Tons - 10667
Loco. Damaged/Derailed - 3/3
Cars Damaged/Derailed - 24/24

Crew Information
Front End - 3
Rear End - 1
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLEAR
Condition of Light - DARK

Line of Sight - 900 FT

Itinerary
Last Departure Point
ALEXANDRIA, LA

Destination
MC GEHEE, LA

Hazardous Materials
Involved - YES
Evacuation - YES
Cars Involved 10
Track Information
Owner - UP
Type/No. of Tracks - MAIN/1
Gradient/Alignment - LEVEL/CURVE

---Narrative---
AT ABOUT 0330 CST ON DECEMBER 6, 1987, FREIGHT TRAIN EXTRA 4242 NORTH MOVING AT 39 MPH DERAILED 3 LOCOMOTIVE UNITS AND 24 CARS OF THE 132 CAR TRAIN. INVESTIGATION REVEALED BROKEN JOINT BARS AT THE POINT OF DERAILMENT. TEN CARS CONTAINING HAZARDOUS MATERIAL WERE INVOLVED IN THE DERAILMENT. TWO OF THE CARS CONTAINED CAUSTIC SODA AND WERE RUPTURED, SPILLING ABOUT 30,000 GALLONS OF PRODUCT. A SMALL FIRE ERUPTED FROM SPILLED DIESEL FUEL, BUT WAS QUICKLY EXTINGUISHED. THERE WERE NO INJURIES. TOXICOLOGY SAMPLES TAKEN FROM THE FIREMAN ABOUT 7 HOURS AFTER THE ACCIDENT SHOWED THE PRESENCE OF MARIJUANA METABOLITE IN THE FOLLOWING CONCENTRATIONS: BLOOD, 16 NG/ML: AND URINE, 84 NG/ML.

BRIEF OF ACCIDENT, continued

File No. - 87-144 12/6/78 URANIA, LA Time (Lcl) - 0330 CST

Occurrence #1 - DERAILMENT
Phase EN ROUTE

Finding(s)
1. JOINT BAR - BROKEN
2. TRACK INSPECTION - POOR - MAINTENANCE OF WAY INSPECTOR
3. DRUG USE - ROAD FREIGHT FIREMAN (THROUGH FREIGHT)

Occurrence #2 - HAZ MAT SPILL
Phase STOPPING

Occurrence #3 - FIRE
Phase STOPPING

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1

Factor(s) relating to this accident is/are finding(s) 2

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
FTW-88-F-R-009
BRIEF OF ACCIDENT

File No. - 87-148 12/11/87 EYLAU, TX Time (Lcl) - 1128 CST

---Basic Information---

Reporting Railroad - ST LOUIS SOUTHWEST
Type of Accident - DERAILMENT
Operating Phase - EN ROUTE
Method of Operation - TRAFFIC CONTROL, TIMETABLE, VERBAL PERMISSION

Property Losses
Railroad - $886,500
Non-Railroad - $ 0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	0	0	0	5
Passengers	0	0	0	0
Motorist	0	0	0	0
Other	0	0	0	0

---Railroad/Personnel Information---

Train Data
Railroad - SSW
Type of Train - FREIGHT
Train ID - EXTRA 8275 WEST
Direction - WEST
Speed (Est.) - 51
Speed (Auth.) - 45

Train Consist/Damage
No. Loco. Units - 5
No. Cars/Caboose - 114/1
End of Train Monitor - NO
Length (Feet) - 8823
Trailing Tons - 8743
Loco. Damaged/Derailed - 0/0
Cars Damaged/Derailed - 26/26

Crew Information
Front End - 3
Rear End - 2
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - CLOUDY
Condition of Light - DAYLIGHT

Line of Sight - 3500 FT

Itinerary
Last Departure Point
TEXARKANA, TX

Destination
SAN ANTONIO, TX

Hazardous Materials
Involved - YES
Evacuation - NO
Cars Involved - 2
Track Information
Owner - SSW
Type/No. of Tracks - MAIN/1
Gradient/Alignment - DESC. 1.0/CURVE 1-45

---Narrative---

AT 1128 CST, DECEMBER 11, 1987, FREIGHT TRAIN EXTRA 8275 WEST WITH 5 LOCOMOTIVES AND 115 CARS HAD 26 CARS DERAIL WHILE MOVING ON A DESCENDING GRADE AT A SPEED OF 51 MPH. INVOLVED IN THE 26 CARS DERAILED WERE FIVE TANK CARS LOADED WITH DENATURE ALCOHOL, TWO OF WHICH RUPTURED, EXPERIENCING PRODUCT LOSS. NO EVACUTION WAS ORDERED AND THERE WERE NO INJURIES. POST ACCIDEN INVESTIGATION REVEALED A LOSS OF CONTROL OF TRAIN BY FIREMAN ON DESCENDING GRADE. TOXICOLOGY SAMPLES WERE TAKEN FROM THE 5 CREW MEMBERS ABOUT 6 HOURS AFTER THE ACCIDENT. TOXICOLOGY SAMPLES TAKEN FROM THE ENGINEER SHOWED THE PRESENCE OF CODEINE IN THE URINE AT A CONCENTRATION OF 277 NG/ML; NONE WAS DETECTED IN THE BLOOD.

BRIEF OF ACCIDENT, continued

File No. - 87-148 12/11/87 EYLAU, TX Time (Lcl) - 1128 CST

Occurrence #1 - LOSS OF CONTROL
Phase SLOWING

Finding(s)
1. TRAIN HANDLING - MISJUDGED - FIREMAN
2. SPEED - EXCESSIVE - FIREMAN
3. USE OF DRUGS - ROAD FREIGHT ENGINEER (THROUGH FREIGHT)

Occurrence #2 TRAIN SEPARATION
Phase ACCELERATING

Finding(s)
4. COUPLER KNUCKLE - OVERLOAD
5. COUPLER KNUCKLE - BROKEN
6. BRAKES - APPLIED EMERGENCY

Occurrence #3 DERAILMENT
Phase STOPPING

Finding(s)
7. RAIL - OVERLOAD
8. RAIL - CANTED

Occurrence #4 RUPTURE OF TANK CAR
Phase STOPPING

Occurrence #5 HAZARDOUS MATERIAL SPILL
Phase STOPPING

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s)1,2,5,6,8

Factor(s) relating to this accident is/are finding(s)4,7

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C. 20594
NYC-88-F-R-005
BRIEF OF ACCIDENT

File No. - 87-155 12/29/87 QUEENS, NY Time (Lcl) - 0715 EST

---Basic Information---

Reporting Railroad - LONG ISLAND
Type of Accident - FATALITY, EMPLOYEE
Operating Phase - EN ROUTE
Method of Operation - AUTO. BLOCK

Property Losses
Railroad - $ 0
Non-Railroad - $ 0

Fire NO

	Injuries			
	Fatal	Serious	Minor	None
Employees	1	0	0	5
Passengers	0	0	0	900
Motorist	0	0	0	0
Other	0	0	0	0

---Railroad/Personnel Information---

Train Data
Railroad - LIRR
Type of Train - PASSENGER/COMMUTER
Train ID - 605
Direction - WEST
Speed (Est.) - 55
Speed (Auth.) - 65

Train Consist/Damage
No. Loco. Units - 10
No. Cars/Caboose - 0/0
End of Train Monitor - NO
Length (Feet) - N/A
Trailing Tons - N/A
Loco. Damaged/Derailed - 0
Cars Damaged/Derailed - 0

Crew Information
Front End - 2
Rear End -2
Toxicology Performed - YES
Results - 1 POS.
Radio Communications
Radio Available - YES
Operational - YES

---Environment/Operations Information---

Weather Data
Weather Condition - SNOW
Condition of Light - DAWN

Line of Sight - UNK

Itinerary
Last Departure Point
PORT JEFFERSON, NY

Destination
JAMAICA, NY

Hazardous Materials
Involved - NO
Evacuation - NO
Cars Involved - 0
Track Information
Owner - LIRR
Type/No. of Tracks - MAIN/4
Gradient/Alignment - ASC. 0.5/TANGENT

---Narrative---

ABOUT 0715 CST, ON DECEMBER 29, 1987, LONG ISLAND RAIL ROAD (LIRR) TRAIN 605 TRAVELING AT 55 MPH, ON TRACK NO. 1 OF LIRR'S QUEENS INTERLOCKING, STRUCK AND FATALLY INJURED A LIRR SIGNAL MAINTAINER. AT THE TIME OF THE ACCIDENT TRAIN 605 WAS IN SWIRLING SNOW, CREATED BY LIRR TRAIN 1205 MOVING EAST AT 65 MPH ON ADJACENT TRACK NO. 3, WITH 8 OF IT'S 12 CARS AHEAD OF TRAIN 605. THE FATALLY INJURED MAINTAINER WAS LAST OBSERVED BY THE ENGINEER OF TRAIN 1205 WALKING WITHIN THE GAUGE OF TRACK NO. 1 WALKING EASTWARD. TOXICOLOGY SAMPLES WERE TAKEN FROM THE SIGNAL MAINTAINER AND MEMBERS OF THE TRAIN CREW. SAMPLES TAKEN FROM THE ENGINEER ABOUT FOUR HOURS AFTER THE ACCIDENT SHOWED THE PRESENCE OF THE METABOLITE OF MARIJUANA IN THE FOLLOWING CONCENTRATIONS: BLOOD, 4 NG/ML; URINE, 29 NG/ML.

BRIEF OF ACCIDENT, continued

File No. - 87-155 12/29/87 QUEENS, NY Time (lcl) - 0715 EST

Occurrence #1 - FATALITY, EMPLOYEE
Phase EN ROUTE

Finding(s)
1. WEATHER - SNOW
2. WEATHER - OBSCURATION
3. INATTENTIVE -SIGNAL MAINTAINER
4. USE OF DRUGS - ROAD PASSENGER ENGINEER/MOTORMAN

---Probable Cause---

The National Transportation Safety Board determines that the Probable Cause(s) of this accident is/are finding(s) 1,2,3

APPENDIX D

NTSB COMMENTS TO THE FRA NPRM ON CONTROL OF ALCOHOL AND DRUG USE IN RAILROAD OPERATIONS

National Transportation Safety Board
Washington, D.C. 20594

Office of the Chairman

August 15, 1984

Docket Clerk
Office of Chief Counsel
Federal Railroad Administration
400 Seventh Street, S.W.
Washington, D.C. 20590

Ref: FRA Docket No. RSOR-6,
Notice No. 4

Dear Sir:

The National Transportation Safety Board is pleased to respond to your Notice of Proposed Rulemaking (NPRM) Docket No. RSOR-6, Notice No. 4, published June 12, 1984, regarding Federal Safety Standards for the Control of Alcohol and Drug Use in Railroad Operations. The Safety Board wholeheartedly supports the intent of this proposal. It does believe, however, that the rulemaking can be strengthened to further the achievement of the desired safety objectives. Consequently, the Safety Board offers the following general comments as well as specific proposals directed to those sections it believes should be modified or expanded.

General Comments:

a. The final rule should state clearly that it sets a minimum framework for addressing the control of alcohol and drug use in railroad operations, and that it should not be construed to limit or constrain railroads from adopting and enforcing more stringent policies and rules regarding alcohol and drugs if safety conditions on the railroad require additional management actions.

b. Historically, once the Safety Board has been able to overcome the problem of obtaining toxicological samples it has had little or no difficulty in obtaining accurate evaluations for the purpose of detecting alcohol. However, the capabilities of local laboratories for detection and quantification of drugs in toxicological samples are not uniform; specifically the sensitivity and accuracy of the equipment and the test procedures are inadequate to yield consistent results. Therefore, the Safety Board urges the FRA to prescribe standardized testing for drugs that is sensitive and specific enough to detect and quantify controlled substances, and therapeutic levels of licit drugs.

The Board approved on August 9, 1984, recommendations to the Department of Transportation and to the Federal Aviation Administration that address this concern as follows:

--to the Department of Transportation

Review the existing research and literature in this area and institute research to: (1) determine the potential effects of both licit and illicit drugs, especially marijuana, in both therapeutic and abnormal levels, on human performance; (2) obtain correlations between toxicological findings of drug levels in blood, urine, and other specimens and various behavioral measurements; (3) assess the effects of various drugs on the specific tasks performed by the operator in all transportation modes. (Class III, Longer-Term Action)(A-84-)

--to the Federal Aviation Administration

Establish at the Civil Aeromedical Institute the capability to perform toxicological tests on the blood, urine and tissue of pilots involved in fatal accidents to determine the levels of both licit and illicit drugs at both therapeutic and abnormal levels. (Class II, Priority Action)(A-84-)

c. The final rule should state clearly that the post-accident testing program supplements rather than replaces the Safety Board's authority in the Independent Safety Board Act of 1974 to order an autopsy. It should point out also that the Board has authority to seek other tests of train crews or the samples drawn from them under this rule, as well as authority to obtain or take possession of any evidence which pertains to an accident.

Specific Comments by Section:

1. Section 218.101 Definitions

Although the Safety Board recognizes the difficulty of the task of defining railroad employees to be covered by this rule, it believes FRA should include any employee who may be directly involved in an accident. This means that employees other than "covered employees" under the Hours-of-Service Act need to be subject to testing. For example, if a seriously alcohol impaired train crew reported to a supervisor who did not detect alcohol there might be a need to test the supervisor to determine if his failure to evaluate the crew properly was due to his own impairment.

a. There are varying interpretations by railroads as to who is covered by the Hours of Service Act (45 USC 61-64b). For example, some railroads do not consider their operating department officials to be covered by the Act. The definition in subparagraph 218.101(b) should be explicit in its scope.

b. In subparagraph 218.101(e) "Drug" is defined as any controlled substance (as defined by 21 U.S.C.802). The Safety Board believes that a specific reference to marijuana should be included in the definition to ensure an understanding that it is a controlled substance. Most railroad employees are not aware of the legal scope of the term "controlled substance" as defined by 21 U.S.C.802.

2. Section 218.103 Alcohol and drug use by covered employees

a. The Safety Board is concerned that the provision in subparagraph 218.103(c) which states, in part that "an employee shall be conclusively presumed to be impaired by alcohol, if the employee has a blood alcohol concentration of 0.05 percent (weight/volume) or more ..." may give rise to the impression that an amount of alcohol up to that level in an employee's system is acceptable.

The Safety Board does not agree with the conclusion in the preamble to the proposed rule which suggests that there is little evidence to indicate an immediate safety problem associated with blood alcohol concentrations below 0.049 percent (weight/volume). There is considerable research that demonstrates measurable adverse behavioral effects at blood alcohol concentrations of 0.02 percent (weight/volume) (See enclosure). Consequently, the rule should definitively prohibit an employee from having any alcohol, regardless of level, in his system while on duty. The Board recognizes the limitations of some testing systems and believes that 0.02 percent (weight/volume) for alcohol should be deemed inconclusive if breath testing is used. However, a test should not be rejected if other evidence shows alcohol was ingested while on duty.

This is consistent with the Board's recommendation to the Federal Aviation Administration which states:

> Issue a rule defining the blood alcohol concentration level that constitutes "under the influence" at the lowest possible level consistent with the capability of testing equipment to measure any ingested alcohol. (Class II, Priority Action)(A-84-45).

This recommendation was issued by the Safety Board on May 1, 1984.

As presently written, the proposed rule could suggest that an employee legally could be on duty as long as he has a blood alcohol concentration of 0.049 percent or less (weight/volume). The Safety Board's position is that the rule should convey the unmistakable message that any level of alcohol in an operator is a hazard to safe railroad operations and public safety.

b. The Safety Board believes that the prohibition in subparagraph 218.103(c)(2) should be the presence of any controlled substance as established by a reliable test method. With regard to marijuana the determinant of use must be based on a reliable blood analysis for THC and its metabolites until non-intrusive means to detect the presence and time of use are developed. The documented behavioral effects of marijuana include impaired judgment and concentration, impaired perceptual and motor skills, and reduced short-term memory. The rules should be drafted to explicitly reject the social use of controlled substances, including marijuana, by those involved in railroad operations.

3. Section 218.105 Post-accident toxicological testing

a. In subparagraph 218.105(b), Accident covered, the FRA expressly excludes post-accident toxicological testing in the case of a collision between railroad rolling stock and a motor vehicle or other conveyance at a rail/highway grade crossing. The proposed exclusion should not extend to accidents involving fatalities and/or serious injuries. The failure of a train crew to observe slow orders or to sound appropriate warnings has contributed to grade crossing accidents which resulted in deaths or serious injuries.

During the course of an investigation of a rail accident in Goldonna, Louisiana, in late 1977, the Safety Board found that the engineer had been cited by his employer in an earlier accident for failing to blow the train whistle and for operating the train while intoxicated. These circumstances had not been reported and would have remained unknown had it not been for the investigation of the later accident by the Safety Board.

b. In subparagraph 218.105(g)(2)(i) Condition on employment in covered service; sanction, the sanction for an employee who refuses to cooperate in providing a blood or urine sample following an accident or incident specified in section 218.105(a) should be no less than the sanction under Rule G for employees who are tested and found to have used alcohol or drugs, i.e., termination from employment with the railroad. The purpose of the rule would be undermined seriously if employees consistently refused to be tested with the understanding that they probably would be able to return to service after 6 months.

4. Section 218.109 Authority to test for cause

The Safety Board believes that the FRA has reached a balanced approach in addressing the supervisory testing for alcohol or drug use by employees in railroad operations.

5. Section 218.111, Identification of troubled employee

The Safety Board agrees with the intent of this Section. However, it believes that subparagraph 218.111(c)(2) should be modified. The proposed rule addresses a co-worker reporting an employee who "... was apparently unsafe to work with or was, or appeared to be, in violation of this subpart or the railroad's alcohol and drug rules." This subparagraph also should provide explicitly for situations in which the employee is observed to be impaired as he reports for work.

-5-

The National Transportation Safety Board is encouraged by the comprehensive manner in which FRA has addressed the broad scope of interests impacted by the proposed rule. Our response is based on recurrent, first-hand observations of fatalities, injuries and destruction related to alcohol and drug use by railroad employees. Therefore, the Board strongly encourages the FRA to adopt a rule which is unmistakable in its resolve to mitigate a problem which everyone agrees must be overcome.

Respectfully yours,

Jim Burnett

Jim Burnett
Chairman

Enclosure

APPENDIX E

FEC'S WEEKLY REPORT OF SAFETY DISCUSSIONS AND CREW EVALUATIONS FOR ALCOHOL AND DRUG USE

WEEKLY REPORT OF SAFETY DISCUSSIONS
AND CREW EVALUATIONS

Florida East Coast Railway Co.

TO: Mr. R. W. Wyckoff
President
St. Augustine

Period Covered: _____

I, _____ (Supervisor) at _____ _____ (location)
did personally hold safety discussions as shown herein below.
NOTE: Each employee involved is to sign this report personally.

Date	Train	Conductor's Signature	Engineer's Signature	Other Crewman's Signature	Rule	*Evaluation	Time of Discussion

Submit each Tuesday for previous week.
*Any comment should be explained fully on reverse side.

FEC Fm. 2592
Rev. 8-79

Appendix F

D&RGW's Train Crew Call Sheet

CALL SHEET SOUTH DENVER STATION: 0003

TRAIN: 165-03 OF 02/03/80 1100 HRS

ENGINEER BOSTWICK, S.A. (STEVE)

CONDUCTOR BILLINGS, C.E. (CRAIG)
REAR-BRKM LUCERO, J.A. (JOHN)
HEAD-BRKM TECKLENBURG, D.E. (DON)

Crew checked
R.E.D.

ENGINES: 3109 W - 3110 E

POWER CARS & LENGTH LATER

END MESSAGE 80/034 09:03:33 TW 911 R-UHH03-322
TF-8

M TW 000 911 N YD PU RA HB NY KP HA

Appendix G

Railroads' Responses To Safety Recommendations R-83-60 And -61

R-83-60

Establish supervisory procedures at crew-change terminals to insure that all operating department employees coming on duty at any hour of the day are physically fit and capable of complying with all pertinent rules.

R-83-61

Enhance the training of all operating employees, especially conductors, in their responsibilities and duties so that they understand their responsibility to monitor the performance of other employees and to take positive action when rules violations occur.

	R-83-60		R-83-61	
Railroad	*Status*	*Date*	*Status*	*Date*
Alton & Southern Railway Company	OUA	11/17/86	OOA	11/17/86
Atlanta & Saint Andrews Bay Railway	CAA	12/18/84	CAA	12/18/84
Bessemer & Lake Erie Railroad Company	CAAA	05/18/87	CAAA	05/18/87
Cambria & Indiana Railroad	CAA	03/13/85	CAA	03/13/85
Chicago & Illinois Midland Railroad Company	CAA	09/03/85	CAA	01/14/86
Clinchfield Railroad Company (CSX Transportation)	CAA	03/11/87	CAA	03/11/87
Consolidated Rail Corporation (Conrail)	CAA	04/23/85	CAA	04/23/85
Denver & Rio Grande Western Railroad	CAA	08/13/84	CAA	01/16/85
Atchison, Topeka & Santa Fe Railway Company	CAA	10/28/86	CAA	10/28/86
The Belt Railway Company of Chicago	CAA	10/16/84	CAA	10/16/84
Burlington Northern Railroad Company (BN)	--	--		
Chessie System (CSX)	CAA	03/11/87	CAA	03/11/87
Chicago & Northwestern Transportation Company	CAA	02/20/85	CAA	09/03/85
Colorado and Southern Railway Company (BN)	--	--		
Delaware and Hudson Railway Company Guilford Trans.	--	--		
Detroit & Mackinac Railway	CAA	02/17/87	CAA	02/17/87
Boston & Maine Corporation Guilford Trans	--	--		

Railroad	R-83-60 Status	R-83-60 Date	R-83-61 Status	R-83-61 Date
Duluth Missabe & Iron Range Railway	COA	12/10/86	COA	12/10/86
Family Line Rail System (CSX)	CAA	03/11/87	CAA	03/11/87
Ft. Worth and Denver Railway Company*	--	--		
Grand Trunk Western Railroad	CAA	08/03/87	CAA	08/03/87
Houston Belt & Terminal Railway Company	CAA	12/12/85	CAA	12/12/85
Illinois Terminal Railroad Company*	--	--		
Kansas City Southern Lines	OAA	12/14/83	OAA	12/14/83
Lake Superior & Ishpeming Railroad Company	CAA	06/10/87	CAA	06/10/87
Bangor & Aroostook Railroad Company	COA	02/02/87	COA	02/02/87
Detroit & Toledo Shore Line Railroad*	--	--		
Elgin, Joliet & Eastern Railway Company	OAA	12/03/86	OAA	12/03/86
Florida East Coast Railway Company	CAA	01/09/85	CAA	01/09/85
Georiga Railroad (CSX)	CAA	03/11/87	CAA	03/11/87
Green Bay and Western Railroad Company	CAA	01/11/85	CAA	01/11/85
Illinois Central Gulf Railroad	CAAA	06/23/87	CAAA	06/23/87
Indiana Harbor Belt Railroad (Conrail)		--		--
Kansas City Terminal Railway Company	CAA	05/03/85	CAA	05/03/85
Maine Central Railroad Company (Guilford Transportation)	--	--		
Soo Line Railroad Company	CAA	08/19/87	CAA	08/19/87
Missouri-Kansas-Texas Railroad Company	OUA	01/12/87	OUA	01/12/87
National Railroad Passenger Corporation (Amtrak)	OUA	02/17/87	OUA	02/17/87
Monongahela Railway Company	OUA	10/02/87	OUA	10/02/87
Norfolk & Portsmouth Belt Line Railroad Company	CAA	05/28/87	CAA	05/28/87
Norfolk and Western Railway (Norfolk Southern)	CAA	03/11/87	CAA	03/11/87
*Norfolk, Franklin & Danville Railway	--	--		
Minneapolis Northfield & Southern Railroad Company (Soo Line)	--	--		
The Milwaukee Road (Soo Line)	--	--		
Southern Pacific Transportation Company (SP	CAA	04/24/87	CAA	04/24/87
Pittsburgh & Lake Erie Railroad	CAA	06/23/87	CAA	06/23/87
Richmond, Fredericksburg & Potomac Railroad	CAA	08/01/84	CAA	04/16/84
Southern Railway System (Norfolk Southern)	CAA	03/11/87	CAA	03/11/87
Terminal Railroad Association of St. Louis	CAA	05/31/84	CAA	12/14/83
Texas Mexican Railway Company	CAA	01/09/85	CAA	01/09/85
Pittsburgh & Shawmut Railroad Company	CAA	06/04/87	CAA	06/04/87
Seaboard System Railroad (CSX)	CAA	03/11/87	CAA	03/11/87
Union Railroad Company	CAA	01/09/85	OAA	01/09/85
*Western Maryland Railroad Company	--	--		

*No longer listed in the *Pocket List of Railroad Officials*, 3rd Quarter, 1987

Railroad	R-83-60 Status	R-83-60 Date	R-83-61 Status	R-83-61 Date
Vermont Railway, Inc.	CAA	02/19/85	CAA	02/18/87
*Western Pacific Railroad Company	--	--		
Union Pacific System (UP)	OAA	10/16/84	CAA	10/16/84
Washington Terminal Company (Amtrak)	--	--		
*Toledo, Peoria & Western Railroad Company	--	--		

NOTE: See NTSB Order 82, *National Transportation Safety Board Safety Recommendations*, June 11, 1987, for an explanation of the Safety recommendation process and definitions.

Legend:

CAA	=	Closed--Acceptable Action
CAAA	=	Closed--Acceptable Alternate Action
OAA	=	Open---Acceptable Action
OUA	=	Open-Unacceptable Action

*No longer listed in the *Pocket List of Railroad Officials*, 3rd Quarter, 1987

* U. S. GOVERNMENT PRINTING OFFICE: 1989-221-517:89011

END
DATE
FILMED
10-17-88
NTIS